

**An Analysis of the Breastfeeding Practices of a Group of Mothers living in
Victoria, Australia**



Jennifer P James

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of Philosophy

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James, Jennifer P

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breastfeeding practices of a
group of mothers living in

Abstract

This research attempted to identify the causes of and variables associated with early weaning (during the first three months) by breastfeeding women. Prior to 1970, there was a decline in breastfeeding rates, with a gradual increase during the 1970's and 1980's. Since the late 1980's, even with increased knowledge, evidence about the benefits and health promotion activity, rates remain relatively static. Of particular concern is the early postnatal through to three months of age group, where there continues to be a marked drop out of almost 50%.

This was a descriptive longitudinal study of 682 primiparous and multiparous mothers and their babies that collected both qualitative and quantitative data via a series of self-administered questionnaires. They were completed at three monthly intervals over a period of up to twelve months. Participants exited the study following weaning or at the baby's first birth.

The research sought to describe the cohort's experience of breastfeeding, to identify the differences between early and late weaning groups together with exploring the differences between breastfeeding the first baby versus the second.

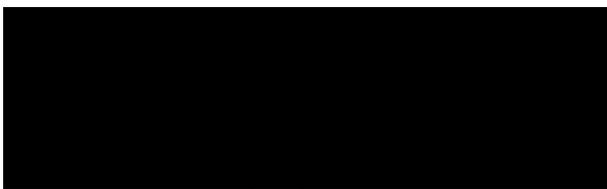
The study identified a range of variables that were found to be significant to early weaning. Some variables were common to both parity groups, whereas others were peculiar to each group. Common experiences included expecting to return to paid employment; they believed that breastfeeding was going to be difficult; problems with breastfeeding; introducing infant formula; not keeping the baby close to mother overnight and low levels of maternal confidence. Primiparous women were also more likely to wean early if they had had a forceps birth; they did not attend antenatal education and they had low levels of support. Additional influences on breastfeeding duration for multiparous women included the early use of a pacifier; younger maternal age at the current baby and whether their first baby had been weaned early.

The study findings highlight the complexity of breastfeeding experiences and outcomes and clearly identify both specific and broad support and education needs of breastfeeding mothers. By increasing knowledge about why women wean early, an opportunity exists to determine strategies that have the potential to facilitate improved and sustained breastfeeding rates.

Signed Statement

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university. To the best of knowledge and belief this thesis contains no material previously published or written by another person except where due reference is made in the body of the text.

Signed



Jennifer Patricia James

Dated

18/8/03

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List of presentations/ Publications

The following presentations and publications arose from the dissertation:

Oral presentations

Ausmed Publications Conference: The First Breastfeed. September 2002

Victoria University Colloquia: Breastfeeding the second baby 2002

Australian Breastfeeding Association International Conference –

Breastfeeding- Ancient Art, Modern Miracle: Early weaning – Can we reverse the trend? September 2001

Victoria University Colloquia: Early weaning. Can we reverse the trend? 2001

NACE National Conference: The learned art of breastfeeding: are we teaching what women need to know? April 2001

NMAA Victoria Branch Parenting Seminar: “Getting Breastfeeding off to the best start” August 2000

41st Scientific Convention of the Royal Australian College of General Practitioners. The paper discussed the issue of Working and Breastfeeding 1998

National Association of childbirth Educators National Conference "Ready For Birth, But What About Breastfeeding" 1998.

5th National Women & Labour Conference at Deakin University, Geelong Breastfeeding and preparing to return to paid work, 1997.

Publications

Mother & Baby Magazine: Feature article “Breastfeeding – the early days” Oct/
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Feb/March 2000

Australian College of Midwives Incorporated Journal Vol 12, No 4 December
(1999) “Working and Breastfeeding: A contemporary workplace dilemma”

Breastfeeding Review Vol 7, No 3 November 1999 “Ready for birth – but what
about breastfeeding?”

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Chapter 1

BREASTFEEDING – THE CHOREOGRAPHY OF MOTHER AND CHILD

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CHAPTER ONE

BREASTFEEDING - THE CHOREOGRAPHY OF MOTHER AND CHILD

“Yes, it is an intimate dance, choreographed by nature and culture, that has been performed through the ages and is vital for the optimum health and well being of both mother and child”. (Stuart-Macadam and Dettwyler 1995)

1.0 INTRODUCTION

The very nature of breastfeeding is, at first glance, a seemingly simple process and yet, as with all relationships, it can be complex. Breastfeeding ‘success’ or ‘failure’ is influenced by an interplay of both internal and external sources. A mother’s knowledge, her life experiences, her partner’s attitude and access to community support, together with the experience of pregnancy, birth and breastfeeding all impact on the breastfeeding relationship (Scott, Binns and Aroni 1995). While breastfeeding is widely acknowledged by health professionals as the best way to feed babies (Minchin 1985; Lawrence 1994; Gordon 1995; Gordon M 1995) few studies have incorporated a holistic approach when attempting to understand breastfeeding ‘success’ or ‘failure’. This study attempts to identify the experience of breastfeeding for the women who participate, describe the nature of those experiences and determine which,

if any, influences can be modified or changed within the confines of health policy and practice.

1.1 HISTORICAL BACKGROUND

To understand the current breastfeeding experience it is important to identify factors that have influenced infant feeding practices in the past. As early as the late nineteenth century manufacturers of infant formula and their medical partners recognise a market for alternative infant feeding products (Palmer 1993). The impetus for early infant formula development and production throughout Europe, England and the United States appears to have been in response to a number of factors. Industrialization and urbanization were occurring rapidly. While women in rural areas continued to breastfeed, alternative feeding methods were needed by urban workers who were unable to keep their infants with them during long working hours away from home (Palmer 1993).

Apple (Apple 1987) suggested that the early part of the twentieth century saw doctors and hospital care increasingly dominate the birthing process. This was in direct contrast to previous practices where women turned to midwives, female friends and family to provide support and care during pregnancy and birth. This occurred for a number of reasons. Women increasingly sought medical care in response to concerns about high levels of maternal and infant morbidity and

mortality in the belief that this type of care would decrease the risks and improve outcomes. Doctors at this time were seeking to increase caseloads and thus improve incomes. Doctors also believed that medically managed pregnancies and labours would improve overall morbidity and mortality rates through the use of modern technology and scientific understandings. The practice of giving birth in a medically determined care setting is now the norm for most women in industrialized nations giving rise to what is referred to today as the 'medicalisation of childbirth'. The medicalisation of childbirth has meant that women themselves see birthing as a potentially dangerous experience, with the majority opting to give birth in a safe, medically controlled environment (Apple 1987). As the 20th century progressed, the very act of bringing birthing and breastfeeding women into the realm of hospital practice negatively impacted on breastfeeding and this has continued to the present time (Palmer 1993). By birthing in hospitals, women were removed from their network of experienced 'wise women' who would normally have provided support and sound information about breastfeeding. Instead care was undertaken by trained professionals, maternity nurses, and doctors (primarily male), whose knowledge of breastfeeding was woefully inadequate (Palmer 1993).

In England in the late 19th and early 20th century there was a growing need for alternative feeds for increasing numbers of infants who were being left at foundling homes and institutions. It was for this reason that doctors and pharmacists began to develop what were known as 'milk laboratories'. Common

ingredients for these early supplements included barley, oats, lime juice and sugar, access to dairy based feeds were not an option until much later. Individualised ready-to-feed prescriptions were also developed at this time and were delivered to homes (Baumslag and Michels 1995). Once these preparations came on to the market, their growth was profit-driven and those profits were shared between doctors, pharmacists and manufacturers. This action was portrayed as a coming together of professionals whose primary interest was in the health and well being of their clients. Thus, 'men of sense' now carried out the supervision of infant care rather than 'foolish unlearned women' (Apple 1987; Baumslag et al. 1995).

The nineteenth century saw significant growth in knowledge and understanding of science and technology. The recognition gradually emerged of the role that bacteria play in infection and for the need to improve standards of living and public health measures, such as the provision of a safe water supply. All these changes played a major role in improving morbidity and mortality rates world wide (Palmer 1993). Palmer suggests that the growing belief in the superiority of scientifically produced goods was directly proportionate to the declining view of naturally occurring activities such as breastfeeding and unmedicated birthing.

Throughout the late nineteenth and early twentieth centuries some professionals continued to strongly advocate breastfeeding. Gastroenteritis was the leading cause of infant mortality in 1924 and this was largely blamed on artificial feeds.

However, proponents of exclusive breastfeeding were increasingly in the minority as more and more sophisticated breastmilk substitutes were developed and popularised.

Cotton, in 1907, stated that the array of breastmilk substitutes that were available at the time were responsible for significant infant mortality. Cotton's concern was that if the trends were to continue to be dominated by individuals whose interests were motivated by profits rather than the health and well being of infants, then infant morbidity and mortality would continue at great human cost. (*Cotton 1907 cited in(Baumslag et al. 1995).*)

In the early 1900's, most Australian women still expected to breastfeed, with the literature of the time strongly encouraging mothers to do so throughout the infant's first year of life (Hitchcock 1990). *The Ladies Handbook of Home Treatment* (1905) was one such publication that described breastfeeding as the mother's 'duty' to her offspring. However, published data from Victoria, Australia suggest the downturn in breastfeeding rates began in the late 1800's. Increasingly, mothers' confidence in her ability to produce sufficient and appropriate milk for her infant was eroded by the view that feeds should be measurable and therefore would be more accurate than merely offering the breast. There was no understanding of how breastmilk was produced or what was normal behaviour and development for a breastfed infant. Commercial and scientific interests worked to establish a belief that regularity in all aspects of

infant care should be maintained at all times, and child-rearing experts of the time gradually took up this view. Between 1944 and 1971, rates of exclusive breastfeeding at three months of age reduced from 66% to 21% (Hitchcock 1990) and comparable trends were seen in other States during this period.

The increasing use of breastmilk substitutes resulted in increased infant morbidity and mortality (Hitchcock 1990; Baumslag et al. 1995). Prior to 1950, gastroenteritis was cited as the primary cause of infant deaths (54% in NSW) with artificial feeding being blamed. Artificial formula use was also directly implicated with high incidences of rickets and scurvy in infancy (Hitchcock 1990). With improvements in biological and nutritional knowledge, for example the importance of vitamin D in the prevention of rickets was identified. This led to the development of technological abilities to produce more appropriate infant formula. However, towards the end of the 1960's, there appeared problems associated instead with infantile over-nutrition leading to obesity. The practice of preparing formula with excessive amounts of formula powder was proposed to account for this problem (Hitchcock, 1990). The perils associated with artificial formula use went further than the obvious inadequacies of the product. Mothers' ignorance in its use, poor preparation technique, lack of access to clean water, inappropriate storage and transportation mechanisms, poor understanding of the importance of good hygiene and little understanding of infant developmental needs, together with mistakes in manufacturing have all contributed to tragic consequences (Minchin, 1985).

Prior to 1960, a variety of weaning/ substitute foods and fluids were offered to infants including milks modified with oils or juices prepared in an attempt to overcome recognized bovine milk deficiencies (Minchin, 1985). The development of infant formula originated in the chemical preparation of bovine whey product, with little understanding of the nutritional needs of infants or of the impact of the product on infant health. The history of infant formula illustrates many examples where errors in composition led to an increase in infant morbidity and mortality. These errors were often in the form of too much or too little essential nutrients, inappropriate combinations of these or their complete absence. For example, excessive amounts of vitamin D led to hypercalcaemia, which produced convulsions and renal damage; deficiency in vitamin A led to facial palsy, diarrhoea, and an imbalance in protein, culminating in brain damage (Minchin, 1985).

While manufacturers today attempt to provide a product that is free from contaminants such as toxins, the history of infant formula shows quite clearly that mistakes in manufacture are also a source of major concern. Since the 1970's alone, recorded instances of product recall cite contamination by bacteria (*E.coli*), *Klebsiella* and *pseudomonas*, vitamin B6 deficiency and evidence of high levels of iodine, lead and aluminium. Well over half of all formula recalls from 1983 to 1993 were related to safety issues in manufacture where serious repercussions to infant health were found (Minchin 1985; Baumslag et al. 1995).

1.1.2 Impact of Consumer Awareness

The growth of consumerism can be traced to the evolution of industrialization together with emergence of the middle and ruling classes (Palmer, 1993). The growing wealth of these classes transformed the role of women from producer to consumer. The idea that women from upper classes were too 'delicate' to breastfeed was in stark contrast to their poorer working counterparts who struggled to maintain adequate nutrition for their children. (Palmer, 1993) The use of wet nurses, a practice which was common for wealthy women in the past, diminished as artificial feeding became more available and less lethal. Initially, only the wealthy could afford to buy formulas that were individually made up for their infants. These formulas were developed through complex mathematical and chemical formulae to suit the digestive abilities of a particular infant (Palmer 1993). Improvements in the dairy industry created surpluses in products leading to the development of preservation techniques. For the first time, modified cows milk was available to consumers who had no direct access to cows. The impetus to develop new markets was born out of milk whey surplus resulting in whey becoming the base for infant formula (Palmer 1993). Infant formulas were now freely available and in many instances were held to be a major advance in technology, and therefore promoted as superior to human milk.

By the mid 20th century in industrialized nations, infant formula was seen by many as the 'best' way to feed infants and the 'art' of breastfeeding had been

almost completely lost. The quest for power and profit by manufacturers came at an enormous cost to the health and well being of our children and continued to negate the importance of women as mothers and their contribution to society.

Health workers no longer understood how breastfeeding worked; they believed that the use of infant formula liberated women from maternal and domestic drudgery. Four generations of mothers, who had themselves formula-fed their babies, contributed to, albeit unwittingly, the 'superiority of formula' myth. Traditional support for breastfeeding mothers all but disappeared in a society where families are constantly relocating. The extended family is now in the minority today. Young men and women grow up in an era where the primary function of the female breast to nurture offspring has been superseded by marketing hype which uses the female breast as sexual decoration to mainly promote and sell consumable products (Baumslag et al. 1995).

1.2 CURRENT TRENDS

In Australia, current rates of breastfeeding are approximately 88% at birth, 68% at two months and 47% at six months of age (Australian Bureau of Statistics 1997). In comparison to international figures, these statistics are fairly high. The United States of America quote initiation rates in 1995 as 59.7% with 21.6% still breastfeeding at six months (Leaven 1997). In Canada initiation rates are quoted

as 87% for Vancouver with 30% (1990) still persisting at four months (Williams and Innes 1996) and 73% for Canada (Dzakpasu and Trouton 1998).

1.3 WHY BREASTFEED; DOES IT REALLY MATTER ANYWAY?

Breastfeeding is biologically, psychologically and socioculturally defined and how a woman experiences the act of breastfeeding her infant is determined by these three broad influences and thus must be viewed holistically. Researchers and those who work with breastfeeding women must ask - what does it mean to a particular woman to breastfeed? The answer will reflect the philosophies of the discipline from where opinion is sought. The biologist might describe the intrinsic value of breastmilk in terms of its immune properties and support of growth and physical development of the infant. The psychologist might focus on the bonding and attachment of the infant to its mother together with the importance of the relationship between breastfeeding and psychological development of both the infant and the woman as she assumes her role of 'mother'. The sociologist might define breastfeeding within the boundaries defined by a given society and how breastfeeding within that society is bound by rules and social constructs. Mothers themselves draw from all these philosophies when they define what it means to them to breastfeed, how they make their choices about infant feeding and their overall experience of breastfeeding.

If a holistic view of breastfeeding is adopted that incorporates the range of philosophies to explain what is being studied, it becomes evident that the current trend of focusing on individual factors offers little in the way of understanding what is a complex relationship (Stuart-Macadam et al. 1995).

For many new mothers in our society, the 'natural' art of breastfeeding has become a source of significant stress (Stamp and Crowther 1995). This may be one of the reasons alarming trends are appearing in artificial formula use among the human species. Commonly cited reasons for early weaning (and thus increased formula use) suggest that a poor understanding of basic breastfeeding management in mothers, their supporters and health professionals, account largely for the significant 'failure' rates in the first three months after birth. Due to the number and scope of research studies, much is known and understood about the unique properties of breastmilk. However, the challenge remains to reverse these current trends, achieve optimal breastfeeding rates and improve their duration.

Breastmilk provides human infants with all the nutrients needed to not only survive, but also to thrive for many months after birth (Riordan 1993). Just as the mother's body nurtures her unborn child during pregnancy, so she is able to continue to nurture her infant at the breast. As it is with all other mammals, human breastmilk is species specific, that is, it is physiologically designed to meet the needs of the growing and developing young. Just as other mammal

milk is unsuitable for human infants, the composition of breastmilk is unsuitable for other mammals (Palmer 1993; Riordan and Auerbach 1993). Human milk could not begin to meet the needs of the wolf or bear cub, the dog or seal pup or whale calf. Each mammal's milk and feeding practice has evolved to provide optimal growth and development in their own offspring (Baumslag et al. 1995).

The nature and constituents of breastmilk are not yet fully understood (Lawrence 1994), but it is known that breastmilk is a dynamic substance containing many specific protective factors (eg. immunoglobulins) that are passed from mother to baby (Lawrence 1994). The constituents of breastmilk also have the ability to change according to the needs of the individual infant. In order to define breastmilk, it is important to remember that there are ranges of factors that influence any given sample. Early breastmilk research did not recognize the importance of factors such as time of sampling, age of infant and at what point during feeding the sample was taken. Breastmilk samples were usually spot samples or pooled samples from multiple donors leading to inaccurate interpretation of results (Lawrence 1994). How this changing composition affects the infant is only beginning to be recognized. Many studies (Howie, Forsyth, Ogston, Clark and Florey 1990; Goldman 1994) have shown how breastmilk and breastfeeding provides for and protects the developing infant. Breastmilk has been recognised as a 'living tissue' since ancient times. The concept of human milk as a 'white blood', containing enzymes, immunoglobulins and leukocytes which provide powerful antiinfective protection to infants has been described by

Riordan and Auerbach (Riordan et al. 1993). Goldman (Goldman 1994) describes three 'discrete categories' of the immunological capability of breastmilk while also recognizing the multifunctional capabilities of each. The categories are defined as "(1) *direct acting antimicrobial factors*, (2) *anti-inflammatory factors* and (3) *other bioactive compounds that are immunomodulating*" (p423). Thus breastmilk has the capacity to protect against specific pathogens such as salmonella and shigella, limit the penetrative ability of free antigens and pathogenic organisms and act to reduce the risk of Type One diabetes mellitus, lymphoma and Crohn's disease (Goldman 1994)

No modified, artificially manufactured milk mimics, let alone duplicates, these qualities. Yet it is artificial formulas that are presented to new mothers as being 'nearly as good as breastmilk'. Unfortunately this is far from the truth (Palmer 1993; Baumslag et al. 1995; Stuart-Macadam et al. 1995). For many new mothers in this country, infant formula is the only alternative as currently there are no milk banks in Australia and wet nursing is rare, and media advertising has led women to perceive it to be more than adequate for their babies' needs (Lawrence 1994; Baumslag et al. 1995; Stuart-Macadam et al. 1995). This perception is primarily profit driven by a multi-million dollar industry that is ruthlessly efficient in its sales and marketing methods (Minchin 1985; Palmer 1993; Baumslag et al. 1995). The pervading belief since the 1940's is that 'technologically' produced goods are superior to the natural alternative. Mothers are led to believe that while breast is best, breastfeeding is not always easy and

formula is offered as a perfectly good alternative (Baumslag et al. 1995). Formula companies rarely acknowledge the potential dangers of formula use, instead they prefer to show happy healthy infants who appear to 'thrive' on their products. Increased incidences of acute and chronic illnesses among formula fed infants (Lawrence 1994) are ignored, significant health ramifications related to mistakes in manufacturing (Baumslag et al. 1995), are never discussed, and major flaws in the properties of the product compared to the needs of infants are taboo (Riordan et al. 1993).

The transition from breast to formula has taken place over many generations. The reasons are numerous and complex and can be better understood when viewed historically. In the last 20 to 30 years there has been an increasing interest in the value of breastfeeding with a resultant sharing of information. This shift has been aided by the support by organizations such as La Leche League and the Australian Breastfeeding Association (formerly Nursing Mothers' Association of Australia) (Riordan et al. 1993).

1.3.2 Is some breastfeeding better than no breastfeeding?

Considerable research (Howie et al. 1990; Goldman 1994) has been undertaken to identify why 'breast is best', how long is long enough, what influences the breastfeeding relationship and how nursing mothers can be supported, not only in the decision to initiate breastfeeding but also to continue for 12 months and

beyond. A great deal has been written about the significant health benefits of exclusive breastfeeding contrasted by increased health risks associated with artificial formula use (Riordan et al. 1993; McVeagh 1994; Baumslag et al. 1995; Gordon 1995). Lawrence (Lawrence 1994) reports on findings from a range of investigations since the early 1980's and clearly demonstrates the protective effects of breastfeeding for infants against a range of common childhood diseases. Both the incidence and severity of illnesses such as otitis media, gastroenteritis and respiratory type illnesses such as pneumonia, are reported to be directly related to infant feeding method, with increased morbidity and mortality found among the formula fed cohorts. Dettwyler (Stuart-Macadam et al. 1995) reminds us that the nutritional and immunological components of breastfeeding are accompanied by *"the tactile, olfactory, auditory, visual and gustatory interactions between mother and child"* (p170). Every facet of the act of breastfeeding provides the nursing infant with optimal opportunities for growth and development, each part complimenting the other. However, in a society that suggests that infant formula is equal to breastmilk and assumes that breastfeeding is only about feeding babies, there is a resultant belief that the type of feeding method chosen is unimportant (Stuart-Macadam et al. 1995).

With mounting evidence to support the notion that 'breastfed is best fed' (Howie et al. 1990; Horwood and Fergusson 1998; Lee 1998), the high incidence of formula use is not only contradictory to that understanding but confounds the logic of what new mothers, and indeed new fathers believe is to be 'doing the

best for our baby', when cessation of breastfeeding is often swift and premature. Dettwyler (Stuart-Macadam et al. 1995) has examined breastfeeding duration among primates and suggests that humans, as the highest primates, in comparison to our closest primate relatives (chimpanzees and gorillas who nurse their offspring for five or more years), may be meant to breastfeed for several years, rather than just a few weeks or months. Dettwyler has based these figures on a physiological comparison to non-human primates' weaning behaviours and the commonly used biological parameters suggesting that there will be a tripling of human infant birth weight in the first year and its equivalence to the typical pregnancy gestation. Dettwyler takes this further by proposing that the attainment of one third of adult body weight, i.e. for a population with an adult females' average body weight of 55 kilograms, the suggested weaning age would be over three years (Stuart-Macadam et al. 1995). Interestingly, until recently the World Health Organization (WHO 2001) had recommended exclusive breastfeeding for only 4 -6 months. WHO now recommends exclusive breastfeeding for 6 months for all well babies (Butte, Lopez-Alarcon and Garza 2002), with gradual introduction of other foods after that (other foods being secondary to breastfeeding to 12 months) and continued breastfeeding to 2 years and beyond.

The currently prevalent statement by mothers (who wean to formula) that their baby is 'so much more content now he/ she is on the bottle' (Lawson and Tulloch 1995) is a primary concern for a number of reasons. Firstly it raises

questions about maternal knowledge and understanding of infant needs and behaviour. The quest for establishing a routine and for lengthy nocturnal sleep patterns appear to originate from the belief that 'happy, healthy and content babies feed four hourly and sleep for long periods of time. There appears to be poor understanding of what is normal behaviour for the fully breastfed infant, who will often display significant variations in feed/ wake/ sleep patterns which can be seen in any given infant in any particular time period and particularly true in the early weeks of life. Secondly, it raises questions about the actual experience of breastfeeding for these mothers and babies. Studies by Scott and colleagues (Scott, Binns and Aroni 1997), Stamp and Crowther (Stamp et al. 1995) and Lawson and Tulloch (Lawson et al. 1995) describe a number of common breastfeeding problems experienced by women who wean early. Scott (Scott et al. 1995) found that 52% of women who had weaned by two weeks cited problems with breastfeeding as the main reason. Perceived milk insufficiency was also rated highly as one of the main reasons for early weaning. While it appears that some women will persevere and overcome early problems, many do not. It appears from the literature that for many women who wean early issues of disempowerment, pain, fatigue, isolation, misinformation and lack of knowledge become overwhelming thus leading to the premature cessation of breastfeeding.

The journey back to the breast may well be as long and as slow as the journey to formula. Change is likely to be a slow and arduous process requiring a

significant shift in both mindset and understanding about the significance of breastfeeding. As a society, there needs to be a change in attitudes and beliefs about women as gender and their role in society. Commercial interests must de-sexualise the breast as a media tool for the promotion of consumables and there needs to be a change in policies and practices that have a negative impact on breastfeeding. As a society, it is crucial to return to a climate where breastmilk is recognized as the primary infant nutrition for the first year and beyond. Achieving prolonged and exclusive breastfeeding as commonplace, at any time, in any setting, is the goal of all who see breastfeeding as a human rights issue. The challenges therefore, are to develop strategies that will maintain what has been achieved, expand the growing body of knowledge that affirms the value of the journey, and dispelling the myth that formula is equal to breastmilk. All these aspects continue to negatively impact on the art of breastfeeding.

1.4. RESEARCH STATEMENT

Based on the reports of the participants, the study will identify a range of variables related to women's experiences of breastfeeding, from the decision to initiate through to the time of weaning.

1.5 AIMS OF THE STUDY

The overall aim of this descriptive, longitudinal research is to identify, describe and analyse women's experience of breastfeeding, and to make appropriate recommendations in maternal and infant health care practice and promotion. The study seeks to identify a range of factors that impact on the infant feeding practices and decisions about timing of weaning by new mothers' and their infants' and describes their breastfeeding experience within the theoretical framework of the theory of Reasoned Action (Ajzen and Fishbein 1980) and the Theory of Planned Behaviour (Duckett, Henly, Avery, Potter, Hills-Bonczyk, Hulden and Savik 1998), developed by Ajzen and Fishbein. The broad nature of the study attempts to bring together previous study findings, and to establish current breastfeeding practices and experience in order to offer direction for future health care practice, policy formation and implementation.

1.6. RESEARCH QUESTION AND HYPOTHESES

1.6.1 Research Question

The broad nature of this research attempts to determine what are the current breastfeeding experiences of a group of mothers living in Victoria, Australia following the birth of their first or subsequent infant over a period of 12 months.

Through this determination, identify the factors that influence and predict early weaning, which is defined as weaning in the first three months of life.

1.6.2 Research Hypotheses

The following hypotheses were developed from both anecdotal and research experience from earlier work/ studies. The research assumes that there is a relationship between early weaning and a range of issues. Seven hypotheses propose that:

1. Breastfeeding duration would be determined by the number and nature of breastfeeding problems experienced by participants (Binns and Scott 2002)
2. Breastfeeding duration would be determined by low levels of support for breastfeeding mothers (Gibbons M 1998)
3. Breastfeeding duration would be determined by low levels of confidence with breastfeeding (Ertum, Votto and Leventhal 2001)
4. Breastfeeding duration would be determined by the intrapartum experience (Lyndon-Rochelle M, Holt V.L and Martin D.P 2001)
5. Breastfeeding duration would be determined by health professional management of breastfeeding in the days and weeks after birth (Henderson, Pincombe and Stamp 2000)

6. Breastfeeding duration would be determined by the mothers' levels of knowledge about breastfeeding (Cox and Turnbull 1998)
7. Breastfeeding duration would be determined by the mother returning to work in the first twelve months of her infant's life (McIntyre 2000).

1.7 DEFINITIONS AND MAJOR TERMS

This thesis utilises the following terms.

1. *Early Discharge*

Discharge from hospital prior to day 3 (72 hours)

2. *Maternal Readiness for Discharge*

This is based on the mother's opinion of her 'feeling ready' to go home regardless of the day of discharge

3. *Primipara*

A woman who has carried one pregnancy to viability

4. *Multipara*

A woman who has carried two or more pregnancies to viability

5. *Fully breastfed/ exclusively breastfeeding*

Breastfeeding, with no additional foods or fluids being offered by the time of the first questionnaire. The use of a single breastmilk substitute (infant formula) after the initial questionnaire and given for a 'special' event was not considered significant in this study.

6. *Partial Breastfeeding*

Breastfeeding together with regular use of any complimentary feeds (formula) and / or solids (cereal)

7. *Weaning*

Total cessation of breastfeeding

8. *Breastfeeding Experiences*

Experiences that are identified as maternal and or infant related associated with breastfeeding

9. *Early Weaning*

Weaning the infant fully from breastmilk in the first three months

1.9 SUMMARY

The consequences of early weaning and the benefits of exclusive breastfeeding for the first six months of life are well reported and yet a review of the literature provides few definitive answers with which to reverse the trends. The current environment, where new mothers (and fathers) are ill prepared for the realities of breastfeeding, has evolved through many generations. The impact of technology, science, artificial food manufacturing and the increase in women's participation in paid work away from their babies has all gradually eroded the biological rhythm of women's fertility and the breastfeeding relationship.

It is important to undertake this study because few researchers have addressed the complex nature of premature weaning and its effects. Chapter two will describe breastfeeding behaviours and experiences within the theory of Reasoned Action (Ajzen et al. 1980) and the theory of Planned Behaviour (Duckett et al. 1998). This will be done in order to describe how an individual's beliefs, attitudes and intentions about breastfeeding together with her perceptions of the attitudes of significant others and external influences all impact on the experience itself and ultimately guide the decisions made by breastfeeding mothers.

Chapter 2

BREASTFEEDING: PREDICTING AND INFLUENCING BEHAVIOUR

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CHAPTER TWO

BREASTFEEDING: PREDICTING AND INFLUENCING BEHAVIOUR.

2.0 INTRODUCTION

Current breastfeeding statistics in Australia (Australian Bureau of Statistics 1997) suggest that 88% of women breastfeed in the immediate postpartum period. It is apparent from these figures that the majority of new mothers begin with the intention to breastfeed and yet within two months of birthing 20% have given up and by the time the infant is six months of age a further 20% of babies will be weaned to infant formula (Australian Bureau of Statistics 1997). While these figures are of concern in themselves, they do not indicate how many of those infants were exclusively or partially breastfed from birth. The early introduction of supplemental feeds of artificial milks can and do have a significant negative impact on both the establishment and duration of breastfeeding. Stamp and Crowther (Stamp et al. 1995) suggest that 5% of infants are mix-fed (breastmilk and formula) by six weeks and a study by Hill and colleagues (Hill, Humenick, Brennan and Woolley 1997) reported that in four groups of mothers, 63.0% and 59.7% of mothers who exclusively breastfed on discharge were still breastfeeding with breastmilk only at 20 weeks postpartum. Conversely in Hill and colleagues' further two groups, only 28.1% and 24.2% who supplemented with artificial milks were still breastfeeding at 20 weeks.

Interestingly, there was no significant difference in the *intended* duration of breastfeeding between the groups (Hill et al. 1997). It is apparent that all mothers in both these studies intended to breastfeed, and yet for a significant number, 'intention to breastfeed', while it may have been a predictor for initial behaviour, ultimately failed to act as a strong predictor of ongoing breastfeeding.

Recognizing a woman's intentions about feeding methods is probably most useful in the antenatal period where a range of attitudes prevail. In pregnancy, many women intend to breastfeed, a few intend to bottle-feed and others remain ambivalent and unsure about how they will proceed. The notion that behaviour can be predicted by knowing intent (Ajzen et al. 1980) is useful in so far as it fosters the recognition of the 'ambivalent' group and thus provides health professionals with an opportunity to direct appropriate education to this group. For example, providing information in the prenatal period about the negative effects of supplementary fluids (such as reducing infant demand for breastmilk and thus the breastmilk supply), particularly in the early weeks after birth, may help to reduce the incidence of premature weaning related to insufficient milk supply.

It also appears that the longer the intention to carry out a given behaviour is held the more likely the behaviour is to occur. Scott and colleagues (Scott et al. 1995) found that women who decided to breastfeed prior to conception were four times more likely to breastfeed than those who decided during the pregnancy or in the

early postnatal period. A second report from this study (Scott et al. 1997) elaborates further, describing a strong association between intended duration and actual duration. Lawson and Tulloch (1995) found that primiparous women who made the decision prior to conception (or early in the first trimester), to breastfeed their infant for at least four to six months were more likely to be fully breastfeeding at 12 weeks.

2.1 THEORY OF REASONED ACTION

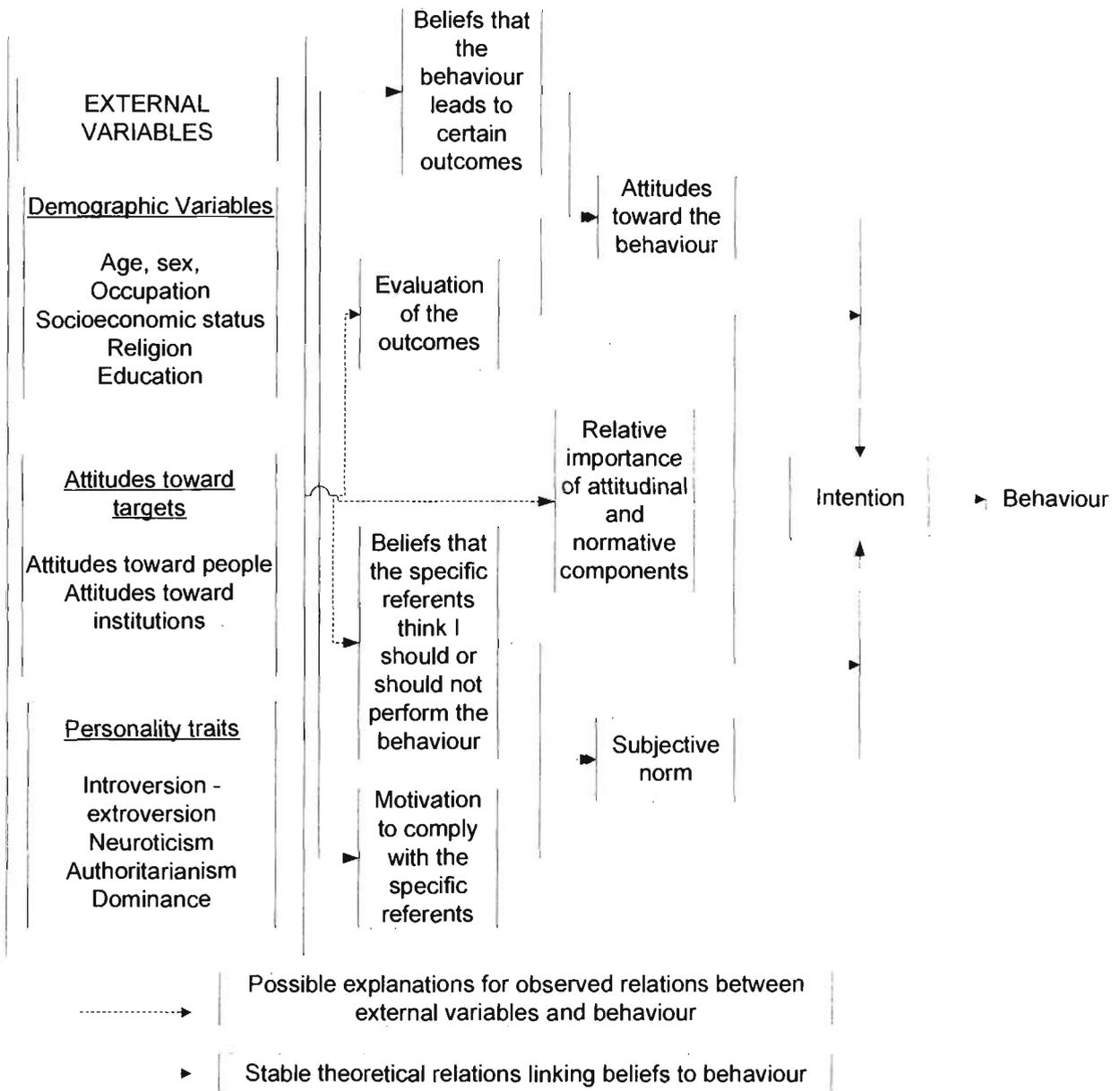
The Theory of Reasoned Action (TRA) developed by Ajzen and Fishbein (Ajzen et al. 1980), asserts that most behaviours are the result of a conscious determination and thus a person's intentions will effect at least initial behaviours. This theory suggests that most human behaviours can be predicted by identifying the intentions of individuals to perform or not perform a given activity (Figure 2.1). However, this appears to be significant only for short-term behaviours. Thus, from early on it will be possible to predict the initiation but not necessarily the duration of breastfeeding, which is heavily influenced by ongoing determinants experienced by the individual mother. It is clear from the statistics of Australian mothers where currently 88% start to breastfeed, that while intention may influence initiation rates it has varying degrees of influence on the length of breastfeeding, particularly in those women who are less decided on duration. What is not clear is why breastfeeding rates diminish rapidly in the first

three months after birth even in those women who have made the initial commitment to breastfeed their baby.

In order to understand the behaviour of early weaning, the determinants of intention and influences on both decision-making and experience need to be identified. TRA suggests two basic determinants of intention: the first is described as the *attitude toward the behaviour*, which is whether the person views the behaviour/ function as desirable or undesirable. The second notion recognises how the person perceives societal influences about performing or not to performing any given behaviour, which is termed the *subjective norm*. Applied to the pregnant woman who is considering infant feeding methods, she will consider the positive and negative aspects of both methods, probably participate in antenatal education and/or self educate through reading and discussing the issues with family and friends and make the decision within the confines of her own social circle that is itself influenced by and society's expectations and attitudes. If the information she gathers is predominantly breastfeeding positive, then the likelihood of at least initiating breastfeeding will be high. This appears to be true also for how long she will breastfeed. If the cultural norm appears to be that it is important to breastfeed for up to three months, with the introduction of solids and a bottle thereafter, then early weaning is likely to follow at about that time. It is therefore likely that a woman who decides during pregnancy that she will breastfeed, but who has a poor understanding of the realities of breastfeeding and perceives that it is only important in the early months, will

probably wean within the first half of her baby's life. Any difficulties or negative attitudes encountered from those around her will only reinforce this belief and lead to breastfeeding termination behaviours.

Figure 2.1 Indirect effects of external variables on behaviour (*The theory of Reasoned Action*)

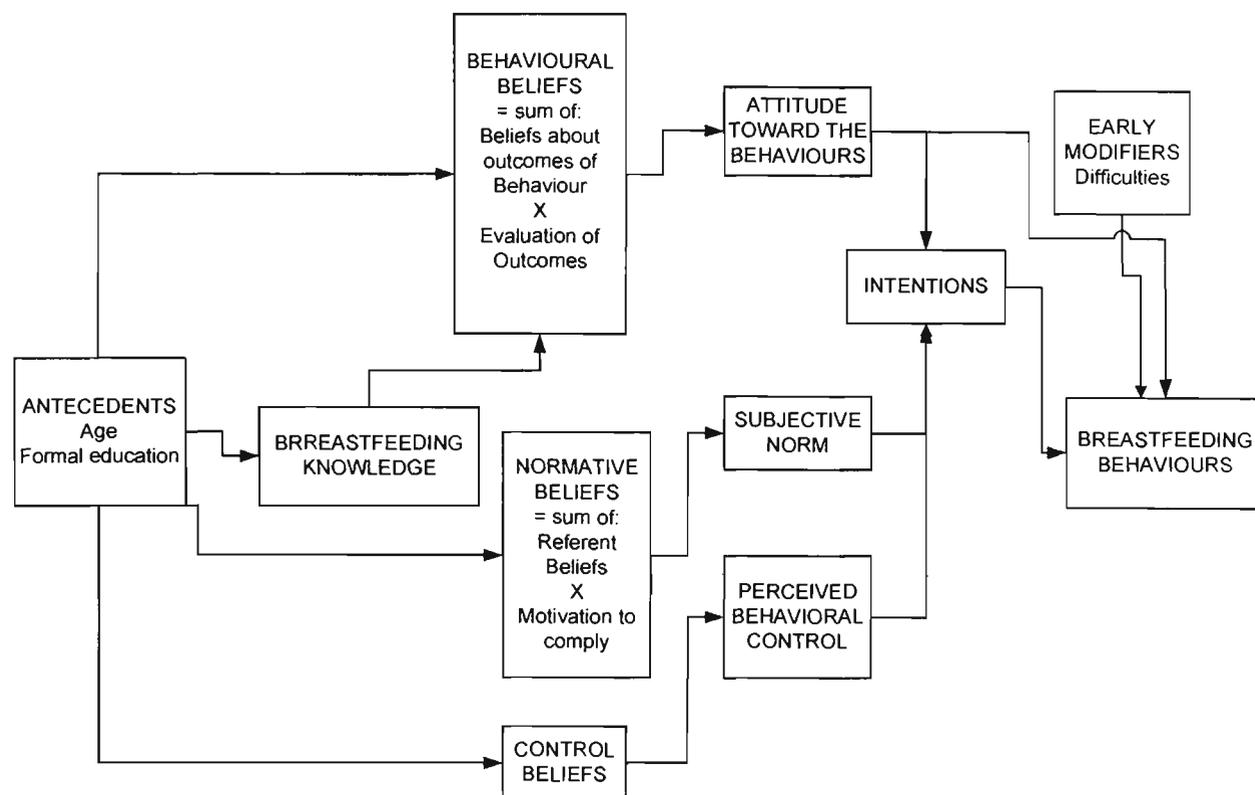


(Ajzen et al. 1980)

One significant area, which is not addressed by TRA, is the impact of external influences. These include experiential, demographic, socio-economic variables and the role of significant others. For example, the desire and intention to breastfeed for an adopting mother may in fact be fully achieved under optimal circumstances such as strong family and medical support and management. However, a range of factors over which she has no direct control influences the experience of most adoptive mothers. These would include the age of the baby at adoption, whether the baby is willing/ able to suck effectively at the breast, and whether the mother's hormones (manipulated by medications) are primed for lactation. Thus her intention to breastfeed may be influenced by external variables.

In response to concerns about the assumption that behaviour is completely under an individual's control, Ajzen (Duckett et al. 1998) went on to develop the *Theory of Planned Behaviour*. The TPB (Figure 2.2) recognizes that a given action will be influenced not only by personal beliefs and attitudes about possible outcomes together with the response of significant others, but also the perception of achievability of the action itself. Thus, if a woman believes that breastfeeding is fraught with difficulties and restrictions, then for her it may seem to be unachievable, and any early problems will appear to become insurmountable.

Figure 2.2 A proposed theory of planned behaviour based model for breastfeeding



(Duckett et al. 1998)

Wambach (Wambach 1997) suggests that Ajzen's TPB recognises that behaviour can be identified at any point on a continuum ranging from "complete volitional control to no volitional control" (p.52). Thus perceived behavioural control together with behavioural attitude and subjective norm may influence an outcome behaviour either indirectly via a persons intentions to perform a behaviour or directly if the proposed behaviour does not diminish actual control. In the study *Breastfeeding Intention and Outcome: A Test of the Theory of Planned Behaviour*, Wambach (1997) found a correlation between intentions and resultant behaviours with maternal attitudes offering a strong predictor of

intention. Unlike other studies (eg. Manstead, 1983 cited in Wambach 1997) Wambach found that *subjective norm* was not a strong indicator. Unfortunately, one of the limitations of Wambach's study was the short duration of data collection, with only the 4-6 weeks postpartum period being allocated for follow up. A longer follow up period may well have provided a greater example of weaning variables and stronger correlations between variables.

For the current study cohort, it is apparent that participants who planned to initiate breastfeeding achieved this goal, with all women either breastfeeding or a small number providing expressed breastmilk. However, what is not clear is how long they had initially planned to breastfeed the current baby. In hindsight, this question would have proved useful in determining whether women who predetermined particular durations in fact met them or not.

It is apparent from the Australian literature that between 88% and 91% of women will initiate breastfeeding (Scott et al. 1995; Stamp et al. 1995; Australian Bureau of Statistics 1997). Yet, the most recent Australian breastfeeding statistics (Australian Bureau of Statistics 1997) show that from an 88% initiation rate, while 68% are still breastfeeding by two months, only 47% are continuing to do so by six months of age. A greater acknowledgement and understanding of the benefits of breastfeeding by both health workers and the community may be contributing to these current initiation rates. Scott and colleagues (1995), sought to identify the primary motivators for initiating breastfeeding. For many

women there is a strong belief that breastfeeding is better for the baby, it is more convenient, cheaper and is regarded as a natural process. Recognising the significance of an activity provides a motivation to begin the task, and for some it will continue to influence the activity for a prolonged period of time. This is evident from breastfeeding initiation rates (Australian Bureau of Statistics 1997) and the fact that some women continue to breastfeed for some years (WHO 1996).

For most women however, the reality appears to be that a range of influences impact on both the experience and often the duration of breastfeeding in spite of their initial intentions. In purely statistical terms the drop out rates illustrates this at six weeks and at three, six, nine and twelve months. These findings raise a number of questions for researchers. If women are motivated to initiate breastfeeding because they believe it is best for their baby, what events influence their experience to such an extent that the decision changes? One of the variables found to be strongly associated with exclusive breastfeeding at three months, described by Lawson and colleagues (1995), was a negative attitude to formula feeding. The study showed clearly that women who described a strongly negative attitude to formula were much more likely to be exclusively breastfeeding at three months. Conversely, the belief that infant formula is as good as or almost as good as breastmilk may well influence the decision to change feeding methods in those women who are not convinced of the absolute

value of breastfeeding and/ or in women who experience what they perceive to be insurmountable problems.

2.2 HEALTH PROMOTION

The World Health Organization defines health promotion as *“the process of enabling people to increase control over their health, and improve it”* p.21 (Dunkley 2000). This definition espouses personal empowerment and responsibility for health outcomes. Further, Downie and colleagues (Dunkley 2000) propose that *“health promotion comprises efforts to enhance positive health and reduce the risk of ill health, through overlapping spheres of health education, prevention and health protection”* p.21. Both definitions go some way toward explaining what health promotion is. However, they do not place promotion within the context of culture and socioeconomic experience, which is desirable if the definition is to be representative and holistic.

A number of health promotion models and theories have been developed over the last 30 years in an attempt to bring about change in population health behaviours. Health promotion models attempt to identify and explain both health and risk taking behaviours within the context of individual experience and then develop possible methodologies and interventions that will facilitate changes in what is defined as deleterious behaviour. For example, TRA, developed by Ajzen and colleagues, assumes that any behaviour is determined by an

individual's beliefs and attitudes to a given experience (Ajzen et al. 1980). Ajzen took this further in TPB by recognising that control was not always volitional and therefore an individual's behaviour may reflect lack of perceived control over a given experience and thus the outcome will be different to that which is expected.

Breastfeeding research show clearly that significant numbers of women are aware that human milk is best for babies (Baird 1995; Basire, Pullon and McLeod 1997; Binns et al. 2002). It appears, however, that many mothers see using formula in the first six months of an infant's life as a safe and risk free option. Telling women of the benefits of breastfeeding and shying away from the potential repercussions of formula use, and telling them via the currently used narrow modalities of posters and information flyers, provide little opportunity for broad education and change. For breastfeeding promotion to achieve a significant effect on community attitudes, beliefs and practices, it is essential to identify strategies from successful social change campaigns.

There are a number of health promotional activities that have been successful in changing behaviour and improving outcomes. Examples include the promotion by the Sudden Infant Death Foundation who have alerted the public to the risk factors associated with Sudden Infant Death Syndrome (SIDS), the 'Shaken Baby' campaign and the Transport Accident Commission's 'drink driving' campaigns. Interestingly, the repercussions for continuing the undesirable,

behaviour are realistically, and often graphically portrayed in these types of promotional activities. In these campaigns, the 'truth' as the health provider presents it, does not withhold unpleasant or uncomfortable information to avoid making risk takers feel anxious, fearful or guilty. Quite the contrary. Yet, in the campaigns to promote breastfeeding, no research-based evidence regarding the hazards and inadequacies of infant formula is presented. It is commonly heard that breastfeeding promoters should not make formula-using mothers feel guilty and it is for this reason that promotion is not pursued more vigorously. The paradox is clear. While most parents ensure that their children are restrained in appropriate child restraints before they drive off in their cars, few will provide optimal nutrition by breastfeeding beyond the early months of life. This optimal nutrition is even more important in the 21st century with the emerging evidence of childhood obesity rates. While legal repercussions are an obvious deterrent in the case of the failure to use child restraints and the primary motivation for parents is one of safety for their children, a similar scenario is not as evident in the promotion of infant feeding method. The campaign that focused on child restraints graphically showed an unrestrained manikin infant being flung through a car in a high impact type collision. The basis for this and other campaigns is to highlight the implications of 'risky behaviour' i.e. failure to safeguard the child in vehicles and ultimately to induce fear and guilt about reckless behaviours in the risk taker, with the expectation that fear will prevent the undesirable behaviours.

2.2.1 High impact campaign for non-breast feeders

A campaign targeting new parents would need to highlight the risks involved with feeding their baby something other than breastmilk in order to bring about community change. For example, providing graphic descriptions of recognised infant related illnesses such as gastroenteritis, requiring the increased need for medical care and hospitalisations would provide shock value together with clear information about feeding infants a product that is clearly inferior to breastmilk and the vulnerability of a product that is man made, may assist parents to make a more informed choice. What is probably equally if not more effective is a campaign that brings breastfeeding into every home, where breastfeeding is seen in the community as a part of everyday life and would thus make breastfeeding the normal way to feed babies. This concept will be discussed further in a later chapter.

2.3 SOCIAL MARKETING - CHANGING PUBLIC BEHAVIOURS

The concept of utilising social campaigns to bring about change is not new and can be identified as far back as Ancient Greece, where campaigns to abolish slavery were waged (Kotler and Roberto 1989). Since that time, social change campaigns have addressed issues ranging from abolishing debtors' prisons in England during the Industrial Revolution, the suffragette movement to improve

the status and rights of women through to the focus on health reforms in more recent times.

2.4 HEALTH PROMOTION CAMPAIGNS

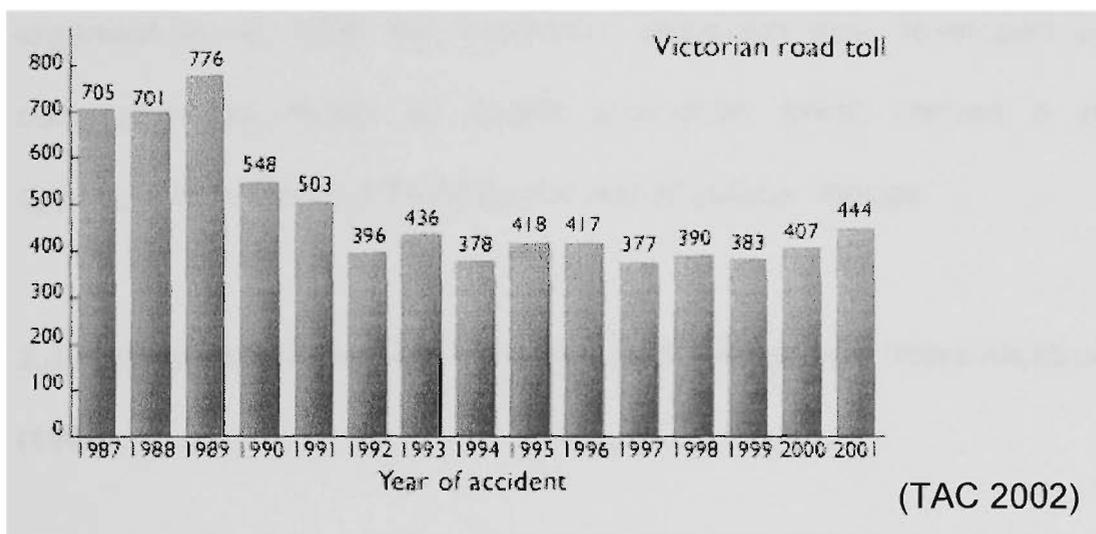
During the past two decades in Australia, several very successful health promotion campaigns have been established that address particular public health concerns. Three of these are the Road Safety Initiative, the SunSmart and the Childhood Immunisation campaigns. If breastfeeding promotion is to substantially alter current trends towards early weaning, the lessons from these types of initiatives must be incorporated into future campaigns.

2.4.1 Traffic Accident Commission (TAC) - Road Safety Initiatives (1989)

In late 1989, in response to the rising road toll, the TAC together with a number of other Victorian state road safety agencies developed a diverse, multi-faceted accident prevention program that has proved to be very successful at reducing both fatalities and injuries. The TAC utilized market research to both develop initiatives and to evaluate campaign efficacy. The key components draw attention to high profile; hard-hitting messages with sustained focus on key issues such as alcohol being linked with impaired driving ability, driver fatigue and excessive speeding. The primary themes of the TAC campaigns target people's 'core fears - their personal vulnerability' and these were developed to

challenge drivers' attitudes to road safety. The issue of road safety became a commodity to be marketed and sold just as any other consumable product. The incorporation of the mass media, together with a range of other strategies to promote key messages aimed at target audiences, has proved to be very effective (TAC 2002). Prior to the campaign, Victoria's road toll was 776 for the year in 1989; by 2001 this number had dropped to 444 (figure 2.3) with the most significant impact seen in 1994 (378) and 1997 (377). Public awareness of campaigns, as reported by the Sweeney Research Group, has generally exceeded 70% with some campaigns exceeding 90% public awareness.

Figure 2.3 Victorian road toll statistics



2.4.2 Anti-Cancer Council of Victoria (ACCV) - Slip! Slop! Slap! - SunSmart Campaign (1981):

In response to the increasing evidence (Sinclair, Borland, Davidson and Noy 1994), linking sun exposure to skin cancer, the Anti Cancer Council Victoria

launched the Slip! Slop! Slap! Campaign in 1980. The primary aim of the campaign was to reduce the incidence of skin cancer using three basic messages. Firstly, *slip* on a shirt, secondly, *slop* on some sunscreen and finally *slap* on a hat to provide cover to the head, face and neck. These behaviour change messages were disseminated using a number of diverse mediums including, television, radio, print media, (posters and pamphlets widely distributed in the community) and face-to-face education methodologies. Over several years, the *Slip! Slop! Slap!* slogan was to become well recognised and used within the community. The message continues to be strongly acknowledged by all age groups as an important way of decreasing the risks of avoiding skin cancer (Sinclair et al. 1994). With funding from VicHealth, a State organisation, in 1988 the SunSmart campaign was developed based on a comprehensive model of health promotion which utilised a multifaceted approach to effect both behavioural and structural change.

2.4.3 Immunise Australia - the National Childhood Immunisation Program (1995).

While mass immunisation programs have been conducted in Australia since the 1920's, data collected by the Australian Bureau of Statistics (National Immunisation Strategy document, 1993) in 1989-90 showed that significant numbers of children aged 0 - 6 years were not fully immunized. A multi-faceted national campaign was launched in 1995 in an attempt to improve immunisation

rates by: raising community awareness of the need for complete immunisation; and creating a positive climate of acceptance and compliance. In identifying key concepts, researchers found (Carroll 1997) that for a concept to be effective, consumers believed it needed to provide:

- *impact;*
- *identification;*
- *a sense of urgency;*
- *a sense of danger and risk for non-immunisers;*
- *a motivation and opportunity to respond positively; and*
- *a demonstration that immunisation is the best option” (Carroll 1997)*

A range of information modalities was utilised by the campaign including national television commercials, print advertisements, advertisements appearing on bus and tram exteriors and posters which were distributed to doctors surgeries and baby health clinics. Once the key issues were identified, these then provided the basis for the campaign which to date, has served to increase community awareness and acceptance of full immunisation.

The Federal Government has also taken the immunisation message one step further than the original campaign. In 1997, the Minister for Health and Aged Care, the Hon Dr Michael Wooldridge launched the Seven Point Plan; an initiative designed to further increase immunisation rates in Australia. The seven points included:

1. Eligibility for a number of Government allowances linked to immunisation status, unless there were medical contraindications or conscientious objection.
2. Monetary incentives were introduced for general practitioners to encourage high immunisation coverage
3. Public release of immunisation statistics
4. A series of immunisation days were piloted nationally
5. Development and conduct of a measles control campaign
6. Establishment of a National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases
7. The introduction of school entry requirements where proof of either immunisation status or conscientious objection are provided to the school prior to enrolment is mandatory

Together, these campaigns have contributed to significant shifts in the population's behaviour towards the desired health preventative activity.

Again, an example is provided of a campaign whose message is clearly challenging 'risk takers' without the impediment of pandering to the belief that they 'must not be made to feel guilty'. As Minchin so rightly points out in her most recent edition of *Breastfeeding Matters* (Minchin 1998)

“There is an unwritten but widely accepted shibboleth: thou shalt not make some mothers feel anxious by informing the public about the problems of formula feeding” (p.302).

The reality for our society is one of the ‘bottle-feeding culture’ and while breastfeeding is seen by many as the ideal, it mostly appears to be set in an idealised and unattainable environment. Much of the approach to breastfeeding promotion has relied heavily on the notion of highlighting the positives of breastfeeding. In terms of comparisons to effective health promotion campaigns it is obvious to proponents of breastfeeding that this is not only ineffective but in fact may be contributing to the growing acceptance of a bottle-feeding culture. By not presenting the pitfalls and potential hazards of infant formula use, women cannot make a truly informed choice. The propaganda message is merely one-sided and clearly at odds with successful campaigns waged by the TAC, the federal health department and the state organisations.

2.5 BREASTFEEDING PROMOTION – ACCENTUATING THE POSITIVE

To date, the language of breastfeeding promotion is clearly focused on the benefits and advantages of breastfeeding. While most printed material about breastfeeding portrays both an accurate and positive picture, the so-called alternative method of infant feeding, that of infant formula, is ever present in the marketplace and is presented as the next best thing to breastmilk. For the

woman who is about to make the decision on how to feed her baby, it seems from consumer literature that breastfeeding is the 'ideal' and something to strive for. However, it is also clear from the literature that she lives in a world that is far from ideal and she is told if breastfeeding does not work for her there is a perfectly good alternative available. The suggestion of course is that breastfeeding is difficult and she should not feel guilty if she fails. Many go so far as saying that some breastfeeding is better than no breastfeeding, raising the question - is a day enough, a week, three months? (Hunter 1998) Should women therefore feel they have been successful if they breastfed for a month? The research clearly says no (Hills-Bonczyk, Tromiczak, Avery, Potter, Savik and Duckett 1994; Fetherston 1995; Ball and Wright 1999; Greiner 1999).

Breastfeeding literature is heavily influenced by the suggestion that bottle-feeding mothers should not be made to feel guilty (Basire et al. 1997; Dettwyler and Liles 1997; McKay 2002). The result of 'failed' breastfeeding for many women is a range of negative feelings that include guilt because they do know that breast is best, frustration because they could not get it right, anger because support for breastfeeding was inadequate or missing and feelings of failure as a mother because they could not breastfeed and therefore are functionally inadequate (Dettwyler et al. 1997). There are two possible outcomes for these women. Firstly, women in this position may rationalise to overcome these negative feelings. They tell themselves and are told by others that they tried, it was too hard and they should not feel guilty. As time passes this becomes their

perceived and accepted reality. When their daughters become mothers themselves they are told by their mothers that they tried to breastfeed them but failed, often the justifications offered are 'my milk ran out' or 'I just didn't have enough milk'. When breastfeeding is then seen to be difficult by the daughter herself, congenital reasons for failure are suggested. The second scenario is continued anger related to maternal feelings of failure. This group become dedicated bottle feeders who openly criticise the whole concept of breastfeeding and portray breastfeeding advocates as 'the breastfeeding police' and the 'nipple Nazis'. It takes a very strong and confident daughter to attempt breastfeeding under these circumstances. However, if the daughter encounters breastfeeding difficulties, much needed support from her mother may not be there and her efforts are often, at best ignored and at worst, may be openly criticised by her own mother.

2.6 AUSTRALIAN NATIONAL BREASTFEEDING STRATEGY

The Australian Federal Government (1998) has acknowledged the importance of breastfeeding, not only in terms of health but also in terms of health dollar savings. The Government has developed, in conjunction with a number of specialist agencies (eg. Royal College of General Practitioners, Australian Breastfeeding Association), a number of initiatives designed to increase community awareness about the benefits of breastfeeding. The Government had

aimed to increase the number of babies being at least partially breastfed to six months of age to 46.2% by the year 2000 (the current figure is 40%).

On the first of August 1990, representatives from the governments of 31 countries together with many United Nations' agencies (United Nations International Children's' Emergency Fund, United Nations Population Fund UNFPA, United Nations Development Program, World Health Organization, World Food Bank, World Bank) signed the Innocenti Declaration for the 'Protection, Promotion and Support of Breastfeeding'. Australia was not represented at that meeting. However, Australia together with 196 World Health Assembly (WHA) member countries recognised and adopted Resolution WHA 45.34 which urged Member States (May 1992) "*1) to give full expression at national level to the operational targets contained in the Innocenti Declaration...*"(IBFAN 1998). WHA 45.34 was adopted by consensus. The declaration states "*all women should be enabled to practice exclusive breastfeeding and all infants should be fed exclusively on breastmilk from birth to 4-6 months of age. Thereafter, children should continue to be breastfed while receiving appropriate and adequate complementary foods, for up to two years and beyond*" (WHO, UNICEF 1990). Under the heading of 'Operational Targets' it is stated, "*all governments (by 1995) should have enacted imaginative legislation protecting the breastfeeding rights of working women and established means for its enforcement*" (WHO, UNICEF 1990). No such legislation in Australia has been developed to date (at the time of writing) let alone been

presented to Parliament. Instead the Australian Government has adopted a 'soft' approach to promote and support breastfeeding and is doing this in a distinctly 'low key' manner. There have been no mass media campaigns - a powerful and proven tool utilised successfully by a number of health education campaigns (eg. Slip! Slop! Slap! Mass Immunisation campaigns), which were developed with sound research objectives, maintained with ongoing program evaluation and responsible modification. Integral to their success has been and continues to be well placed use of media and cooperation between related agencies.

The National Breastfeeding Strategy (1998) recognises that there are a range of issues needing to be addressed if breastfeeding targets are to be met. Issues such as poor community understanding of the importance of breastfeeding; conflicting advice being given to parents; the importance of familial support; health professionals knowledge about breastfeeding; community education; workplace issues and the needs of specific groups such as indigenous Australians, migrants and socioeconomically disadvantaged families.

In 1996, the Federal Government allocated \$2 million over 4 years for breastfeeding initiatives in order to address key issues. This amount is in direct contrast to the \$27 million dollars allocated in 2001 for the National Drugs Campaign (Dow 2002). The campaign aims to teach young people about the risks associated with illicit drug use and does so within the context of promoting healthy family life.

To date funded breastfeeding projects have focussed on family and health professional education, the development of accreditation standards, employer support; national data collection together with a number of smaller projects. Further, projects addressing antenatal education and workplace support issues are underway.

Of particular concern are the low levels of funding available for individual projects. For example, the National Family Education package was allocated approximately \$350,000 (1997), and the Antenatal package had a budget of \$250,000 (2000). There is little opportunity for the development of strong, wide spread national health promotion activity, particularly utilising mass media, with this low level of funding.

The current study findings are consistent with Government conclusions. Low levels of knowledge about breastfeeding can have a significant impact on breastfeeding duration. However, inadequate funding for promotion and education, both of health professionals and the community will not achieve desired change.

2.6.1 Advisory Panel on the Marketing in Australia on Infant Formula (APMAIF)

In 1978, the Twenty-seventh World Health Assembly noted the general decline in breastfeeding rates and duration in many parts of the world. They related the causes of this decline to sociocultural issues and competition from factors such as the promotion of manufactured breast-milk substitutes. The Assembly urged:

“member countries to review sales promotion activities on baby foods and to introduce appropriate remedial measures, including advertisement codes and legislation where necessary.” (World Health Organisation 1981) p.5)

The issue continued to be raised at successive Assemblies until the fourth draft was endorsed and put forward as a recommendation in 1981.

The aim of the WHO Code was to:

“Contribute to the provision of safe and adequate nutrition for infants, by the protection and promotion of breast-feeding, and by ensuring the proper use of breast-milk substitutes, when these are necessary, on the basis of adequate information and through appropriate marketing and distribution.” (World Health Organisation 1981) p.9)

In 1981, Australia voted in support of the introduction of the World Health Assembly's International Code of Marketing of Breast-milk Substitutes (the WHO Code) and was one of the first countries to sign the WHO Code. All Australian Federal Governments since that time have signalled their commitment to adoption of its principles.

As a signatory, the Australian Commonwealth Government developed a voluntary Agreement (based on the Code) between the Government and infant formula manufacturers and importers. Some time later it was determined that this agreement could not be authorised as it was found to possibly be anti-competitive and contravene the Trade Practices Act. It was then abandoned.

In 1991, a number of interested stakeholders met and formed a working party chaired by the Federal Bureau of Consumer Affairs. This challenge was to develop a voluntary code of practice based on the WHO Code. Member companies of the Infant Formula Manufacturers Association of Australia (IFMAA) and other manufacturers and importers of infant formula agreed to the setting up of the 'Marketing in Australia of Infant Formula: Manufacturers and Importers (MAIF) Agreement. The Agreement was signed in 1992, with the Trade Practices Commission granting authorisation to go ahead. This was not passed into law and is a purely voluntary Agreement, which is loosely based on the WHO Code. The Agreement does not cover retailers and retailer activity nor

does it address the marketing of bottles, teats and pacifiers or other complementary bottle-fed products. To date there are only four of the possible several manufacturers that have become signatories. The others have been invited and to date have declined.

In an attempt to monitor compliance with the Agreement, provision was made to form the Advisory Panel (APMAIF) whose task it was to receive and investigate complaints by consumers and health professionals on manufacturer marketing activities, which were considered to be in breach of the Agreement. The Panel also acts a liaison point for issues relating to the marketing of infant formula in Australia, is to develop guidelines on the interpretation and application of the MAIF Agreement and provides advice to the Commonwealth Minister for Health and Ageing.

All complaints received by the Secretariat are tabled for the following APMAIF meeting and then considered by the Panel. Applicability to the Agreement and resolution opportunities determined. When a matter is found to be in breach of the MAIF Agreement, the Panel may request that the material be withdrawn from circulation; amendments be made to the material; and a retraction be printed in the media. If the breach is considered serious, then the matter can be brought to the attention of the Minister for Health and Ageing. All breaches are reported in the Annual Reports.

In November 2000, the Hon Rob Knowles (former Victorian Health Minister) was appointed to review the composition and operation of APMAIF. This appointment arose from increasing concerns from a number of stakeholders who felt that the purpose of the Agreement was not being met and there was a growing disillusionment with the operation of APMAIF. A number of recommendations were put forward and problems identified by Mr Knowles and with the support of the Minister, these are currently being considered by the Panel in terms of implementation strategies. The current Panel has a Chairperson with a legal background, an Industry representative together with Health and Community Representative who have expertise in public health and infant nutrition.

There continue to be discrepancies between the current Agreement and what an effective Agreement should be. With no legislative power to call on or the required scope of interest to work with, the Panel is largely restrained in its efforts to fully implement the WHO Code. Many proponents of the WHO Code see it as a 'toothless tiger' that is unable to bring about significant change. While marketing of infant formula in Australia is largely restricted by the MAIF Agreement, brand recognition is facilitated through the broad marketing of 'Toddler Follow-on Formula', retailers who sell their own brand of infant formula are not bound by the agreement and the marketing of bottles, teats and pacifiers is free from restriction. The belief by many new parents that infant formula is a

reasonable substitute for breastmilk will continue until the MAIF Agreement more appropriately reflects the WHO recommendations.

The question therefore remains that if the Australian Government is serious about improving breastfeeding rates and duration then why is breastfeeding not vigorously promoted in high impact mediums with appropriate levels of funding allocated? In view of the international recommendations on breastfeeding, the validity of Australian Government efforts to date fall well short of optimal, effective health promotion. To achieve the Innocenti Declaration goals (1990), countries should actively promote a breastfeeding culture and vigorously defend against the incursions by a bottle-feeding culture. It is apparent from the identified significant weaning rates at three and six months, that Australia continues to be influenced by the myth that infant formula is an acceptable alternative to breastmilk. This myth is perpetuated by withholding information on the potential hazards of infant formula use. A personal and professional opinion of a leading developmental physiologist is that "every packet of infant formula should carry the following health warning in a prominent place on the outer packaging: Warning! Infant formula is potentially hazardous to the health of your baby in the first 4-6 months of its life" (Short, Roger). For the breastfeeding mother who is concerned about the adequacy of her milk supply (the most common reason cited for early weaning) and who is considering adding formula to her infants diet. A warning such as the one proposed by Professor Short may

well encourage women to seek out all options before introducing formula into her baby's diet.

2.7 INFORMED CONSENT (choice)

From a legal perspective, there are distinct requirements for a legally valid informed consent. Informed consent requires that the person be provided with all information pertinent to the decision, any risks, anticipated results and any alternative treatments that may be important to the average person who is to make the decision (Bobak and Jensen 1991). Dettwyler and Liles (1997) described the components of informed consent in their paper entitled Promoting Breastfeeding – promoting guilt? These writers describe four key components in making a truly informed choice. Firstly, having accurate, current, research based information. Secondly, believing the presented information, thirdly being motivated to proceed and finally, once a decision has been reached actually doing it. Dettwyler and Liles suggested that once the choice was made then there were a number of internal and external variables that may influence the ability of a person to actually carry out the chosen behaviour. For example, the mother may be unwell, exhausted; the baby may be premature or be very unsettled; the mother may not have any social support or live amongst people who do not believe that her choice is the best one; she may be socially disadvantaged and need to return to work soon after the birth and her work

environment prevents her from continuing to breastfeed. If these influences are strong enough, then it is more likely that the chosen behaviour will be discarded.

In terms of infant feeding choices, and in particular by withholding information about the hazards of formula use, women clearly cannot make an informed choice. Women are told of the benefits of breastfeeding and why it is best for babies, they are also told however, that infant formula is an acceptable alternative if breastfeeding fails thus setting up a self-fulfilling prophesy. In legal terms, women who are not advised of the risks associated with infant formula, such as an increased risk of allergies, asthma, diarrhoea and possibly SIDS (Lee 1998), are not able to reach and provide an informed consent when they agree for their baby to have a bottle of infant formula.

The question therefore remains as to why promoters of infant nutrition appear to shy away from providing prospective parents and the wider community with information regarding the hazards of infant formula. Reticence on the part of government health departments and health promoters in this area can be seen on two levels. Firstly, the absence of material being provided to high profile areas such as television and radio means that audience numbers are reduced. Secondly, the language used in promotional material is often weak and ineffectual, highlighting the benefits of breastfeeding and ignoring the flaws and inherent dangers of infant formula.

It is essential to recognise that a mother does not feed her baby in isolation. She is part of a nuclear family that is part of a broader family, which is part of a community that is part of a society. She is subject to a myriad of influences, prejudices, attitudes and experiences, which culminate in her own unique experience of infant feeding. By not offering her all we know about human milk feeding and the possible repercussions of infant formula feeding, we fail her. By not ensuring that she will have access to sound breastfeeding education antenatally and appropriate support postnatally, we do a great disservice. Finally, by not making certain that her rights (and that of her baby's) to maintain ongoing breastfeeding in both the workplace and the public arena, we perpetuate the injustice of discrimination.

2.8 SUMMARY

Chapter Two has discussed the significance of a woman's intentions to breastfeed within the theory of reasoned action (TRA). This model indicates that knowing her intentions may be useful in terms of understanding the initiation of breastfeeding. TRA however, does not identify the impact of external influences, which are recognised as significant by the theory of planned behaviour (TPB). The chapter also challenges promoters of breastfeeding to review how breastfeeding is currently promoted in comparison to high profile promotions such as those run by the TAC. These other community campaigns have shown that significant community attitudinal and behavioural change is possible

providing that promotion activities are well researched and broadly marketed and maintained. And finally, concern has been raised about the notion that women who offer formula to their infants are fully aware of the ramifications of doing so, not only for them but also for the long-term well being of their infants. The current evidence showing high formula use clearly suggests they are not aware.

The next chapter will discuss the impact of bringing home a new baby and how changing roles and experiences influence breastfeeding outcomes. There is recognition by some that having the first child may be seen as a crisis to a way of life – a theory which is disputed by others who believe that becoming parents is part of normal life progression. Regardless of the disparity of opinion, most agree that the challenges of bringing home a first baby differ in magnitude to those who are bring home a second or third baby. The chapter will therefore discuss this transition to parenthood from the perspective of primiparous women and their partners.

Chapter 3

BECOMING PARENTS: BRINGING HOME THE FIRST BABY

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CHAPTER THREE

BECOMING PARENTS: Bringing home the first baby

“ ‘It’s a girl!’ ‘It’s a boy!’ For new parents, those words bring an overwhelming surge of feeling, with tears of relief and joy. In these initial moments of bringing a baby into the world, something indescribably powerful happens for mothers and fathers that will remain etched in their minds forever... With mother, father and baby together, dramatic events are occurring in the baby, the mother’s body, and in the parents’ minds and emotions” (Klaus, Kennell and Klaus 1995)

3.0 INTRODUCTION

If we are to accept that becoming parents is a normal life developmental stage (Wilson, White, Cobb, Curry, Greene and Popovich 2000) then it needs to be recognised that changes of this type bring with them life-altering experiences and expectations. How well individuals adapt to these changes is dependent on a range of aspects that are rarely within the parent’s control. It is unlikely that the perceived sense of control that they once had as a single adult or as a partner in a relationship will be maintained as it once was. The evolution of becoming a parent, particularly for the first time, is a complex process that develops over time. The experience of breastfeeding each baby is both part of that complexity and is affected by the overall intricacy of parenting. This chapter will endeavor

to explore the minutiae of the breastfeeding experience in the context of the birth and the development of the family.

3.1 TRANSITION TO PARENTHOOD

In 1949, Hill published his model of family stress in his prominent book *Families Under Stress*. Hill proposed “*in some cases, parenthood was so stressful and required such a drastic reorganization of roles and interaction patterns that it could precipitate a crisis for spouses*” (p8). Studies of the time utilized two primary modalities to identify how individuals adapt to parenthood: these methods included clinical studies and interviews. Both methods provided limited information and tended to be ‘crisis’ focused (Feeney, Hohaus, Noller and Alexander 2001). The clinical study participants were primarily undergoing therapy for emotional problems that became apparent either during the pregnancy or soon after the birth. The interview methodology was primarily retrospective (up to several years) and therefore the information obtained was prone to recall bias and inaccuracy.

Over the next fifty years, the evolution of research and theory development changed focus from one of crisis theory to one incorporating a structured, integrated approach, which identified pre-child marital functioning, offered a control or comparison group and began before the birth of a child – following changes prospectively as they occurred rather than relying on recall. Hobbs

(Hobbs 1965, 1968) for example, recruited mothers in the first eight months postpartum and used a structured methodology to assess the parents' experience. From these studies, Hobbs found that parenthood, while stressful, was not necessarily a crisis. It appears that the marked difference in findings between Hobbs and Hill were attributable to the different study methodologies (Feeney et al. 2001).

Further, early studies focused on the mother's experience and the inclusion of fathers, where it occurred, was often in a superficial way. More recent studies (Feeney et al. 2001) recognise that parenting usually incorporates both mother and father, unless of single parenting issues, and that fathers play an important role in both parenting activities and in the parental relationship. Feeney and colleagues propose that any comprehensive study of new parents should incorporate the perspective and experience of both parents to provide an accurate assessment of parenthood.

The more recent research (Feeney et al. 2001) has focused on four broad categories: 1. How household work is divided; 2. Relaxation, friendship and intimacy within personal relationships; 3. Positivity and negativity of couples' interactions and 4. Individual satisfaction within the relationship (Feeney et al. 2001). This comprehensive approach allows for a more detailed picture to emerge about both parents, their relationship with each other and the effect of bringing home and living with, a wholly dependent infant.

During a pregnancy, couples begin the transition to parenthood through the process of attachment to the fetus and this continues through birth and consolidates during the months after the birth. With transition comes significant change to the roles and responsibilities of each partner and integral to this are the individual characteristics of the infant. Wilson and colleagues (2000) propose that infant temperament, which may be described as difficult or easy, influences the evolving relationships within the family and how the individual parent manages these. For example, the infant who is described as demanding, is often portrayed as being difficult to calm, exhibits dysrhythmic patterns of sleeping and eating, and often demonstrates intensely negative moods and responses. For new parents attempting to incorporate this type of infant into the family unit, the challenges are significant as they themselves attempt to adapt to their new role as parents (Wilson et al. 2000). Wilson and colleagues found a relationship between the mother's sense of stability and her infant's rhythmicity, that is, whether her infant behaves in ways that approximate her expectations and conform to her perceptions of normal parameters.

The impact on a couple having a baby has been described in a number of studies (Belsky and Kelly 1994; Wilson et al. 2000; Feeney et al. 2001) which suggest that there are small but consistently negative changes in the dynamics of the family. Wilson and colleagues propose that the most frequently reported change was in terms of role conflict, where it is identified that mothers in particular make the most role adjustments and these are seen by her as greater

than that of her partner. In contrast, fathers report role conflict infrequently and tend to describe it less intensely. A large study (Belsky et al. 1994) on the transition to parenthood proposed that there is a significant gender difference, which is based on biology and socialization, in the way pending parenthood is approached by each member of the couple. There is an assumption by many parents-to-be that the baby will consolidate their relationship. This is rarely the case in the short term however, given time may well occur. More commonly, the arrival of a new baby emphasizes the elemental male-female differences and thus raises issues about whose work is more important and the value placed on each individual's role. Pre-parenthood, this issue is seen as either a major source of conflict or is avoided and simply not discussed. Post-birth, Belsky suggests, is a time when the priorities and needs of each parent diverge dramatically, increasing the potential for conflict and dissension (Belsky et al. 1994). For example, Belsky described changes in feelings of ambivalence by men and women (38% of the cohort) toward the other spouse as increasing for 98% of women and 64% of men, feelings of love for the other spouse as falling by 10%, communication falling by 15% for both and levels of conflict rising by 31% and 37% respectively. For 19% of the cohort, the opposite was true, with feelings of love toward the other spouse and communication increasing and ambivalence and conflict falling.

Belsky and Kelly (1994) found that the adaptation to parenthood was influenced by a number of factors that required the couple to work together to resolve

conflict. It is this ability, Belsky suggests, that facilitates parental development and progresses the adjustment to their new roles as parents.

3.2 BECOMING PARENTS

Feeney's study (Feeney et al. 2001) found that most couples plan to become parents at some stage; some become pregnant when they planned to, some later than they planned and for some the event was ill-timed and a surprise. The Feeney study commenced during the pregnancy (N= 107 couples) and continued through to six months postpartum, with contact points at six weeks and three months postpartum. The comparison group (N= 100 couples) consisted of couples not planning to have children in the foreseeable future. This was a longitudinal study designed to assess the impact of new parenthood over time. The findings from this study, unlike the earlier studies by Hill (Hill 1949), were that while new parenthood is a time of substantial change, it is not normally experienced as a crisis. However, the transition became more difficult when the parents' expectations were incongruent with reality and were idealistic in terms of what parenthood would be like.

The impetus for this study lies in the proposition that there is a poor understanding of the significant impact of early parenting on the lives of new parents. In particular, this research is interested in determining the role of breastfeeding in the transition and what the impact might be on overall duration.

If lack of knowledge proves to be a significant influence for the current cohort, then future planning of education and support can be better focused.

3.2.1 Antenatal education

For the current study, the expectation that breastfeeding will 'come naturally' or will 'just happen' is certainly idealistic at best and definitely unrealistic. Few participants in the current study felt prepared for the realities of parenthood or for breastfeeding. Comments such as *"I had no idea it was going to be this hard"* and *"I thought it was going to be easier second time around"* by early weaners are indicative of how ill prepared couples are for the early stages of parenthood.

Most (86%) first time parents from the current cohort stated that they had attended antenatal classes during the pregnancy. However, they rated classes poorly in terms of the provision of breastfeeding information and its impact on their acquired level of knowledge about breastfeeding ($p = .017$, $X^2 18.61$). A new study by Matthey and colleagues (Matthey, Morgan, Healey, Barnett, Kavanagh and Howie 2002) suggests that there are a number of clearly defined areas of concern that impact on expectant first time parents. These concerns, from psychosocial and practical sources, are often shared by both partners and include worries about possible relationship changes after the birth, whether the baby will stop them doing the things they want to do and fears about whether they will have difficulty feeding the baby. A repeated measure study of 327

couples by Morse and colleagues (Morse, Buist and Durkin 2000) identified 20% of mothers and 12% of fathers who were appreciably distressed at mid-pregnancy and they reported that this distress continued into the early postpartum period. Morse and colleagues stated that current antenatal management does not recognise distress in pregnancy unless there are obvious signs of disadvantage or dysfunction, and recommends that timely diagnosis would enable health practitioners to intervene early. These researchers also highlight the importance of assessing both partners which is consistent with other studies (Matthey et al. 2002).

Cowan's (Cowan and Cowan 1995) study also suggested that a considerable percentage of new parents will experience early parenthood as stressful which for some will result in significant difficulties in the postnatal phase. These researchers go on to propose that potential postnatal distress can be identified using a risk indicator methodology prior to birth. Possible risk indicators might include *"individual symptoms, life stress, social support, and the marital adjustment measurement"* (Cowan et al. 1995).

Commonly, antenatal classes focus on preparing the woman for labour and birth, with little focus on postnatal issues. It is apparent from the Matthey study (Matthey et al. 2002) that pregnant couples are concerned with how they will cope after the birth and the authors recommend that participants be offered an opportunity to explore a range of psychosocial and practical issues, such as

coping with sleep deprivation and dealing with a crying baby, that are not currently addressed. This finding was consistent with a study by Cox (Cox et al. 1998) who found that women who participated in antenatal workshops which addressed breastfeeding skills, had a significant increase in their confidence with breastfeeding and were more likely to breastfeed for a longer duration even if they experienced problems i.e. they were prepared to be more persistent even though they may have experienced problems. The interactive nature of the workshops facilitated discussions between the women and midwives and helped ensure that individual women were exposed to practical as well as theoretical information. It was suggested by the authors that the workshops helped establish problem-solving skills in the women. Drawing on their own life experiences strengthened their ability to work through issues as they arose and enabled them to overcome their problems by viewing them as something that they could get through rather than becoming overwhelmed.

An observer blind experimental study (Duffy, Percival and Kershaw 1997) of 70 primiparous women by Duffy and colleagues in 1997 assessed whether an antenatal education class focusing on positioning and attachment would affect early breastfeeding experiences and overall duration. The findings from Duffy's study showed that mothers were far less likely to experience nipple pain and trauma if they participated in an antenatal group session on correct positioning and attachment during their pregnancy. She found that significantly more

mothers (92%) were still breastfeeding at six weeks than the control group (29%), which received no special instruction.

3.2.2 The early postnatal period and beyond

Traditionally, when a woman became pregnant and gave birth, she joined the sorority of mothers. As she grew up, much of what she needed to know about mothering was learned by example, from the mothers around her, and when the woman became a mother for the first time, was rarely left to struggle alone with her role during the child's infancy (Niska, Snyder and Lia-Hoagberg 1998). Conversely, new mothers in modern western cultures with their nuclear families and highly mobile populations are far less likely to have access to extended family support and traditional modes of passing on knowledge and experience. In the 21st century, extended families are often geographically distant from the new family, leaving the couple to depend on their own resources and the expertise of professionals to guide them in their new roles. The reality for many new mothers is that their partners may have a couple of weeks leave from work when the new baby comes home, but will usually be required to return to work soon after. If they have no extended family members to call on, then social isolation in conjunction with the major life adjustment of becoming a mother can cause significant stress and anxiety. How mothers in particular and fathers also work through these changes varies dramatically. Although both mother and father typically have adjusted to parenthood by the baby's first birthday (Elliott

and Watson 1985) the adjustment is often very different for each parent, with more fathers describing how well things are going as the year progresses. This is in contrast to mothers who are more likely to describe chronic fatigue, exhaustion, depression and anxiety (Belsky et al. 1994) . Belsky describes this disparity in terms of the very different ways in which each partner experiences the transition to parenthood: for the mother the primary care of her infant becomes all-consuming and that together with concerns about her ability to be a good mother, high levels of fatigue and significant body changes culminate in higher levels of stress than her partner whose stress levels tended to level off after the first month.

3.3.1 Becoming the father of a breastfed infant

In a paper published in 1993, Gamble and Morse described the strategies used by men in their transition to becoming fathers of a breastfed infant, as one of postponement (Gamble and Morse 1993). Using a qualitative methodology, this study looked at how fourteen fathers perceived their role and how they adjusted to being the father of a breastfed infant and partner to a breastfeeding mother.

Gamble and colleagues (1993) found that men in the prenatal period decided to support breastfeeding within the context of being a good parent and doing the best for his child. This belief that breastfeeding is best for babies was reinforced throughout the pregnancy in prenatal classes. What was of interest in these

findings was that the men in the study believed that breastfeeding was a positive behaviour but also that it would not impact greatly on their own lives. The father's subsequent commitment to breastfeeding was evidenced by their willingness to postpone their own relationship with the infant in an effort to support their partner and to '*make breastfeeding work*' (p360). For these fathers, the reality of breastfeeding imposed a need to change their coping strategy and it was this change that Gamble described as 'postponement'. The authors of this study (Gamble et al. 1993) described postponing as the fathers come to recognise "*that if breastfeeding was to be successful, then the father would need to delay or postpone the development of certain aspects of his own relationship with the child until weaning occurs*" (359).

The importance of the fathers' support for breastfeeding has been discussed in a number of studies (McLennan 1995; Scott 1996; Bar-Yam and Darby 1997; Feeney et al. 2001). For health providers, establishing the level of commitment and how a father sees his role in the breastfeeding family offers opportunities for education that may otherwise be missed in both the pre- and postnatal period. Those people, such as health professionals, who provide support to the new family can clearly identify for fathers the importance of his support of the mother and help him to develop strategies to maximize his involvement in ensuring that his partner's breastfeeding is successful, as well as ensuring the development of his own bonds with his infant. Health professionals can introduce this education

in the prenatal period, reinforce it in the intrapartum period by encouraging early contact with his baby soon after birth and develop it further in the postnatal stay.

3.3.2 Becoming a breastfeeding mother

A number of studies (Vnuk 1995; Duffy et al. 1997; Cox et al. 1998) have described the benefits of learning about breastfeeding prior to the first birth in terms of increasing mothers' confidence with breastfeeding. The primary benefits identified to date have been the reduction of breastfeeding problems in the postnatal period for the mother and an increase in maternal confidence in her abilities to be successful. The reality for the current study's cohort was that they received very little education about breastfeeding, which may explain their low levels of confidence and high levels of problems with breastfeeding leading inevitably to the early introduction of infant formula. For those women who weaned early, adapting to their new role and learning to manage and/ or overcome their problems was never achieved. This is in direct contrast to those mothers who continued to breastfeed for months who described a number of coping strategies, including getting help early from a breastfeeding counselor or lactation consultant and accepting challenges as they arose.

It may be that for vulnerable women, high levels of anxiety and postpartum fatigue culminated in an inability to manage problems that they may otherwise have overcome. In a study by Troy in 1997 (Troy and Dalgas-Pelish 1997), the

authors suggest that *“fatigue has the potential to adversely affect the health of the new mother, her capacity to cope with parenting, and the developing mother-child relationship”* (p126). If this fatigue is not relieved, then postpartum depression becomes increasingly likely (Alfonso, Lovett, Paul and Sheptak 1990). These findings were consistent with the current study where one mother commented that that *“it just never seemed to get any better, it (breastfeeding) was always a struggle for me”*. It is not surprising therefore, that for a significant number of women, the only way they felt they could regain control and a sense of normality was to wean.

3.4 THE EXPERIENCE OF BREASTFEEDING: A PROPOSED PARADIGM FOR WHAT INFLUENCES PRIMIPAROUS MOTHER’S DECISION-MAKING ON INFANT FEEDING

Antenatal education has traditionally been based on the provision of information for pregnant women and their partner in class settings. In more recent times, the goal has been to empower women to make informed choices about their care, particularly during the intrapartum period. What has not occurred is the recognition that labour and birth, while a major event, make up only a very small part of the transition to parenthood with subsequent translation into facilitating a couple’s ability to deal with the early weeks and months after the birth. Few prenatal programs provide participants with educational opportunities for the most confronting part of becoming a parent – that is, coping when they take the

baby home. Previous research findings clearly identify the period of transition from individual to new parent as being a time role conflict and for some, significant stress (Belsky et al. 1994; Wilson et al. 2000; Feeney et al. 2001). The current study will describe how mothers who breastfeed for many months will often experience significant problems. It is proposed that these mothers will develop coping and adaptation strategies that allow them to work through problems and issues. Prenatal classes offer an ideal opportunity to lay the groundwork for problem identification and the facilitation of developing problem solving skills.

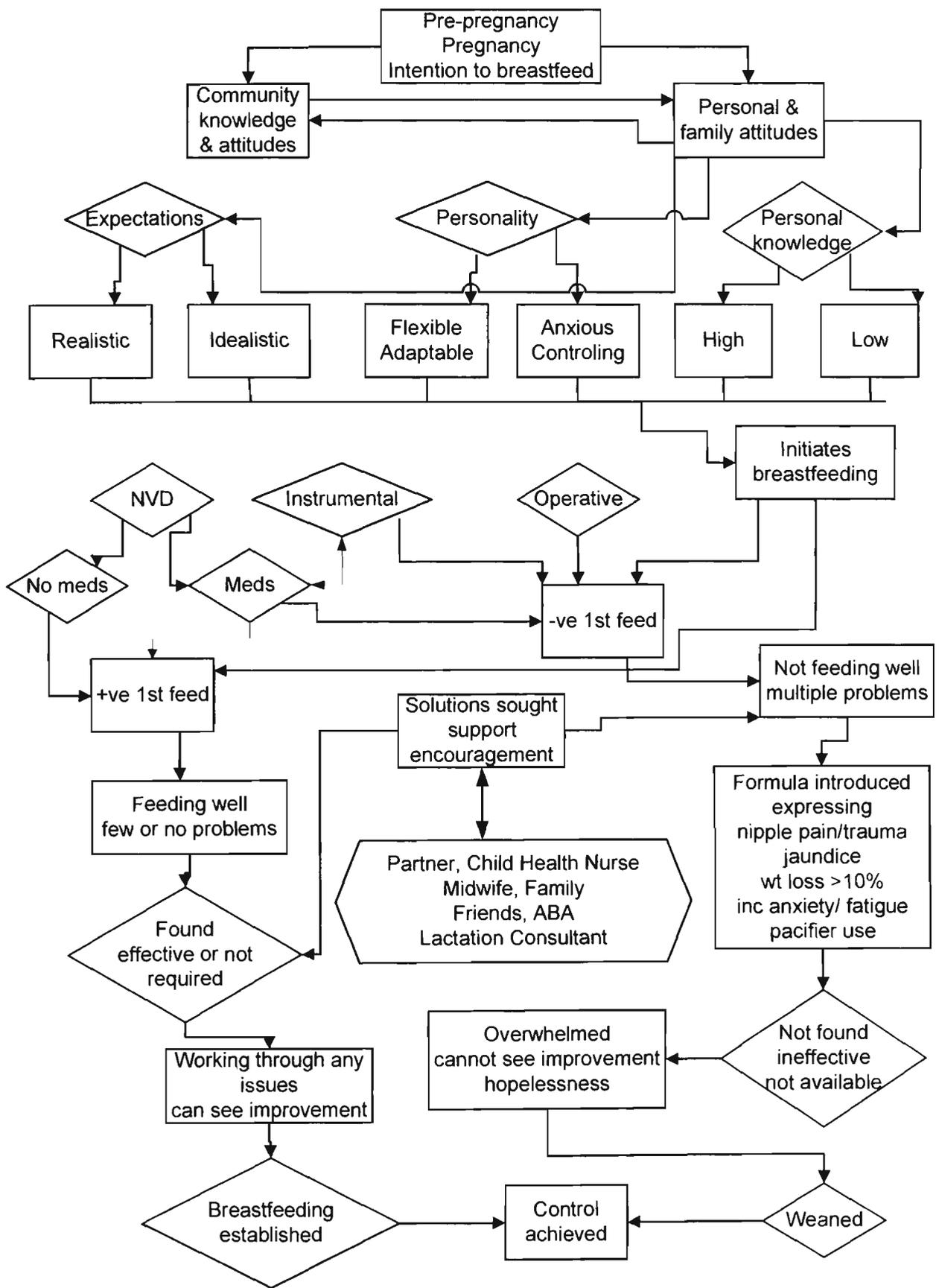
Class settings are useful for imparting a range of information to groups of participants. It is considerably more challenging for an educator to develop an interactive program that identifies individual needs and incorporates problem solving skill acquisition. The benefits of this type of program would potentially enable couples to identify problems early and work through common breastfeeding and early parenting issues more confidently. Most importantly, this type of education would facilitate a couple's abilities to examine how they currently respond to issues and how they could become more effective, thus enhancing their life skills.

The majority of couples expecting their first baby expect to breastfeed and this is consistent with relatively high initiation rates of over 80% in Australia. Whether breastfeeding becomes established and continues throughout the infant's first

year and beyond or is weaned to infant formula is dependent on a range of factors beginning pre birth and continuing through the early postnatal period. Young women reaching maturity in a given society soon come to recognise how that society views a range of social norms, with most attempting to conform to the ideals and beliefs about what is acceptable behaviour. This is particularly true for becoming a parent. If a young woman believes she should initiate breastfeeding and that those around her will support her decision, then it is more likely that she will at least try. If she believes that breastfeeding is recognised as difficult, something that should be managed in private and is important for young babies but probably not for older infants, then this will influence her decision-making and determine how long her baby will be breastfed.

The following paradigm (Figure 3.1) traces the breastfeeding issues faced by pregnant women and their partners as they prepare for parenthood and beyond. The paradigm identifies the background to the intention to breastfeed and illustrates this in context with external supports and influences that may or may not have a positive impact on the overall choices.

Figure 3.1 Proposed paradigm for decision-making



Breastfeeding is initiated and established within the context of a woman's own personal attitudes to, experiences of, and beliefs about infant feeding. Her parenting journey, and in particular her choices, are further defined by her infant, her partner, the extended family together with her social community and the attitudes and beliefs of her society. Breastfeeding is rarely carried out in isolation and is therefore subject to a myriad of influences, few of which are under the individual woman's control.

The paradigm illustrates that the woman herself is the basis of infant feeding decisions. If she has unrealistic expectations of breastfeeding, then the actual experience, particularly when fraught with complications and low levels of support, may well be derailed very early in the postpartum period. If however, she has realistic expectations that are based on an adaptable style and she has a good understanding of the mechanics of breastfeeding, then any problems she encounters will be more likely to be overcome. The path between expectation and journey's end (successfully breastfeeding) is vulnerable to a range of external influences, all of which have the capacity to facilitate or disrupt. Ultimately, women seek to regain a sense of equilibrium and thus control over their experience. For those who experience significant problems and who have low levels of support and confidence, weaning to formula is often seen as a way to regain control.

The current study proposes that there are a myriad of influences over the decisions women make about how they will feed their infants and for how long. The Proposed Paradigm demonstrates influences that the researcher believes will determine the infant feeding outcome for participating women.

3.6 SUMMARY

The transition to parenthood brings with it significant change for both partners. How each partner adapts to that transition is highly dependent on a range of

variables, both internal and external to each individual. Decisions about infant feeding methods and care are integral to the adaptation process and will reflect the overall experience of becoming a parent over the first year of the infant's life. For vulnerable families, health professionals have an opportunity to intervene early if there are appropriate methods of identification in place. This identification should occur at the time of booking, during routine antenatal visits and during discharge planning. The process should then continue when responsibility for care changes to community based agencies. Helping clients to identify personal strengths and abilities, what supports and resources are available to them together with client specific information, addressing their individual needs would facilitate the process of confidence development.

Chapter 4

METHODOLOGICAL ISSUES AND CHALLENGES IN BREASTFEEDING RESEARCH

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CHAPTER FOUR

METHODOLOGICAL ISSUES AND CHALLENGES IN BREASTFEEDING RESEARCH

5.0 INTRODUCTION

How a baby is fed and for how long is determined by a number of factors. This research was designed in such a way as to address the known and the suspected variables that have been shown, either through previous studies or anecdotally, to influence infant feeding practices. The process of infant feeding begins with the decision about how to feed and evolves in relation to the experiences of the individual mother-baby dyad.

In Chapter Two the significance of a woman's intentions to breastfeed were discussed in terms of initiating her chosen method of feeding. Participants in this study all intended to breastfeed and the majority were breastfeeding on discharge. A small number were expressing and feeding their milk to their baby, with the intention of fully breastfeeding as soon as possible. Five percent, however, had already weaned their baby by the end of the first week.

The study design attempted to identify and describe those variables, which have a negative impact on the mother's ongoing feeding choices. The design also

attempted to determine if there were any variables that may act as predictors of early weaning, or of prolonged breastfeeding.

4.1 PURPOSE OF THE STUDY

The purpose of the study was to bring together the broad range of women's experiences of breastfeeding. This was done by identifying variables, both external to the mother/ baby dyad and those from within the family, and to describe how they may impact on the decisions mothers make about the course and duration of breastfeeding.

4.2 PREVIOUS STUDIES - LIMITATIONS

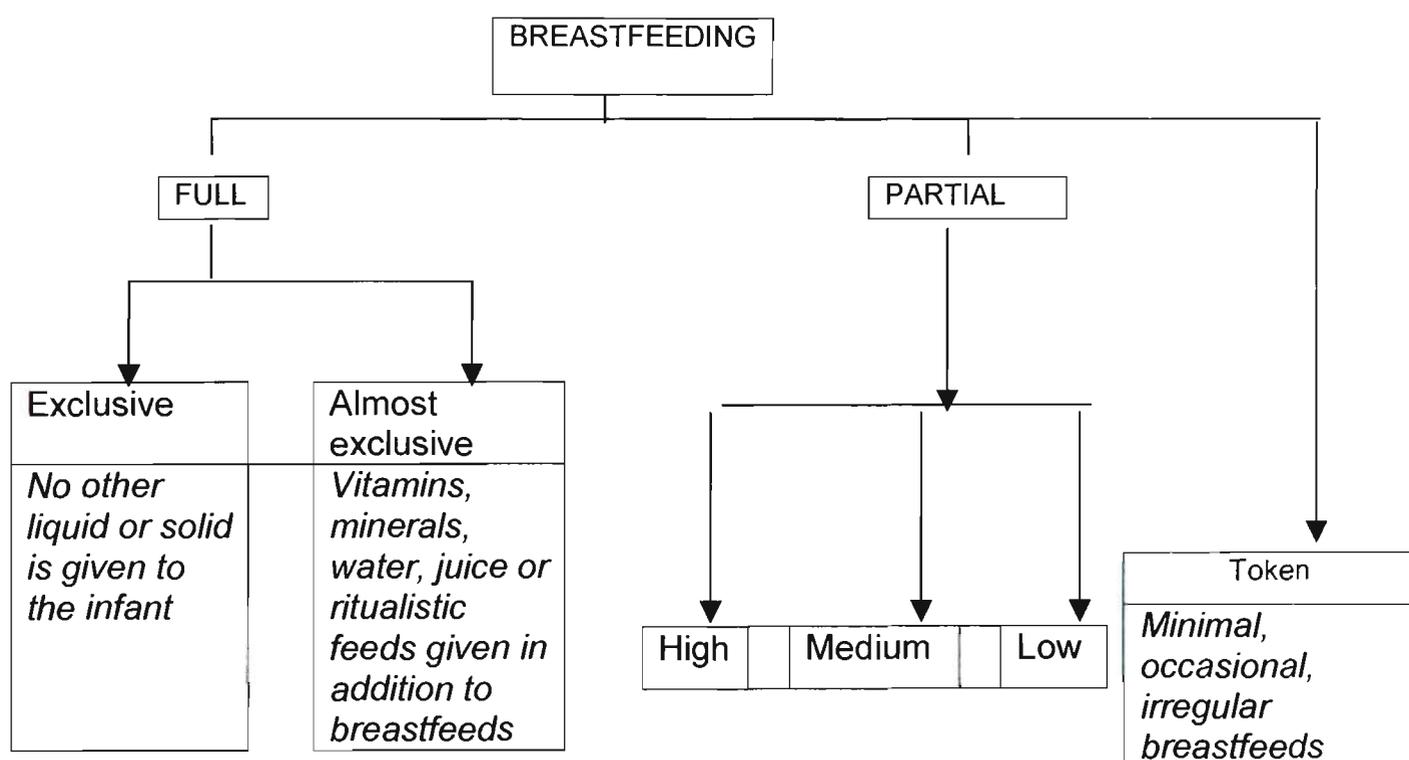
While there has been significant research interest on breastfeeding issues in the last twenty years, there were a number of methodological concerns identified in the reviewed published studies.

4.2.1 Breastfeeding definitions

It is apparent from the literature, that few researchers use consistent definitions for breastfeeding practices. The use of terms such as 'ever breastfed', 'exclusively breastfed', 'partially breastfed' can be misleading and this together with variations of meaning between studies has resulted in an inability to

interpret data consistently. Most importantly, the ability to compare the findings of these studies is hampered by these differences in basic definitions. In an attempt to see some uniformity in breastfeeding definitions, the Interagency Group for Action on Breastfeeding (IGAB) in 1988 developed a number of basic definitions for international use (Labbok and Krasovec 1990). These are displayed in Figure 4.1.

Figure 4.1 Schema for Breastfeeding Definitions



Source: (Armstrong 1991)

The IGAB definitions recognise that *full breastfeeding* encompasses both *exclusive* and *almost exclusive* breastfeeding practices. As can be seen in *Figure 4.1*, the *almost exclusively* breastfed infant may receive a small amount of possible supplements that are given infrequently. These might include:

vitamin/ minerals, culturally valued supplements such as fenugreek tea (which is given in Ethiopia). However, to remain in this category of full breastfeeding, any supplement that is given must be in trivial amounts (Armstrong 1991).

One of the difficulties for researchers working in the area of breastfeeding is the evolving nature of infant nutritional needs. Exclusive breastfeeding for the infant up to six months is the recommended ideal. Breastmilk continues to be the main source of nourishment in the second six months with a gradual introduction of solids and other foods, with breastfeeding continuing for two years and beyond (WHO 2001). In the developed world, the current reality is far from the ideal; infants are often introduced to a range of other foods and fluids well before six months and commonly, as early as the first days and weeks. Making the distinction between *exclusive* and *almost exclusive* can be problematic in that few mothers consider vitamin supplements to the fully breastfed infant as providing any thing other than exclusive breastmilk.

Determining who offers what and when means that researchers need to be very specific in their questioning in order to achieve and maintain accurate breastfeeding data. The current study is able to identify and discuss these issues by questioning participants about infant feeding practices at regular intervals up to the time of weaning. This has meant that the data can identify the range of feeding practices of the cohort together with specific information about their methods, timing and motivations for the choices. However, the

distinction of supplementing with vitamins/ minerals has not been identified in this data, rather the use of very occasional (eg. for a special occasion) non-breastmilk liquid feeds has been included in the full breastfeeding category. In terms of international research, the need for careful clarification between 'exclusive' and 'almost exclusive' breastfeeding is identified as important. This recognises that the introduction of anything other than breastmilk, (for example, water based fluids in developing countries) can have a dramatic impact on the health and well being of infants. In terms of this research however, this was not considered.

The *partial* breastfeeding category identifies three distinct groups: high, medium and low. The current study defines partial breastfeeding as the regular inclusion of other foods (both liquids and solids) in the infant's diet, but does not differentiate between the three categories. In hindsight, this finer categorisation may have been useful.

The third category, *token* breastfeeding is also broken down into three distinct groupings: *minimal*, *occasional* and *irregular*. Commonly, the time frame leading up to self-weaning is often one of breastfeeding for comfort rather than for major nutritional needs. The classification of *token* breastfeeding provides an opportunity to differentiate between feeding for primarily nutritional needs or for other reasons. This study did not address the number of breastfeeds until the last questionnaire, where respondents were asked to describe their infant's

average (24 hour) intake of all foods and fluids. Data for 303 mother/ baby dyads were obtained at that time.

In the past, infants who would fall into the *token* category have been included with the breastfed group and therefore may well have distorted the resultant data. It could be argued however, that the act of breastfeeding is far more than providing nutrients to the infant and thus the level of exclusivity may not be deemed all that relevant in the overall scheme of breastfeeding research. The fact is that some toddlers (if given the opportunity) will seek out the breast and feed periodically (and up to several times in 24 hours) into the second or third year. This activity still confers protective and nutritive effects for the infant, but is classified as *token* breastfeeding in the IGAB criteria.

What has tended to happen in past research is that a child who has ever had breastmilk, or perhaps has breastfed for as little as two weeks or even has ever been put to the breast, are all categorized as breastfed. It is not surprising therefore, that while examining such things as the protective effects of breastmilk; findings have not been as significant as predicted. The majority of published research focuses on the investigations of effects of different types of feeding methods, monitoring infant feeding trends and/ or assessing promotional activities. Lack of uniformity between studies casts doubt on the validity of results and weaken the impact of findings in the scientific community.

4.2.2 The initiation of breastfeeding and how long it lasts

Considerable research attention has focused on the initiation of breastfeeding in an attempt to identify the factors which may determine how an infant is fed from birth. Other studies (Bailey and Sherriff 1992; Aarts, Kylberg, Hornell, Gebre-Medhin and Greiner 2000; Binns et al. 2002) focused on what happened along the way or the duration of breastfeeding – what influences the experience and thus determines the outcome. As was shown in Chapter Two, the decision to breastfeed, the initiation of breastfeeding and how long a baby is breastfed for, are distinctly different concepts that accordingly need to be understood. For example, a woman may decide to breastfeed early in her pregnancy. After the birth she may attempt to breastfeed and struggle with a baby who does not latch well and who is constantly unsettled. If she is unable to overcome these difficulties, weaning would be a common scenario and thus the duration would be minimal. Alternatively, if she is feeding successfully but needs to return to work at three months after the birth, then her decision to wean may be directly related to that factor.

By recognising the array of influences pertinent to each category and addressing these separately, there is an opportunity to not only identify specific issues but also compare the variables within and between each process.

4.3 RESEARCH DESIGN

A longitudinal survey design was chosen for this study for a number of reasons. A review of recent literature revealed that the time frames most commonly studied were the first six or twenty weeks after birth. With the growing awareness of the importance of extended breastfeeding (2 years and beyond), it was decided by the researcher to adopt a methodology that encompasses a potentially longer duration of breastfeeding. This was done in an attempt to examine, not only the early experience but also to identify and describe potential influences over an extended time period for those who continued to breastfeed for 12 months and beyond.

For women who continued to breastfeed, contact was maintained at three monthly intervals to 12 months. A further follow up was conducted by telephone in the second (and up to third year) to determine weaning ages. This type of repeated measurement enabled the researcher to describe the evolution of breastfeeding experiences for each participant and identify the nature and impact of variables over time. This methodology was seen as preferable to the 'cross-sectional' or 'controlled comparison' design due to the identified limitations of access to each participant's overall experience found in the latter methods.

The disadvantages of this type of design can be considerable. Loss of participants due to relocation is common, particularly in the childbearing age group who are known to be highly mobile. This inability to follow up participants reduces the sample size and in studies with smaller populations, this can have a negative impact on statistical power during analyses. A second disadvantage identified in this type of design is the data collection period, which has the potential to increase researcher costs, effort and time. The final time allocated to data collection for the current study was three years.

4.3.1 Sampling issues

One of the major problems noted in reviewed studies has been the small size of the sample. In attempting to analyse sub-groups or specific categories within a small cohort, statistical significance is often lost due to very small numbers of participants that reduces the power of the analysis.

One of the most common recruitment strategies is convenience sampling, however this method poses its own dilemmas. The reliance on individuals to volunteer to participate often allows sufficient numbers to be recruited relatively quickly. However, the ability to generalize results to the wider population is not available due to the potential for particular biases by participants. Because the sample tends to be self-selected, representativeness is questionable.

In an effort to minimise the potential for sample bias, recruitment was undertaken widely, from a range of agency types and geographical locations. Selection criteria were confined to mothers actually intending to breastfeed and who were able to read and write basic English. Every effort was made to design questions that were easy to understand and respond to. However, it is recognised that women who are keen to participate in a breastfeeding study may well be biased toward breastfeeding.

4.3.2 Recommendations for further study methods

Attention to the following issues could strengthen the validity of future breastfeeding research:

- Design longitudinal studies that follow participants longer than the common time frames of weeks to a few months, with regular contact points to a maximum of intervals every three months.
- Use questionnaires/ interviews which include universal breastfeeding definitions.
- Ensure adequate cohort size to achieve appropriate representation of sub-groups by calculating statistical power.
- Recognise that the variables that influence initiation of breastfeeding can be quite different to those that have an impact on the duration of breastfeeding.

4.4 THE TOOL

A questionnaire format was used for data collection for a number of reasons. As a sole researcher attempting to recruit nearly 700 participants, there were obvious restraints in terms of time and geographical distances. Utilising a questionnaire format allowed for ongoing contact with large numbers of participants (after initial personal contact) and overcame problems related to geographical location of participants.

Secondly, costs associated with interviewing such a large cohort were prohibitive both in terms of expenditure and researcher time and resources. A questionnaire format that could be mailed out (for 2nd and subsequent questionnaires) thus minimized expending limited funds.

A third significant reason for the chosen methodology was to avoid potential interviewer bias. It has been shown (de Vaus 1991) that, how a question is asked or even the way an interviewer is dressed, can have an impact on the respondent's answers. The utilisation of written question allows the researcher to have minimal personal contact with participants and therefore reduce possible personal influences on the way questions are answered, i.e. the participant may like the researcher and thus try to answer in a way that will please the researcher rather than be an accurate depiction of the experience.

Due to the relative anonymity of questionnaires, participants may be inclined to be more open and truthful with their answers than with a 'face to face' interview. This was seen to be particularly relevant where questions may have been perceived as highly personal.

The researcher also recognised that participants were likely to be busy with the demands of their new baby and as such would be more able to complete questionnaires over each two week period rather than making time for face to face interviews. Providing a longer period to respond also allowed the respondent the opportunity to offer thoughtful responses rather than feel pressured to answer immediately, as may be the case with personal interviews.

One of the major drawbacks of using this type of tool is the potentially low completion and return rate. To allow for this possibility, the initial questionnaire consent form requested permission from participants for the researcher to make contact by telephone. This was undertaken by the researcher to achieve a return rate of over 90% in cases where questionnaires were late or were lost by Australia Post (over 150 questionnaires were lost in the postal system). The majority of the participants, whose questionnaires were lost in this way, completed and returned a second copy.

4.5 QUESTIONNAIRE DEVELOPMENT AND DESIGN

The initial tool (Questionnaire number one) was developed by the researcher in order to gather a broad range of both quantitative and qualitative information. The questionnaires were developed by the researcher primarily to address the range of issues that had been identified as being potentially relevant to the duration of breastfeeding. Questions were identified from both an extensive literature search (Bailey et al. 1992; Oxby 1993; Morrow 1995; Quinn, Koepsell and Haller 1997; Neifert 1998; Amatayakul, Wongsawasdi., Mangklabruks, Tansuhaj, Ruckphaopunt, Chiowanich, Woolridge, Drewett, Dphil. and Baum 1999; Montgomery A.M 2000; Alikasfoglou, Ethem Erginoz, Tasdelen, Baltas, Beker and Arvas 2001; Binns et al. 2002) and clinical practice experience. Bringing such a broad range of variables together in one study proved to be challenging for a single researcher. However, the array of data obtained provided valuable information that would otherwise have been missed.

The draft tool was sent to fourteen health professionals for peer review. These reviewers included general practitioners, lactation consultants, midwives and maternal and child health nurses. Feedback from reviewers consisted primarily of concerns related to clarity of questions and suggestions for other questions. It was from this feedback from reviewers that the tool was modified.

The questionnaire was then tested in a pilot study of 23 women (13 primipara and 10 multipara) who had recently given birth and who were currently breastfeeding. The participants were given the opportunity to identify any problems encountered while completing the questionnaire and these suggestions were used to modify the tool. Feedback from the pilot participants was also related to clarity of questions. Proposed data entry and analysis methodologies were examined and tool validity and reliability was determined through final testing. As the tool was to be applied to a single population over time it required no further testing.

The questionnaire, a cover letter and two copies of the consent form (appendices 1,2 & 3), together with appropriate applications were submitted to the Human Research and Ethics Committees at RMIT University; Monash Medical Centre; Mercy Hospital for Women; Bendigo Base Hospital; Box Hill Hospital; Angliss Health Service; Western Hospital, Sunshine campus; Cabrini Private Hospital; Knox Private Hospital and Diamond Valley Private Hospital. Interviews took place with four of the committees and discussions with relevant staff in all but one of the agencies, including Maternal & Child Health Nurse representatives from several shires. Final modifications were made in response to each ethics committee's recommendations.

A further five questionnaires (four for posting and an exit questionnaire) were developed (appendices 4,5,6,7&8). These were also submitted for ethics approval at RMIT and the other agencies.

The questionnaires utilised both open and closed type questions together with some embedded Likert type scales, i.e. 0= no support to 4= most support. This format allowed participants the opportunity to answer some questions in detail and others simply by ticking a box or circling a number. The Likert scales offered an opportunity for participants to rate levels of information and support. Common responses to the open-ended style of question were 'grouped and coded' retrospectively. The quantitative questions were pre-coded within the questionnaire.

Feedback from a significant number of participants suggested the design was user friendly, with a number saying that their participation in the study had given them an opportunity to reflect on their experience of breastfeeding, something which they found beneficial.

The first questionnaire consisted of ten pages of questions with the expectation from the pilot participant's experience of completing the original tool that it would take approximately twenty minutes to complete. The questions were designed to elicit information related to variables that were thought by the researcher from both anecdotal experience and the literature review, to influence the experience

of breastfeeding, both in terms of initiation and in terms of duration. The information sought was composed of:

- Social and demographic data (including geographic area, parental age, highest education level achieved, work status and occupation, parity)
- Antenatal data was collected in terms of maternal well-being as described by the mother herself, parity, and previous experience with breastfeeding for the multiparous women, antenatal education received, when and why the choice to breastfeed was made and whether any medications were taken during the pregnancy.
- Information related to the labour and birth and the first breastfeed (where the baby was born, type and details of the labour and birth, who supported the mother, medications used during labour, any birth complications, when the mother had contact with the baby after birth, how they felt about the first breastfeed)
- The early postnatal period (method of feeding, plans to feed, introduction of other feeds, dummy use, where the was baby sleeping at night, sources of information about breastfeeding, problems with breastfeeding, maternal confidence with breastfeeding, plans for discharge timing and support)

Questionnaires Two to Five consisted of four pages of questions each. Questionnaire Two sought information about the timing of discharge from the

maternity hospital and their perceived readiness to go home at that time. Questionnaires Two, Three, Four and Five were designed to identify the levels and sources of ongoing support and information, maternal and infant well being, the method of feeding, any problems related to feeding, maternal confidence with breastfeeding, issues related to being a mother with a newborn and work/study intentions. Questionnaire Five asked the multiparous women to compare their current experience with the experience of breastfeeding their previous baby. This questionnaire also sought information about the type of support they received from a range of sources, and information was also elicited about their current menstrual experience and contraceptive practices.

The Exit questionnaire sought information surrounding weaning (reason(s) for weaning, breastfeeding problems experienced, whether they thought anything could have been done to avoid weaning, did they plan to breastfeed the next baby, did they feel antenatal education helped prepare them for breastfeeding). This questionnaire was conducted over the telephone by the researcher.

It was recognised that there was a potential limitation (researcher distortion) to the telephone interview method. Therefore, the interviewer was restricted to gaining only the specific information taken from the questionnaire. Once this data was obtained, it was then possible for debriefing to occur if required. For a number of participants this was extremely important, as they exhibited significant distress when recounting their experiences. The researcher, a midwife/ lactation

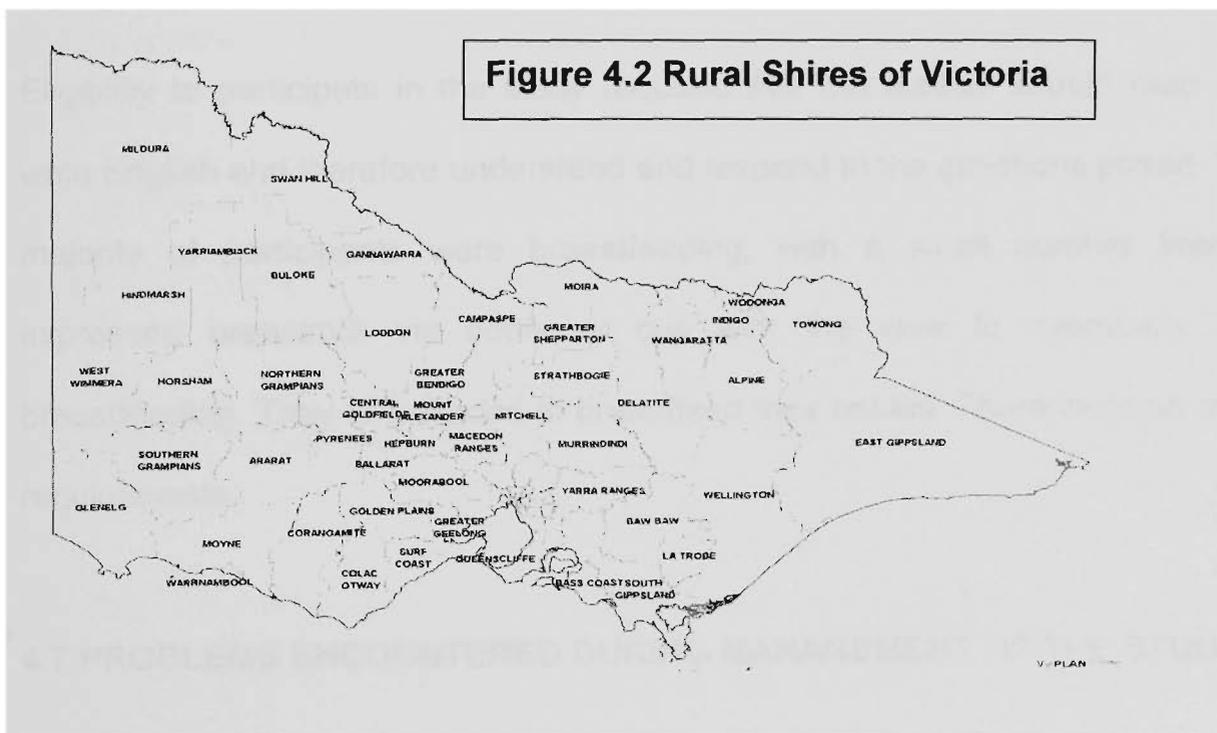
consultant, was able to facilitate this debriefing opportunity and explore with the respondents any possible reasons for the problems as well as advise on potential management strategies for subsequent babies. These calls lasted up to forty minutes for some participants.

4.6 RECRUITMENT OF PARTICIPANTS

Participants were recruited through a number of agencies. These included: public and private hospitals (metropolitan Melbourne and one regional centre); birth centres; midwives in private practice; lactation consultants and seven shires of metropolitan Melbourne via the maternal and child health service. According to agency requirements, mothers were approached in the postnatal period and asked to join the study. Of 749 women who agreed to participate, 681 (91%) completed and returned the first questionnaire. Of the 68 participants who initially agreed to participate and then dropped out, 28 (41%) had weaned, 17 (25%) were still breastfeeding and a further two (3%) were in the process of weaning. Twenty one (42%) women changed their mind about participating, citing maternal or infant illness and/ or being too busy, as reasons for withdrawing. Weaning for all but one participant occurred in the first 6 weeks postpartum. The parity for this group included: 21 (30.8%) having their first baby, 16 (23.5%) having their second baby, 6 (8.8%) having their third baby, 3 (4.4%) having their fourth baby and 22 (32.3%) could not be followed up. As the first

questionnaire was not completed for this group, baseline information was not obtained for these women.

The agencies who allowed the researcher access to their patients included: Mercy Hospital for Women; Monash Medical Centre; Sunshine Hospital; Angliss hospital; Box Hill Hospital; Bendigo Hospital; Cabrini Private Hospital; The Valley Private Hospital; Diamond Valley Community Hospital; Knox Private Hospital; Hawthorn Birth Centre; Monash - Moorabbin Birth Centre; Mercy Hospital for Women Birth Centre. From these sources, thirty-two Victorian Shires were represented in the final population.



typewriter access to type up applications and then photocopy up to 25 separate applications for each agency. This process was both expensive and time consuming.

A second difficulty involved the management of mail. Over 150 questionnaires either did not reach the participant or did not reach the researcher on their return following completion. Slow returns necessitated regular follow up phone calls, during which, lost mail was identified and a second copy dispatched to the respondent.

Losing participants due to relocation in each three-month cycle proved to be a problem also. Over the three years of the study, 111 (16%) respondents were lost in this way. In hindsight, identifying contact details for the participants' parents for example may have reduced this problem.

4.8 CONTACT TIME POINTS

The first questionnaire was given to mothers in person during the early days and weeks following the birth. In the case of the regional centre (Bendigo – a medium sized city located 150kms north west of metropolitan Melbourne), women were given the questionnaires late in their pregnancy during antenatal classes. Each participant was advised that the focus of the study was to describe her experience of feeding the current baby. It was explained that they

could complete the questionnaire over a two-week period and return it to the researcher by mail in the envelope provided. They would then receive follow up questionnaires every three months until the baby reached one year, with a telephone exit questionnaire to be conducted by the researcher should they wean the baby prior to 12 months. Issues around confidentiality and anonymity were discussed. Permission was sought for the follow up phone calls at that point and the consent form was read by the participant and signed. At no point was there any discussion about feeding methods or future intentions, which was essential to avoid influencing the participant's actions. On receipt of completed questionnaires, participants were allocated an identification number, which was maintained throughout the study.

The second, third, fourth and fifth questionnaires were posted at three monthly intervals, during the first 12 months after birth, to participants who continued to breastfeed either exclusively or partially. Those participants who weaned their baby in the first 12 months after birth were contacted by telephone and the exit questionnaire was completed at that point, with no further questionnaires being sent to them.

These time frames were chosen recognising that 'over' contact by the researcher may in itself have an impact on the participant's experience and thus the results. It was also necessary to ensure that regular contact was maintained

to reduce the incidence of impaired participant memory of events in the preceding period.

4.9 THE SEVENTH QUESTIONNAIRE

During the final stages of the study, the question arose as to whether there was a difference between women's experiences of feeding their first versus their second baby. If there were significant difference, what were they and did they have a negative or a positive influence on breastfeeding duration? A final questionnaire was developed to explore these issues. Two hundred and ninety six primipara participated in the first stage of the study. The attempt to make contact (by telephone) was only partially successful. Approximately one third could not be contacted due to their having relocated. Another third had not had a second baby. The final number of participants who had gone on to have another baby for this stage was 90 women.

4.10 STUDY PERIODS – PARTICIPATION RATES

From the total of 750 women who were invited into the study, participation at the five study periods was as follows:

- Six hundred and eighty two (91%) completed the first questionnaire – the early weeks after the birth

- Five hundred and ninety eight (80%) completed the second questionnaire – three months
- Four hundred and seventy nine (64%) completed the third questionnaire – six months
- Three hundred and ninety three (52%) completed the fourth questionnaire – nine months
- Three hundred and three (40%) completed the fifth questionnaire – twelve months
- 90 women of 296 (30%) completed the seventh questionnaire. The time lag for these participants was highly variable.

For those participants who were still breastfeeding at the fifth questionnaire, a further follow up telephone call was made to determine their infant's final weaning age. Weaning data for five hundred and seventy four babies (85%) was obtained, one hundred (15%) could not be followed up due to relocation and several were still breastfeeding at two years or later.

Eleven sets of twins and one set of triplets were included in the study bringing the total number of babies to 693. Sadly, there was one maternal death during the study. This mother had a significant cardiac history prior to the pregnancy. She suffered an irreversible cardiac arrest when her baby (her first) was four months of age.

4.11 ETHICAL CONSIDERATIONS

The University Human Research Ethics Committee together with committees from the Mercy Hospital for Women; Monash Medical Centre; Box Hill Hospital; Bendigo Base Hospital; Sunshine and Cabrini Hospitals approved the project.

Women who were considering participation in the study were given a covering letter and consent forms which described in plain language the purpose of the study, what would be involved in their participation, the approximate time needed to complete the questionnaires and explained that they were free to withdraw from the study at any time and for any reason. The letter also stated that their confidentiality would be achieved and maintained by allocating codes for all responses on the questionnaires. The questionnaires are maintained in a locked cabinet in the researchers home and would be kept for a period of five years and then shredded. No identifying information would be used in any publication of findings as only aggregated data would be reported. For participants who experienced breastfeeding problems, the covering letter directed them to appropriate community resources.

4.12 DATA ANALYSIS

Data from this study were coded directly from the questionnaires, and then managed and analysed using the computer based statistical package

STATISTICA (StatSoft 1995). The researcher was the only person who was responsible for data entry, thus avoiding between-coder variation. Two data checks were performed to identify coding and data entry errors with appropriate data cleaning methods being carried out before analysis began. Firstly, a check of randomly selected cases was carried out for fifty participants and verified manually. Secondly, univariate descriptive analysis was performed for all variables to determine if all values were within range and that mean and standard deviations were acceptable. Missing data was clearly identified by the current statistical package.

The majority of variables of interest were dichotomous i.e. measured on a nominal scale. Therefore standard practices of data screening such as skewness, homogeneity of variance and normality did not apply. Logistic regression is a non parametric technique and does not rely on assumptions which are required by parametric analyses such as multiple regression (Tabachnick and Fidell 1996).

For the dichotomous variables, a series of chi square analyses were run to examine the relationship between each variable and the dependent variable. This was also used to examine the observed and expected counts of cells. For example, variables were not included if they had expected frequencies of less than five.

The whole cohort consisted of information for both primiparous and multiparous participants. It was decided that valuable information could be gained by analyzing the three groups, thus the overall group, the primiparous women only and the multiparous women only. The latter two groups offering unique information about the first time mother versus the mother having subsequent children.

There were two parts to the analysis. Firstly, an initial descriptive analysis was performed to describe the whole cohort together with identification of parity specific data. This analysis consisted of t-tests, chi-square analysis and frequencies/ counts. The data was then analysed using Logistic Regression Analysis as a means of determining predictive behaviours. For example, the antenatal factors were examined and once those that were related significantly in Univariate analysis ($< .06$) were identified, they were then entered into a Logistic Regression model. Separate analyses were then run for the following groups of variables i.e. maternal confidence, levels and sources of support and knowledge, breastfeeding problems, demographics and intrapartum experiences.

In this phase of the analysis the focus was on the two-level dependent variable, whether or not the mother weaned in the first 13 weeks postpartum; and whether or not weaning occurred after 13 weeks. Since these variables are binary, logistic regression was seen as an appropriate analysis method. Logistic

Regression is concerned with the probability of an event occurring and identifying those variables that predict the occurrence of an event. In Logistic Regression, a model between the probability of weaning p and a number of explanatory variables x_1, x_2, \dots, x_k are given by:

$$\log_e \left(\frac{p}{1-p} \right) = b_0 + b_1 x_1 + b_2 x_2 + \dots + b_k x_k$$

which is fitted to the data. The regression coefficient measures the influence of the explanatory variable on the probability of weaning. A positive value indicates that the presence or increase in the explanatory variable increases the probability of weaning. A negative value indicates that the presence or increase in the explanatory variable decreases the probability of weaning, while a zero value indicates that the explanatory variable has no effect on the probability of weaning. For each explanatory variable, a standard error is produced giving the variability of the estimated regression coefficient (Agresti 1996).

The ratio of the estimated regression coefficient to the standard error follows a t-distribution if the null hypothesis states that the explanatory variable is not related to the probability of weaning, is true.

The statistical package also provides the p-value: the probability of obtaining the value of the t-statistic or more extreme by chance if the null hypothesis is true. Values of p which are small (less than .05) are usually regarded as evidence that the explanatory variable is related to the probability of weaning. Also

$$\text{odds} = \frac{p}{1-p}$$

provided is the odds ratio for each explanatory variable. The odds (Agresti, 1996, p 22) of weaning is given by: The odds ratio is the multiplicative increase in the odds if the explanatory variable is increased by one unit (Agresti, 1996, p 107) and is given by:

$$\exp(b_j)$$

An odds ratio of one indicates that the explanatory variable does not affect the probability of weaning.

Once a final model was built, interpretation of the model coefficients was completed and reported on with implications/ recommendations for practice then being addressed.

The study was conducted over a period of 36 months approximately allowing the researcher to gain an understanding of breastfeeding behaviours over time. Of particular interest was the experience of 'early' weaning versus 'late' weaning mothers. Further, a range of information was obtained from those women who continued to breastfeed. Data from the Third Questionnaire was not reported, as it did not add to the overall findings.

4.13 SUMMARY

By addressing a range of issues, this research has attempted to take a broader view than the focus of many other studies, which have typically considered a

limited number of variables over a relatively short time frame (commonly 6 – 24 weeks). While useful in themselves, these studies have not been able to describe an extensive picture of women's experiences over months. Choosing a longitudinal modality for this study meant that valuable information about ongoing breastfeeding experience could be obtained. This is particularly relevant if the WHO recommendations of extended breastfeeding are to become common practice.

Chapter Five will discuss the results of the analysis of data from Time One and Time Two, up to three months postpartum. This was classified, for the purposes of the study, by the researcher as the early weaning time frame.

Chapter 5

THE EXPERIENCE OF BREASTFEEDING FOR A COHORT OF MOTHERS LIVING IN VICTORIA, AUSTRALIA

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CHAPTER FIVE

THE EXPERIENCE OF BREASTFEEDING FOR A COHORT OF VICTORIAN MOTHERS

5.0 PARTICIPANT RATES AND DETAILS

Seven hundred and forty nine women were approached in the ward setting by the researcher; in the antenatal setting by a research assistant or in the community setting by independent midwife practitioners during the recruitment phase of the study. Six hundred and eighty one women (91%) completed baseline questionnaires – 57.0% were multiparous and 43.0% were primiparous.

The primary reason for participant loss at each time frame was due to weaning having occurred, at which time an exit questionnaire was completed and there was no further participation in the initial study by those participants. Information regarding the exact numbers of primiparous and multiparous mothers who participated at each occasion is shown in Table 5.1 on page 114.

5.1 GEOGRAPHICAL FEATURES OF THE COHORT

The cohort was drawn from all thirty-one Shires of metropolitan Melbourne and from four rural regions in country Victoria. Twelve Shires had sample sizes of less than ten and ten had greater than 30 participants. The proportion of those infants who were weaned by 13 weeks was 30.2% with a range of 0% in seven

Table 5.1 Participants vs. non participants

	Primiparae	Multiparae	Total
Number of women consenting to participate			749
Parity of non-participants (32.3% not contactable)	21 (31%)	25 (37%)	46
Number of women completing 1st Questionnaire	296 (44%)	385 (56%)	682
Number of women completing 2 nd Questionnaire	259 (43%)	339 (56%)	598
Number of women completing 3 rd Questionnaire	196 (40%)	292 (60%)	488
Number of women completing 4 th Questionnaire	159 (40%)	234 (59%)	393
Number of women completing 5 th Questionnaire	117 (38%)	186 (61%)	303
Number of babies in study (including twins/ triplets)	298 (43%)	395 (57%)	693

shires and 100% in two Shires. Table 5.2 on page 115 describes each of the shires represented, together with household income per capita and the percentage of babies in each area who were weaned by thirteen weeks.

5.2 HOUSEHOLD INCOME PER CAPITA

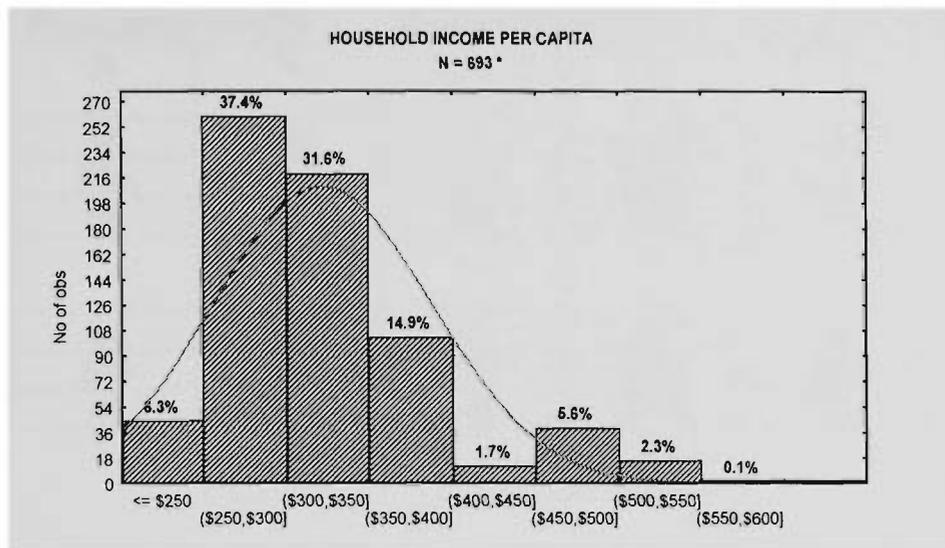
Household income was calculated according to a procedure of averaging data from the 1996 ABS Census figures. This revealed that the current cohort is largely representative of lower mid range incomes with wide variation in both minimum and maximum incomes (low and high socioeconomic status). The median income was \$314 per week with a range of \$247 - \$536 per week indicating the sample was skewed to the lower range (see figure 5.1 p116).

Table 5.2 Socio-demographic features

Shire (N=35)	Count	Percentage	Household Income per Capita \$*	% Weaned by 13 weeks
BANYULE	39	5.627	343	23.5
BAYSIDE	10	1.443	468	30.0
BOROONDARA	24	3.463	488	21.7
BRIMBANK	36	0.288	247	16.1
CARDINIA	2	0.288	276	00.0
CASEY	26	3.751	284	40.0
DAREBIN	15	2.164	291	27.2
FRANKSTON	5	0.721	288	66.6
GLEN EIRA	11	1.587	368	50.0
GR DANDENONG	8	1.154	245	40.0
HOBSONS BAY	13	1.875	315	58.3
HUME	30	4.329	273	39.2
KINGSTON	7	1.01	313	00.0
KNOX	79	11.399	314	33.8
MANNINGHAM	11	1.587	389	44.4
MARIBYRNONG	9	1.298	260	00.0
MAROONDAH	34	4.906	324	19.2
MELBOURNE	1	0.144	577	100.0
MELTON	1	0.144	281	100.0
MONASH	25	3.607	339	33.3
MOONEE VALLEY	22	3.174	329	31.5
MORELAND	16	2.308	284	18.1
MORNINGTON	31	4.473	287	19.0
NILLUMBIK	39	5.627	358	13.5
PORT PHILLIP	5	0.721	486	00.0
STONNINGTON	16	2.308	536	30.7
WHITEHORSE	42	6.06	355	22.8
WHITTLESEA	14	2.02	276	41.6
WYNDHAM	4	0.577	287	00.0
YARRA CITY	12	1.731	411	27.2
YARRA RANGES	61	8.802	268	29.0
NTH CENTRAL	38	5.483	253	14.7
GEELONG/ BALLARAT	1	0.144	256	00.0
NTH EAST	2	0.288	252	00.0
GIPPSLAND	4	0.577	253	66.6

**Household income per capita = the household (weekly) income divided by the number of people in the household, including children (ABS 1996)*

Figure 5.1 Household Income per Capita



5.3 DEMOGRAPHIC FEATURES (Table 5.3)

Maternal age at the time of participation in the current study was largely representative of the 26 to 35 year old group (73%), with those women aged 31 – 35 years making up 43.5% of the total cohort. Seventy percent of the 26-35 year old group was primiparous and 74.6% was multiparous. The mothers in this study were older and well educated in contrast to another large Australian study (Scott et al, 1995: whose cohort consisted of 58.5% of 25 – 34yrs and 28.4% had >12 years education, respectively). The ages of fathers were also older than Scott's study, with 69% having their first baby and 59.4% having subsequent babies at ages between 26 and 35 years. Forty eight percent of primiparae and 40.0% of the multiparae had College/ University qualifications. The majority of mothers (95.7%) lived with their partner. The remainder (4.3%) reported the main support person with whom they lived as 'other' or 'no one'.

Table 5.3 Demographic features

	Primiparae (N=296)		Multiparae (N=385)		Total (N=681)	
	N	%	N	%	N	%
Age of mother						
< 25	54	18.0	12	3.0	66	9.4
26 – 35	210	70.4	295	74.6	505	72.7
> 36	34	11.3	88	22.2	112	17.5
Age of Father						
< 25	31	10.4	11	2.7	42	6.0
26 – 35	206	69.0	235	59.4	441	63.5
> 36	61	20.4	149	37.6	210	30.3

Mothers highest level of education						
College/ University	144	48.6	154	40.0	298	43.7
Main support person who mother lives with						
Partner					652	95.7
Other					29	4.2

Most (74.9%) first time mothers described their occupation as professional/managerial or skilled/semi skilled (10.4%) in contrast to the multiparous mothers who represented a higher proportion of those engaged in home duties (40.2%). Fathers' occupations from both groups (57% primiparae; 50.8% multiparae) were found in categories similarly described by the primiparous mothers. Slightly more than 24% (N=65) described themselves as skilled workers. Table 5.4 (p118) shows the proportions of respondents in each occupational category. Clearly, the sample as a whole was an educated one.

Table 5.4 Parents' Occupation

	Primiparae (N=296)		Multiparae (N=385)		Total (N=681)	
	N	%	N	%	N	%
Mother's Occupation						
Professional/ semi Professional	22	74.9	180	46.6	402	58.9
Skilled/ semi skilled	31	10.4	34	8.7	65	9.4
Other	43	14.3	171	44.2	214	31.2
Father's Occupation						
Professional/ semi Professional	169	57.0	196	50.8	365	53.4
Skilled/ semi skilled	89	30.0	119	30.8	208	30.5
Other	38	12.7	61	18.0	108	15.7

Parents' Country of Birth

Mothers in the study were primarily born in Australia (92.9%) with 20.7% of fathers being born over seas.

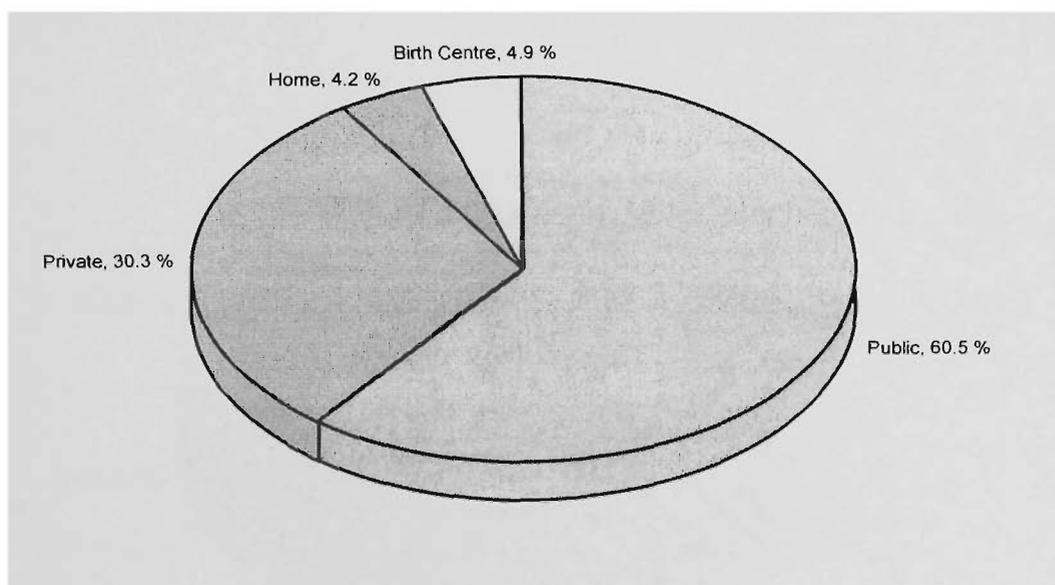
Table 5.5 Country of birth

	Primiparae (N=296)		Multiparae (N=385)		Total (N=681)	
	N	%	N	%	N	%
Mother's country of birth						
Australia	296	93.2	385	97.2	633	92.9
Other	20	6.7	28	7.2	48	7.0
Father's Country of birth						
Australia	238	80.4	302	78.4	254	79.2
Other	58	19.5	83	21.5	141	20.7

5.4 CURRENT INFANTS' PLACE OF BIRTH

The largest proportion of births (60% N=419) occurred at public hospitals, with a further 30% (N=219) in Private hospitals and 4.9% (N=34) in Birth Centres. Home births were over represented at 4% (29), compared to the state figure of 0.2% of births annually (1998 Perinatal Data Collection Unit). These figures were similar to the Victorian figures in 1996, which showed that 67.8% of women were classified as public patients and 32.2% were classified as private (Riley and Halliday 1999).

Figure 5.2 Place of birth place for the whole cohort



5.5 BIRTH TYPE

The percentage of normal vaginal births for the whole cohort was 64.6% (N=447). The rate of medically managed births (i.e. forceps/ vacuum extraction/

cesarean) was 35.4% (N=246). Management of labour in terms of induction and/or episiotomies was not determined. The proportion of women achieving a vaginal birth was slightly lower than the state figure of 68% for the 1996 year. Thirty two percent of confinements were medically managed throughout the state in that time frame compared to 35.5% in the current cohort (Riley et al. 1999). For this research, medical management was defined as a birth or delivery of an infant or infants where there was use of interventions including forceps, vacuum extraction or emergency or elective cesarean procedures. The current cohort proved to be similar in birth type of Victorian mothers across the state for the same time frame.

Figure 5.3 Type of birth for the whole cohort

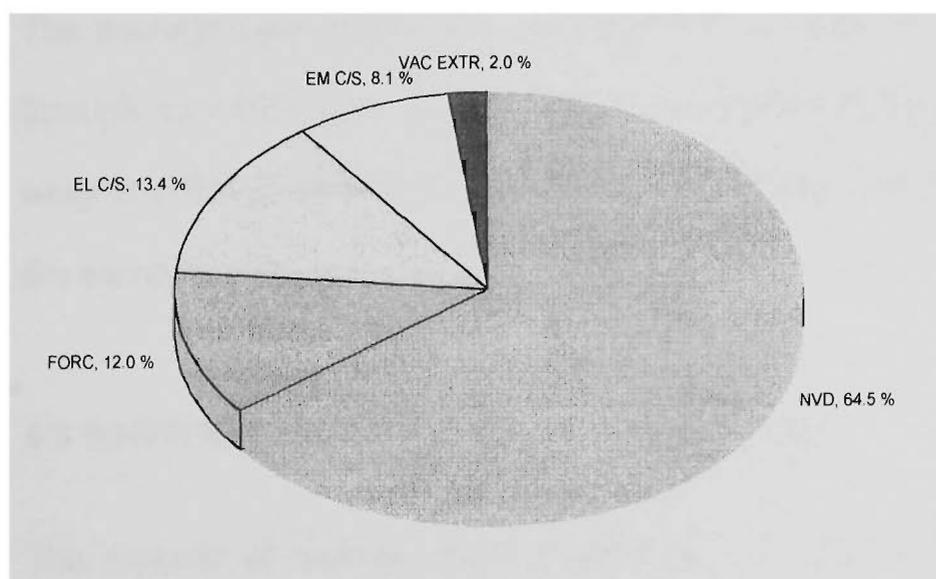


Table 5.6 Infant birth weights

	Primiparae (N=296)		Multiparae (N=385)		Total (N=681)	
	N	%	N	%	N	%
Baby One						
< 2000gms	2	0.6	6	1.5	8	1.1
2000 – 2999 gms	44	14.8	64	16.6	108	15.5
3000 – 3999 gms	216	72.9	262	68.0	478	70.1
>4000 gms	34	11.4	53	13.7	87	12.6
Baby Two						
< 1999gms	-	-	1	11.1	1	9.0
2000 – 2999 gms	1	50.0	-	0.0	1	9.0
3000 – 3999 gms	1	50.0	6	66.6	7	63.6
>3000 gms	-	-	2	22.2	2	18.1
Baby Three						
< 1500gms	-	-	1	100.0	100.0	100.00

The average birth weight was 3451gms with a range of <1500gms (3rd triplet) through to >4000gms. These figures are similar to the State reported birth weights (76% of all babies born between 3000gms and 3999gms) recorded for the same time frame (Riley et al. 1999).

5.6 WHEN MOTHERS DECIDE TO BREASTFEED

The majority of mothers (62% primiparae, 73% multiparae) in the study had decided to breastfeed prior to the first pregnancy with a further 31% of primiparae and 18% of multiparae deciding to do so during the pregnancy. A

further 26 women (1% primiparae and 5.7% multiparae) stated that they decided to breastfeed after the first baby was born.

5.7 WHY MOTHERS DECIDED TO BREASTFEED

The primary reasons given by mothers for breastfeeding included the belief that breastfeeding was 'best for the baby', the fact that it was 'cheaper' and that they believed it was 'easier'. Some recognised the benefits to themselves in terms of it being better for their own health and also a few mothers cited the bonding enhancement aspect as an important aspect in their decision-making (see table 5.7).

Table 5.7 Why mothers decided to breastfeed

Why breastfeed? *	Primiparae		Multiparae	
	N	%	N	%
Best for baby	288	96.6	388	98.2
Easier to breastfeed	150	50.3	225	56.9
			<i>p = .0005</i>	
Cheaper	148	49.6	182	46.0
		<i>p = .016</i>		
Bonding	12	4.0	25	6.3
Best for mum	20	6.7	30	7.5

**(Participants were given the opportunity to tick more than one response)*

Those multiparous women who believed that it was easier to breastfeed than bottle-feed identified the influence of positive beliefs about breastfeeding on longer durations of breastfeeding. For primiparous women who believed that

breastfeeding was cheaper also were more likely to breastfeed beyond thirteen weeks.

5.8 BREASTFEEDING BEHAVIOURS OF THE COHORT BY PARITY

Almost half the multiparous (47.3%) and over half of primiparous mothers (58.2%) had offered some other feeds i.e. infant formula and or solids, by the time their baby was 13 weeks of age. The impact of giving other feeds during the early weeks after birth was clearly identified as being significant to early weaning (see Table 5.8).

Table 5.8 Number of participants who had offered other feeds in the first 13 weeks

	Gave other feeds		Did not give other feeds	
	N	%	N	%
Multiparae	164	47.3	182	52.6
	<i>p=0.0</i>			
Primiparae	152	58.2	109	41.7
	<i>p=0.0001</i>			
Whole cohort	316	52.0	291	47.9

5.9 OTHER FEEDS

At Time One, just under 45% (N=308) of participants had given their baby a bottle feed. Fourteen percent (N=98) gave boiled water; 25% (170) gave formula and a further 25% (N=177) gave expressed breast milk by bottle. The most common reason for offering a bottle was in response to the baby's behaviour

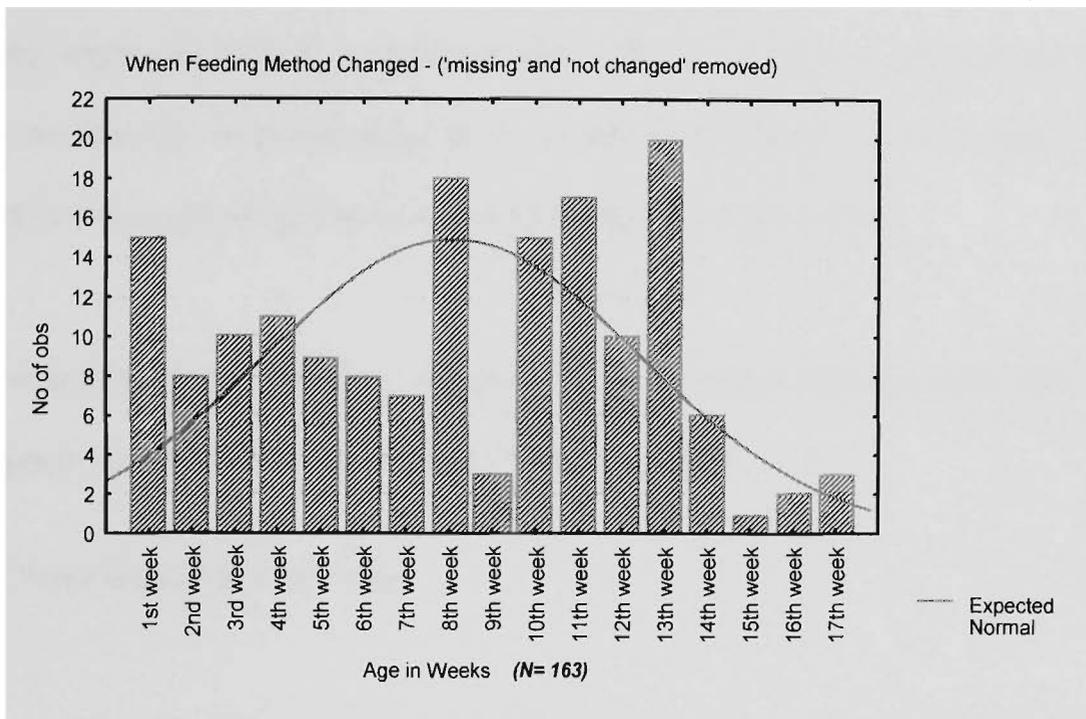
(i.e. seemed hungry) and the second most common reason was related to the mother herself (i.e. nipple pain). These reasons continued to be reported at Time Two, however mothers also described social (i.e. not feeling supported) and emotional (i.e. feeling miserable or depressed) reasons as influencing their decisions at this stage.

5.9.1 Baby's age when feeding method changed

It is apparent from Fig 5.4 (p 125) that the feeding method changed at three peak points in the first three months. Nine percent (N=15) had changed their feeding method from exclusive breastfeeding to weaning on to formula or offering formula in the first week – either while they were still in hospital or shortly after going home. The next peak occurred at the eight-week mark, where a further 11% (N=18) changed. A significant number changed between week 10 and week 13, when 37% (N=15; N=20) changed their method of feeding from exclusive breastfeeding to either supplementing with formula or weaning off the breast. There are times during an infant's early months when he or she increase their demand for breastfeeds. This occurs commonly at around 2 – 3 weeks, 6 weeks and 12 weeks of age and are often called 'growth spurts' (Mohrbacher and Stock 1991). As the baby becomes more demanding in an attempt to increase the mother's milk supply to meet an increased need, the mother will often perceive that she does not have enough milk for her baby and begin to supplement with infant formula. Unfortunately, this response will often become

self-fulfilling if continued, as her milk will gradually decline as formula intake increases.

Figure 5.4 Baby's age in weeks when feeding method changed



5.9.2 Feeding method at each time frame by parity

By the time the first questionnaire was completed at a mean time of 19 days after birth, 7.2% of multipara (N=28) and 7.4% of primipara (N=22) had weaned their baby. A further 6% (N=23) and 11.8% (N=35) respectively were providing mixed feedings (breastmilk/ formula) at this time.

The exclusively breastfeeding group had reduced to 62% (N= 241) and 56% (N=167) by the time of the second questionnaire at around 14 weeks, with 11.4% of both groups providing their infant with mixed feedings.

By six months, 44% of multiparae (N= 172) and only 27% of primiparae (N=80) were still exclusively breastfeeding; with a further 17% (N= 67) and 25% (N=75) respectively who were breastfeeding while also giving formula and/ or solids.

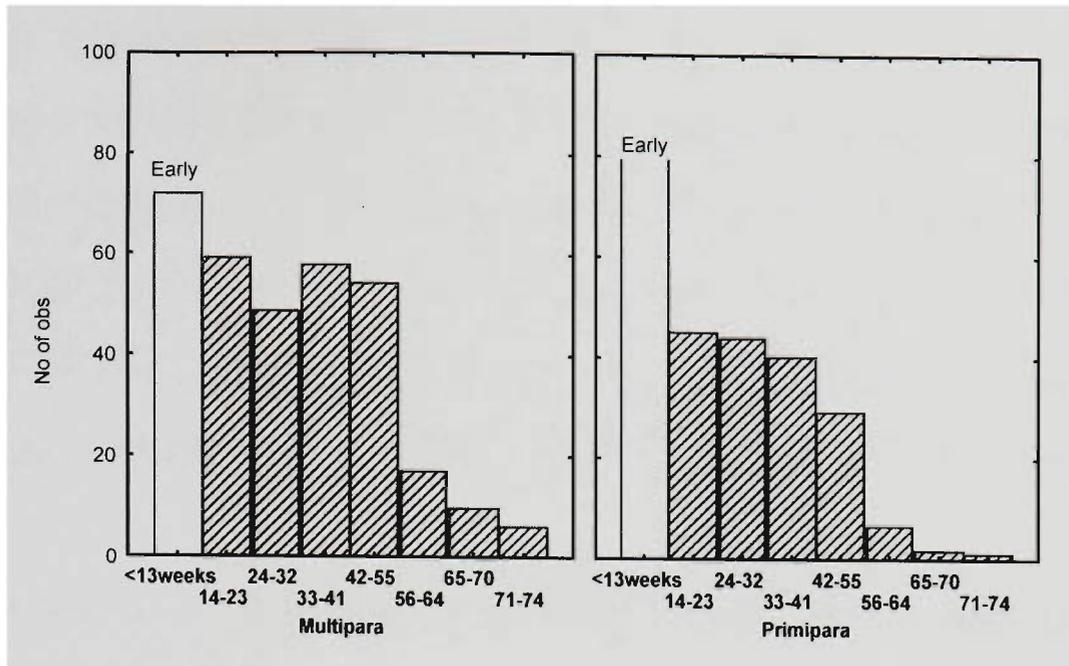
Twenty eight percent of multiparae (N= 109) and 23% of primiparae (N=69) were exclusively breastfeeding at 9 months. A further 18% of both groups (N=55) were combining breastmilk and formula and/ or solids.

By the babies first birthday, 33% (N= 130) of multiparae and 22% (N= 68) of primiparae were continuing to offer some breastmilk.

5.9.3 Who weaned and when

Of concern was the number of women who weaned during the first 13 weeks. This was particularly so for the primiparous group when nearly twenty eight percent (N= 82) weaned early (see Figure 5.5). Nearly twenty percent of the multipara group (N=77) also weaned in that period (see Figure 5.5).

Figure 5.5 Parity by weaning group ages



5.9.4 Reasons given for weaning in the first 13 weeks by both primiparous and multiparous women

The primary reason given for weaning by the study cohort was due to perceived low milk supply. This is evident with both the groups, primiparous (63.4%) and the multiparous mothers (61.8%). For those who had weaned by 13 weeks (N=159) at Time One, 30% of primiparae had given their babies at least one of the following: boiled water (30%), formula (55%) or expressed breastmilk (15%) – all by bottle. Multiparous mothers had also offered bottles at Time One containing: boiled water (25%), formula (57%) and expressed breastmilk (18%). Of those who had weaned by 13 weeks, 98% of primiparae and 95% of multiparae had offered 'Other Feeds' by Time Two (14 weeks after birth). The

reasons given by participants for changing from exclusive breastfeeding were primarily related to 'the baby' for primiparae (62%) and to 'the mother' for multiparae (61.3%). Examples of baby related reasons for changing feeding methods included; the baby being unsettled, unwell, and sleepy, having difficulties with attachment, and being premature. Examples of the mother related reasons included perceived milk insufficiency, nipple pain/ trauma, breast pain/ mastitis, feeling exhausted and the mother herself being unwell.

5.10 RESULTS – PREDICTORS OF WEANING IN THE FIRST 13 WEEKS (T1 & T2)

The purpose of the primary analysis was to determine if there were any predictive factors related to weaning in the first 13 weeks after birth. Variables from each group of mothers that were identified as significant with one-way ANOVA ($p < 0.05$), were then entered into Logistic Regressions separately for each parity group, using STATISTICA, and a model was built using this method. Additional variables, which were considered of interest by the researcher, were also entered into this model with the default significance level set at $p < 0.15$. Parameter estimates were then determined in order to identify the effect of significant variables on the probability of weaning in the first 13 weeks.

5.11 PRIMIPAROUS MOTHERS

A number of issues and both Time One and Time Two were identified during analyses that were unique to primiparous mothers. The following variables were of particular interest to the research and included demographic details; prenatal, intrapartum and early postpartum issues; breastfeeding problems; sources of knowledge about and support for breastfeeding and the mother's perceived level of confidence with breastfeeding and how these may influence the mothers experience and the final duration of breastfeeding.

5.11.1 Demographic issues

On univariate analyses, paternal age appeared to be significant to weaning age. This was also true for work status during the pregnancy, whether the mother expected to return to work soon after the birth. How she herself was fed as a baby and whether her family and friends breastfed their children, appeared to be influential at this stage of the analyses. Significant results were obtained through logistic regression analyses on paternal age, mother's work status and her expectation of early return to work, how she was fed as an infant and the influence of infant feeding practices of those around her.

Table 5.9 Demographic profile of primiparous women (univariate analyses)

Demographic issues	Weaning ≤13 N=81	Weaning >13 N=168	df	X ²	p
	n	n			
Maternal age (31-35 yrs)	20	61	1	3.36	.066
Paternal Age (<25 yrs)	13	11	1	5.66	.017
Paternal Age (26-30 yrs)	32	44	1	4.56	.032
Paternal Age (31-35 yrs)	23	76	1	6.47	.010
Mother in paid employment during pregnancy	63	148	1	4.49	.033
Expecting to return to work	62	100	1	7.73	.005
Mother was breastfed as a baby	35	95	1	3.89	.048
Mother was bottle-fed as a baby	28	37	1	4.45	.030
Family/ friends breastfed their own babies	15	12	1	7.31	.006

Table 5.10 Results of logistic regression analysis on demographic variables, maternal experiences of methods of feeding during infancy and employment issues, N=249.

Demographic issues	B	S E B	OR
Maternal age 31 – 35 years	.335	.365	1.398
Paternal Age < 25 years	-1.273	.520	.279*
Paternal Age 26 – 30 years	-.903	.348	.404*
Mother in paid employment during pregnancy	1.000	.445	2.720*
Expecting to return to work	-1.263	.367	.282*
Mother was breastfed as a baby	.602	.302	1.827*
Family/ friends bottle fed their own baby	-.654	.281	.519*

* p<.05

This analysis identified that fathers who were less than 30 years of age at the arrival of the first baby as being significant to early weaning. If the mother

expected to return to paid employment in the near future at T1 and if she had been bottle fed as a baby, these too were found to negatively influence timing of weaning. Working during the pregnancy appeared to be protective of duration, with primiparous mothers being nearly three times more likely to be breastfeeding longer than 13 weeks. If the mother herself had been breastfed as an infant, once again she was more likely to breastfeed for longer.

5.11.2 Prenatal issues

A number of prenatal issues were identified as significant on univariate analysis (table 5.11). These included when and why the mother decided to breastfeed, whether that decision changed and if the mother was a smoker.

Table 5.11 Prenatal issues (Univariate analyses)

Prenatal issues	Weaning ≤13 N=81	Weaning >13 N=168	df	X ²	p
	n	n			
Attended antenatal classes	65	151	1	5.02	.025
When decided to breastfeed (prior to the first baby)	40	116	1	9.03	.002
When decided to breastfeed (during first pregnancy)	36	44	1	8.35	.003
Why breastfeed (easier)	23	96	1	18.10	.000
Why breastfeed (cheaper)	30	89	1	5.56	.018
Why breastfeed (bonding)	1	14	1	4.86	.027
Decision to exclusively breastfeed changed	30	5	1	52.48	.000
Why change (baby related)	18	1	1	36.26	.000
Why change (mother related)	22	1	1	46.00	.000
Why change (social/ emotional reasons)	4	0	1	8.43	.003
Medications in pregnancy (cigarettes)	12	12	1	3.69	.054

Significant differences were obtained in logistic regression analysis on antenatal education participation, decision to breastfeed during the pregnancy, breastfed because it was seen as easier than formula feeding, her decision to breastfeed changed from exclusive breastfeeding for reasons related to herself (i.e. nipple trauma) and whether she smoked cigarettes (Table 5.12).

These variables were then entered in to a descriptive regression analysis to identify which ones would influence or predict timing of weaning. Table 5.12 shows the results and indicates that four variables remained in the multivariate equation. These were antenatal education, ease of breastfeeding, changed their decision about exclusively breastfeeding and changed feeding method for mother related reasons. All p 's at $< .05$. The two most influential variables were antenatal education, where those mothers who had attended classes were two and a half times more likely to be breastfeeding at 13 weeks; and the mother's belief that breastfeeding is easier, which rendered the mother two and a half times more likely to persist with breastfeeding.

Table 5.12 Results of logistic regression analysis on prenatal issues

Prenatal issues N=249	B	SEB	OR
Attended antenatal classes	.951	.442	2.590*
When decided to breastfeed (during pregnancy)	.613	.325	1.846
Why breastfeed (easier)	.933	.332	2.543*
Changed decision to breastfeed	-1.437	.670	.237*
Why (mother related reasons)	-2.706	1.222	.066*
Medications in pregnancy (cigarettes)	-.303	.351	.738

* $p < .05$

If the mother changed her decision to exclusively breastfeed, particularly if the reasons were related to her own problems (i.e. nipple pain/ trauma), she was more likely to wean in the first 13 weeks.

5.11.3 Intrapartum and early postpartum issues

The mothers' experiences during the intrapartum and early postpartum period (labour through to the first questionnaire at a mean of 19 days) were considered for their influence on breastfeeding duration by several variables. For example, if the mother was supported by her own private midwife, if she used alternative methods of pain management such as massage and heat and if she achieved a normal vaginal birth.

Of interest was the timing to the first feed and how the mother felt about that feed, how she was feeding at the time of the first questionnaire (mean 19 days), where the baby slept at night, whether the baby had been given any bottle feeds, (particularly infant formula) and if the infant was using a pacifier. All these variables were found to be significant influences to duration of breastfeeding.

Logistic regression analysis (Table 5.14 p 134) revealed that normal vaginal birth type, timing of first feed after birth, feeding method, where the baby slept at night and formula and pacifier use by Time Two were all significant in predicting early weaning.

Table 5.13 Intrapartum and early postpartum issues (Univariate analyses)

Intrapartum and early postpartum issues	Weaning ≤13 N=81	Weaning >13 N=168	df	X ²	p
	n	n			
Private midwife	1	12	1	3.8	.049
Other techniques for pain in labour	29	90	1	.747	.008
Normal vaginal birth	50	94	1	6.91	.387
First feed 1 hour or >	76	139	1	5.69	.016
Felt negatively about first feed	52	71	1	10.52	.001
Exclusive breastfeeding @ Time One	39	158	1	69.68	.000
Feeding both breast & bottle @ Time One	21	9	1	21.81	.000
Baby sleeping in maternal bed at night	1	17	1	6.43	.011
Baby sleeping in cot by bed	54	78	1	8.98	.002
No bottles by Time One	22	95	1	18.94	.000
Formula by bottle by Time One	45	26	1	43.06	.000
Pacifier used by Time One	59	91	1	7.95	.004

Table 5.14 Results of logistic regression analysis on the intrapartum and postpartum influences on breastfeeding duration

Intrapartum and early postpartum issues	B	S EB	OR
Normal vaginal birth	-1.012	.381	.363*
First feed 1 hour or >	-1.737	.733	.176*
Felt about first feed	-.780	.356	.458*
Exclusive breastfeeding @ Time One	3.869	1.151	47.928*
Feeding both breast & bottle @ Time One	2.35	1.15	10.526*
Baby sleeping in cot by bed	-1.125	.365	.324*
Formula by bottle by Time One	-.979	.488	.375*
Pacifier used by Time One	-.709	.367	.492*

* p<.05

Eight of the nine variables were found to be negatively correlated to longer duration, whereas breastfeeding exclusively at Time One was positively correlated to prolonged breastfeeding by almost 48 times ($p < 0.05$).

5.11.4 Breastfeeding Problems

There were eight variables at Time One, which addressed a range of breastfeeding problems including 'nipple pain/ trauma' and 'the baby being fussy/ unsettled'. Responses on these variables were also collected at Time Two (mean 14 weeks). Women were also given the opportunity to report on issues that were not available in the problems list by describing 'Other' problems in direct verbatim responses. Content analysis was conducted and responses categorized as either baby related (i.e. the baby was unwell), mother related (i.e. the mother was unwell) or social/ emotional (i.e. the mother was depressed). The focus here was on which of these variables best predicted early weaning.

Each of the 'problem' variables was scored '0' (no problem) and '1' (a problem) whereas the dependent variable was scored '0' (early weaning) and '1' (late weaning). Table 5.15 (p136) shows the results from univariate chi-square analysis, which examined the relationships between breastfeeding problems at Time One and Time Two according to whether the mother had instigated early or later weaning.

Table 5.15 Breastfeeding problems (Univariate analyses)

N= 249	Time 1				
	Breastfeeding problems	Weaning $\leq 13^a$	Weaning $> 13^b$		
	n	n	df	X ²	p
Very tired, more than usual	47	101	1	.099	.752
Breast pain	25	52	1	.988	.988
Nipple pain/trauma	40	70	1	1.31	.250
Baby is fussy/unsettled	24	30	1	4.45	.035
Too much milk	13	50	1	5.43	.019
Milk not in yet/ low supply	10	6	1	6.99	.008
Attachment difficulties	28	42	1	2.47	.115
Mastitis	10	10	1	3.02	.082

* Participants were able to identify multiple problems

N= 217	Time 2				
	Breastfeeding problems	Weaning $\leq 13^a$	Weaning $> 13^b$		
	n	n	df	X ²	p
Very tired, more than usual	6	26	1	.559	.454
Breast pain	5	25	1	1.01	.313
Nipple pain/trauma	11	51	1	1.84	.174
Baby is fussy/unsettled	4	31	1	3.59	.057
Too much milk	16	34	1	2.30	.129
Milk not in yet/ low supply	9	10	1	6.26	.012
Attachment difficulties	3	8	1	.069	.791
Mastitis	6	20	1	.012	.910

Variables at Time One which were significant to early weaning included the baby being fussy and unsettled, the mother having too much milk or her milk was not in yet or she was experiencing low supply. The two significant variables at Time Two were low supply and an unsettled baby. Participants were asked at Time Two to rate a number of issues (on a point Likert scale where 0= no issue to 4= major issue) that they considered to be significant. Specifically, the analysis identified 'problems with breastfeeding' (78.85% n=41 p<.01) and a 'combination

of problems' (32.69% n=17 p<.010) were found to be significant to a shortened duration of breastfeeding.

Table 5.16 Results of a logistic regression analysis on variables self reported as influences to early weaning at Time One (mean 19 days) and Time Two (mean 14 weeks).

	Time 1			Time 2		
	B	S EB	OR	B	S EB	OR
Baby is fussy/unsettled	-.811*	.378	.444			
Too much milk	.542*	.426	1.720			
Milk not in yet/ low supply	-.551*	.743	.576	-1.405*	.513	.245

p = <.05

Of note for this model were the findings of significance for the baby being described as fussy and unsettled and the mother's perception of delayed Lactogenesis Two (milk coming in) at Time One and low supply at Time Two. This finding is consistent with a number of studies (Scott et al. 1995; Scott et al. 1997) who reported perceived low supply as a significant factor in the decision to wean at any time. Interestingly, mothers noting too much milk at Time One were more likely to persist with breastfeeding.

5.11.5 Sources of Support and Knowledge for Primiparous Mothers at Time Two

There were nine variables at Time One that were used to measure sources of knowledge. At Time Two, mothers were asked to rate their sources of support. Four additional 'maternal issue' variables were considered at Time Two and these included: the mothers' perceptions of her confidence with breastfeeding, levels of support she received, her levels of knowledge about breastfeeding and the impact of conflicting advice about breastfeeding. The focus of this analysis was to determine whether any of the independent variables were predictors of early weaning.

Table 5.17 examining the relationships between sources of knowledge and support variables and timing of weaning. Of note was the influence of midwives and family as a source of information for these mothers.

Table 5.17 Main sources of breastfeeding information by Time One (Univariate analysis)

Main sources of breastfeeding information	Time One		df	X ²	p
	Weaning ≤13	Weaning >13			
	N=81 n	N=168 n			
Antenatal classes	45	84	1	.675	.411
Books	49	101	1	.003	.954
Family	27	36	1	4.09	.042
Friends	29	52	1	.203	.652
Doctor	9	19	1	.002	.962
Midwives	49	136	1	11.97	.000
NMAA	14	41	1	1.61	.204
Lactation consultant	25	39	1	1.67	.195
Other	4	13	1	.673	.411

On regression analysis, midwives were identified as primary sources of information about breastfeeding. Lactation consultants were also acknowledged as significant, however this was found to be negatively correlated to prolonged breastfeeding (Table 5.18). The reason for this is unclear. However, it is reasonable to suggest that women who saw the lactation consultant (LC) early in the postnatal period may have been experiencing significant breastfeeding problems, and thus were more likely to wean prematurely. It is also clear that very few (<10%) women actually saw an LC during this time, which may have influenced the result of this analysis.

Table 5.18 Results of logistic regression analysis evaluating sources of information and knowledge (including health professionals)

Sources of information about breastfeeding	Time 1		
	B	S E B	OR
Antenatal classes	-.097	.101	.906
Books	-.102	.119	.902
Family	-.222	.118	.800
Friends	-.005	.116	.994
Doctor	-.066	.127	.935
Midwives	.374*	.110	4.454
NMAA	.125	.103	1.134
Lactation consultant	-.254*	.089	.775
Other	.114	.168	1.121

* p < .05

Time Two: Sources of support for breastfeeding

Table 5.19 identified NMAA and the maternal & child health nurse as the primary sources of support for breastfeeding at Time Two (mean infant age 14 weeks). Lack of support together with problems with breastfeeding was acknowledged as significant to early weaning for these mothers during the first three months postpartum.

Table 5.19 Sources of support for breastfeeding and significant maternal issues (Univariate analysis) N= 217

Main sources of breastfeeding support and specific maternal issues	Time Two		df	X ²	p
	Weaning ≤13	Weaning >13			
	n	n			
Partner	35	38	1	1.95	.162
Family	25	98	1	2.06	.150
Midwife	25	95	1	1.44	.229
Doctor	12	34	1	.144	.703
Friends	16	67	1	1.61	.203
NMAA	2	26	1	4.99	.025
Lactation Consultant	14	37	1	.445	.504
Other	2	10	1	.371	.542
M&CHN	24	101	1	3.67	.055
Maternal confidence	18	71	1	1.157	.282
Lack of support	5	34	1	3.23	.071
Problems with breastfeeding	42	63	1	28.71	.000
Low knowledge	20	44	1	2.64	.103
Conflicting advice	33	94	1	.686	.407

Logistic regression analysis (Table 5.20 p 141) confirmed NMAA and the maternal & child health nurse as primary sources of support. Contact with

Nursing Mothers' Association was found to be protective of breastfeeding longer than 13 weeks, with analysis showing that women were nearly two times more likely to continue.

Interestingly, the doctor rating was negatively correlated to prolonged breastfeeding. The major issues identified by early weaning participants were lack of support and problems with breastfeeding. When women described lack of support as a major issue, they were over two times more likely to wean early.

Table 5.20 Results of logistic regression analysis for main sources of breastfeeding support (N= 217)

Main sources of support for breastfeeding	Time 2		
	B	S E B	OR
Partner	.278	.189	1.321
Family	.149	.180	1.161
Midwife	-.004	.150	.995
Doctor	-.388	.181	.678*
Friends	.327	.177	1.387
NMAA	.689	.245	1.992*
Lactation Consultant	.126	.148	1.135
Other	.416	.293	1.517
M&CHN	.328	.157	1.388*
Maternal confidence	.215	.191	1.240
Lack of support	.775	.279	2.171*
Problems with breastfeeding	-1.047	.188	.350*
Low knowledge	.202	.195	1.224
Conflicting advice	-.233	.152	.791

* p<.05

5.11.6 Maternal Confidence with Breastfeeding

Participating mothers were asked to rate their levels of confidence in attaching their baby to the breast at both Time One and Time Two on a Likert type scale of 0 = not at all confident and 4 = very confident. Low levels of confidence (0 – 2) proved to be highly significant at Time One and Time Two at both univariate and regression levels.

Table 5.21 Levels of maternal confidence with breastfeeding (Univariate)

Maternal confidence	Time 1		df	X ²	p
	Weaning ≤13 n	Weaning >13 n			
Confidence	46	138	1	18.21	.000
	Time 2		df	X ²	p
	Weaning ≤13 n	Weaning >13 n			
Confidence	52	165	1	96.53	.000

Table 5.22 Results of logistic regression analysis for reported levels of maternal confidence with breastfeeding

Maternal confidence	Time 1 N=249			Time 2 N=217		
	B	S EB	OR	B	S EB	OR
Confidence	1.252	.301	3.500*	3.759	.485	42.933*

* p<.001

5.12 Multiparous Mothers

There was a number of parity specific issues identified during analyses for multiparous mothers. There was also a number of variables that were significant to both groups. For the purposes of analysis, the subsets that were used for primiparous mothers were also used for multiparae.

5.12.1 Demographic issues

Both maternal and paternal age was once again identified as being significant to breastfeeding duration on both levels of analysis, where younger mothers (26 – 30 years) and fathers aged older than 36 years were key groups. Other significant issues included whether the mother herself was bottle-fed as an infant, when she weaned her first baby (< 3 months of age) and when she made the decision to breastfeed her own children (Table 5.23).

Table 5.23 Demographic profile of multiparous women (Univariate analysis)

Demographic issues N= 325	Weaning		<i>df</i>	<i>X</i> ²	<i>p</i>
	≤13 n= 72	>13 n= 253			
	<i>n</i>	<i>n</i>			
Maternal age 26 - 30	30	55	1	11.52	.000
Maternal age >36	9	57	1	3.48	.061
Paternal age 26 - 30	18	40	1	3.22	.072
Paternal age >36	15	107	1	11.00	.000
Age weaned first baby < 3 months	26	214	1	70.78	.000
Mother bottle-fed as a baby	27	65	1	3.62	.057
When decided to breastfeed. After 1 st pregnancy	10	8	1	12.32	.000

The final regression model for these variables identified the duration of breastfeeding for the first baby (longer than three months) to be significant to longer duration of breastfeeding for the current baby by over two times. Older fathers (> 36 years) were also found to be protective of breastfeeding duration. If the mother was aged between 26 – 30 years and if she decided to breastfeed after the first baby, then early weaning of the current baby was more likely (Table 5.24).

Table 5.24 Results of logistic regression analysis on demographic variables, previous experience of breastfeeding and how the mother herself was fed

Demographic issues	B	S E B	OR
Maternal age 26 - 30	-.686*	.377	.503
Maternal age >36	.172	.492	1.188
Paternal age 26 - 30	.350	.438	1.419
Paternal age >36	.953*	.402	2.594
Age weaned first baby > 3 months	2.240*	.322	9.399
Mother bottle-fed as a baby	-.121	.358	.885
When decided to breastfeed. After 1 st pregnancy	-1.434*	.611	.238

* p<.05

5.12.2 Prenatal issues

Why a mother chose to breastfeed, whether that decision changed in some way and whether her partner was supportive of breastfeeding were found to be significant influences on the duration of breastfeeding for this group of

multiparous women. Table 5.25 identified that those mothers who chose to breastfeed because they believed breastfeeding was easier than bottle-feeding were more likely to continue past 13 weeks.

Table 5.25 Prenatal issues (univariate analysis)

Prenatal issues	Weaning	Weaning	<i>df</i>	<i>X</i> ²	<i>p</i>
	≤13 N=81	>13 N=168			
	<i>n</i>	<i>n</i>			
Why breastfeed 2	29	155	1	10.05	.001
Changed decision to breastfeed	22	2	1	72.60	.000
Partner supportive of breastfeeding	65	246	1	6.57	.010

These variables were then entered in to a logistic regression analysis to identify which aspects would influence or predict timing of weaning. Table 5.26 shows the results and indicates that two variables remained in the multivariate equation. Those mothers whose partners were described as supportive of breastfeeding at T1 (mean 19 days) were nearly four times more likely to be breastfeeding at 13 weeks. Any changes to exclusive breastfeeding by T1 increased the likelihood of early weaning.

Table 5.26 Results of logistic regression analysis on prenatal variables

**p*<.05

Prenatal Issues N=325	B	S E B	OR
Why breastfeed 2	.596	.308	1.815
Changed decision to breastfeed	-3.915	.760	.019*
Partner supportive of breastfeeding	1.285	.609	3.616*

5.12.3 Intrapartum and Early Postpartum Issues

The mother's experiences during the intrapartum and early postpartum days (labour through to the first questionnaire at a mean age of 19 days) were considered for their influence on breastfeeding duration by a number of variables. For the multiparous woman in labour, the influence of Pethidine on the establishment of breastfeeding the current infant was strongly correlated to premature weaning. Whether the baby was well after the birth was also identified as significant to duration of breastfeeding. If the baby had received any bottle feeds, where he or she slept at night and the use of a pacifier were also shown to be significant to age at weaning for multiparous mothers and their babies on both ANOVA and regression analyses.

Table 5.27 Intrapartum and early postpartum issues (Univariate analysis)

Intrapartum and early postpartum issues	Weaning	Weaning	df	X ²	p
	≤13 N=81	>13 N=168			
	n	n			
Pethidine in labour	23	49	1	5.14	.023
Baby well after birth	55	223	1	6.25	.012
Exclusively breastfeeding at Time One	38	239	1	77.38	.000
Feeding breast and bottle	11	10	1	11.89	.000
Baby sleeps with mother at night	1	17	1	3.04	.081
Baby has had any bottles by Time One	51	74	1	40.95	.000
Boiled water	14	25	1	4.85	.027
Infant formula	38	32	1	53.41	.000
Expressed Breastmilk	27	37	1	18.54	.000
Pacifier	49	123	1	8.5	.003

Logistic regression analysis confirmed the significance of exclusively breastfeeding at T1 as a predictor of longer durations of breastfeeding (table

5.28). The introduction of bottles, regardless of what they contain (i.e. Infant formula, expressed breastmilk, boiled water), increased the likelihood of early weaning by two to four times.

Table 5.28 Results of logistic regression analysis on the intrapartum and early postpartum influences on breastfeeding duration

Intrapartum and early postpartum issues	B	S E B	OR
Pethidine in labour	-.649**	.360	.522
Baby well after birth	.478	.428	1.614
Exclusively breastfeeding at Time One	3.040*	.631	20.93
Feeding breast and bottle	1.471*	.728	4.355
Baby sleeps with mother at night	2.210**	1.263	9.119
Baby has had any bottles by Time One	.750*	.366	2.118
Pacifier	-.558**	.332	.571

*p<.05 **<.10

5.12.4 Breastfeeding problems

A range of breastfeeding problems (except for mastitis) at Time One (Table 5.29) were identified as predictive of weaning age on univariate analysis. By Time Two (Table 5.30 p148), low supply and attachment difficulties emerged as significant together with a range of maternal issues which the mother had been asked to rate on a Likert type scale. These included low levels of confidence, lack of support, feeling exhausted and alone, problems with breastfeeding, low

levels of knowledge about breastfeeding, the baby being fussy and getting conflicting advice.

Table 5.29 Breastfeeding problems at Time One and Time Two (Univariate)

Breastfeeding problems	Time 1		df	X ²	p
	Weaning ≤13 ^a	Weaning >13 ^b			
	n	n			
Very tired, more than usual	45	116		6.21	.0126
Breast pain	29	64		6.15	.013
Nipple pain/trauma	34	91		2.99	.083
Baby is fussy/unsettled	23	56		2.93	.086
Too much milk	8	84		13.47	.000
Milk not in yet/ low supply	12	20		4.84	.027
Attachment difficulties	26	39		15.00	.000
Mastitis	9	24		.558	.455
Breastfeeding problems	Time 2		df	X ²	p
	Weaning ≤13 ^a	Weaning >13 ^b			
	n	n			
Very tired, more than usual	22	140	1	.039	.842
Breast pain	3	35	1	1.33	.248
Nipple pain/trauma	3	23	1	1.37	.711
Baby is fussy/unsettled	15	65	1	2.14	.143
Too much milk	2	41	1	3.63	.056
Milk not in yet/ low supply	18	47	1	13.25	.000
Attachment difficulties	7	11	1	9.96	.001
Mastitis	7	29	1	1.04	.307
Confidence	8	11	1	13.45	.000
Support	8	24	1	3.67	.055
Exhausted	22	79	1	7.99	.004
Alone	10	28	1	5.59	.018
Breastfeeding problems	19	35	1	25.03	.000
Low knowledge	8	6	1	22.90	.000
Baby fussy	15	37	1	11.76	.000
Conflicting advice	11	25	1	9.47	.002

The logistic regression model revealed that mothers feeling more tired than usual, reporting having “too much” milk and difficulties with attachment to the

breast at Time One and low supply, breastfeeding problems and low levels of knowledge about breastfeeding at Time Two were all predictors of premature weaning (table 5.30).

Table 5.30 Results of logistic regression analysis on variables self reported as influences to early weaning at Time One and Time Two

Breastfeeding problems	Time 1			Time 2		
	B	S E B	OR	B	S E B	OR
Very tired, more than usual	-.607*	.294	.544	.630	.423	1.879
Breast pain	-.590	.340	.554	1.364	.866	3.912
Nipple pain/trauma	-.085	.304	.918	.437	.885	1.549
Baby is fussy/unsettled	-.367	.322	.692	.287	.468	1.333
Too much milk	1.513*	.425	4.541	1.125	.837	3.082
Milk not in yet/low supply	-.555	.423	.573	-1.123*	.432	.325
Attachment difficulties	-.702*	.345	.495	-.531	.672	.587
Mastitis	.019	.458	1.019	-.794	.556	.451
Confidence	-	-	-	-.270	.197	.763
Support	-	-	-	.074	.166	1.077
Breastfeeding problems	-	-	-	-.325*	.164	.722
Low knowledge	-	-	-	-.454*	.206	.634
Conflicting advice	-	-	-	-.081	.166	.921

* p<.05

5.12.5 Sources of Support and Knowledge for Multiparous Mothers

Midwives and 'other' sources of information about breastfeeding were shown to be significant to duration at Time One on univariate analysis (Table 5.31).

Table 5.31 Main sources of breastfeeding information at T1 (Univariate analysis)

Main sources of breastfeeding information	Time 1 Weaning ≤ 13		Weaning >13		p
	% ^a	n	%	n	
Antenatal classes	23.61	17	31.23	79	.528
Books	52.78	38	64.82	164	.063
Family	43.06	31	39.92	101	.632
Friends	54.17	39	43.08	109	.095
Doctor	18.06	13	23.72	60	.309
Midwives	68.06	49	79.05	200	.051
NMAA	22.22	16	32.41	82	.096
Lactation consultant	25.00	18	22.53	57	.660
Other (ie previous experience)	1.39	1	12.65	32	.005

N=325

At Time Two, participants were asked about sources of support for breastfeeding. Neither univariate analysis (table 5.32) nor logistic regression (table 5.34) identified any significant influences in terms of support on how long a baby was breastfed for apart from the 'other' category, which pertained to previous experience.

Table 5.32 Main sources of breastfeeding information at T2 (Univariate analysis)

Main sources of support for breastfeeding	Time 2		Weaning >13		p
	Weaning ≤13	Weaning >13	Weaning ≤13	Weaning >13	
	% ^a	n	%	n	
Partner	62.50	25	74.09	183	.127
Family	45.00	18	55.87	138	.200
Midwife	50.00	20	45.75	113	.616
Doctor	17.50	7	21.05	52	.606
Friends	20.00	8	34.82	86	.063
NMAA	5.00	2	10.93	27	.284
Lactation Consultant	15.00	6	17.00	42	.752
Other	10.00	4	3.64	9	.072
M&CHN	40.00	16	51.82	128	.165

N=287

The strongest correlation on regression analysis at Time One (Table 5.33) proved to be 'other' category, which was an open option for participants to describe a source that had not been identified in the list. For multiparous women, this option was most often used to describe experiences with breastfeeding an earlier child. However, this choice proved to be negatively correlated to prolonged breastfeeding by Time Two (Table 5.34).

Table 5.33 Results of logistic regression analysis evaluating sources of information and knowledge at T1

N= 325 Sources of knowledge about breastfeeding	Time 1		
	B	S EB	OR
Antenatal classes	.317	.331	1.373
Books	.454	.301	1.575
Family	-.052	.326	.949
Friends	-.585**	.324	.556
Doctor	.392	.379	1.480
Midwives	.416	.324	1.516
NMAA	.474	.335	1.607
Lactation consultant	-.266	.343	.766
Other	2.345*	1.030	10.434

* p <.05 ** p<.10

Table 5.34 Results of logistic regression analysis evaluating sources of support at T2

N= 287 Main sources of support for breastfeeding	Time 2		
	B	S EB	OR
Partner	.388	.421	1.474
Family	.073	.405	1.075
Midwife	-.420	.379	.656
Doctor	.018	.510	1.018
Friends	.519	.463	1.681
NMAA	.897	.793	2.452
Lactation Consultant	-.059	.509	.941
Other	-1.174**	.669	.309
M&CHN	.352	.382	1.423

** p<.10

5.12.6 Maternal confidence with breastfeeding

How confident a mother felt attaching her baby to the breast was again found to be a significant predictor of duration of breastfeeding at both time frames and at both levels of analyses.

Table 5.35 Levels of maternal confidence with attachment and breastfeeding (Univariate analysis)

Maternal confidence	Time 1		N= 385		
	Weaning ≤13	Weaning >13			
	<i>n</i>	<i>n</i>	<i>df</i>	<i>X²</i>	<i>p</i>
Confidence	40	221	1	35.83	.000
	Time 2		N= 339		
Confidence	2	219	1	136.07	.000

Table 5.36 Results of logistic regression analysis for reported levels of maternal confidence with attachment and breastfeeding

Maternal confidence	Time 1 N=325			Time 2 N=287		
	B	S E B	OR	B	S E B	OR
Confidence	.851	.132	2.342*	5.001	.752	148.607*

* p=0.000

Participating multiparous mothers who rated their confidence level as low on a Likert scale of 0= not at all confident and 4= very confident at T1 were three and

a half times more likely to wean in the first 13 weeks after birth. Those who stated that their confidence with attachment had continued to be low over the first three months were over 42 times more likely to have weaned by T2.

5.13 EXIT QUESTIONNAIRES

Wherever possible, if a questionnaire was returned detailing that the baby had been weaned, follow up was made by telephone and an interview was conducted. The specific reasons for weaning were obtained, were analysed using Cross-tabulation methods and are presented in Table 5.37. Of all mothers who had weaned their baby during the study period, sixty-four percent of participants (N=445) provided information for this questionnaire – 70% were primiparous mothers (N= 207) and 59% were multiparous mothers (N=229). Data for Table 5.37 compared the significance of specific reasons given for weaning with the timing of weaning – either early (< 13 weeks) or late (> 13 weeks).

The major findings from this analysis showed that the mother's perception of not enough milk, nipple pain/ trauma and attachment to the breast problems were primary causes of premature weaning. However, these were not the only reasons. The analysis identified that the infant's fussy behaviour and/ or poor weight gains; the mother having to return to work, experiencing mastitis/ engorgement or having had enough of breastfeeding or feeling miserable/ depressed were all significant factors in the mother's decision to wean her baby.

Table 5.37 Exit questionnaire weaning data

<u>Reason for weaning</u>	<u>Chi Square value</u>	<u>p value</u>
Perceived low supply	147.35	< .01
Nipple pain/ trauma	107.42	< .01
Baby was unsettled	92.69	< .01
Baby had poor weight gains	33.25	< .01
Mother returning to paid employment	48.66	< .01
Engorgement/ mastitis	40.81	< .01
Inverted nipples	8.28	.01
Breast attachment problems	121.63	< .01
No support from partner	7.61	.02
Low confidence	25.40	< .01
Didn't like breastfeeding	9.29	< .01
Baby related reasons i.e. Behaviour	61.15	< .01
Mother related i.e. Not well	1.28	.52
Combination of reasons	3.97	.13
Had had enough of breastfeeding	11.76	< .05
Mother felt miserable/ depressed	11.97	< .01

In the Exit Questionnaire, women from the two weaning groups were asked how they felt about their experiences. Their responses were arranged into three categories which described their feelings about breastfeeding: Great, Mixed/

ambivalent and Hard. Timing of weaning was statistically significant for all three response categories:

Breastfeeding was great $X^2 146.80: p= < .01,$

Mixed/ ambivalent $X^2 60.30:p= < .01,$

Found it hard $X^2 140.21: p= < .01,$

Ninety-two percent of those women who had attended antenatal classes stated that they did not feel prepared for breastfeeding. Ninety-five percent of women stated that they would try to breastfeed their next baby. However, many added that they would not struggle so long next time; if they had problems again they would not hesitate in changing to infant formula. Women who weaned because of problems were not prepared to go through those difficulties again.

5.14 SUMMARY

The results identified during statistical analysis suggest that there are a number of possible influences on the timing of weaning. The range of women's experiences in the antenatal, intrapartal and postnatal period may determine the decision to wean in the first 13 weeks. Of particular interest is the influence of early introduction of bottle feeds, which appears to facilitate early weaning in both primiparous and multiparous mothers. A range of breastfeeding problems, including maternal fatigue, slow lactogenesis, nipple trauma and poor levels of

confidence in attaching the baby at the breast have all been shown to negatively influence weaning age.

The independent variables identified with early weaning highlight common areas of experience. What women know about breastfeeding, where they got their information and support; the type of birth; where the baby sleeps at night and the introduction of bottle feeds; breastfeeding problems; management of breastfeeding and levels of confidence are all implicated in early weaning. The next chapter will discuss these findings in further detail.

Chapter 6

DISCUSSION: WHY WOMEN WEAN EARLY.

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CHAPTER SIX

DISCUSSION

WHY SOME WOMEN WEAN EARLY AND OTHERS LATER.

6.0 STUDY HYPOTHESES

The findings of this study show that mothers wean their babies early for a range of reasons. Broadly, the study hypotheses were supported, with the multiple issues identified in previous research influencing the experiences and duration of breastfeeding. The proposed hypotheses addressed maternal confidence and knowledge; social and professional support; breastfeeding problems; intrapartum experiences; the impact of maternal/ infant separation and other feeds; maternal paid employment and professional management of breastfeeding as key areas of concern.

This chapter will discuss the findings by parity, describe the similarities and specifics of each group and discuss the results within the framework of published studies.

The first hypothesis predicted that the number and nature of breastfeeding problems experienced by participants would determine breastfeeding duration. The current cohort of early weaners experienced multiple breastfeeding problems that were found to be strongly correlated to the timing of the decision

to wean. In particular, maternal concerns about milk supply together with an infant who is described as fussy and unsettled – a commonly cited indicator of insufficient milk supply, were shown to be significant to premature weaning. This finding was consistent with a number of other studies (Avery, Duckett, Dodgson, Savik and Henley 1998; Ingram, Woolridge and Greenwood 2001; Binns et al. 2002) who found that perceived milk insufficiency was the most common reason for weaning.

The second hypothesis predicted that low levels of social and professional support would determine breastfeeding duration for breastfeeding mothers. Lack of support proved to be significant for primiparous women at Time Two in the final model (OR 2.17). However, a number of maternal issues were identified on univariate analysis by multiparous women as being significant to their decision to wean ($p < .01$). While a number of other studies have identified these issues, none reported them as being noteworthy.

The third hypothesis predicted that low levels of confidence with breastfeeding would determine reduced breastfeeding duration. Participants were asked to rate how confident they felt in attaching their baby to the breast. This issue was found to be highly significant ($p < .01$) for early weaning women at both Time One and Time Two at both levels of analyses. These findings were consistent with two studies in particular (Papinczak and Turner 2000; Ertum et al. 2001) who

reported maternal confidence as an important influence on overall breastfeeding durations.

The fourth hypothesis predicted that breastfeeding duration would be determined by the intrapartum experience. The intrapartum experience proved to be most significant for primiparous early weaning women. Those primiparous women who did not achieve a normal vaginal birth (OR.363) and those multiparous women who had received Pethidine in labour (OR .522) were more likely to wean early. It has been reported by a number of other studies (Chen, Nommsen-Rivers, Dewey and Lonnerdal 1998; Chapman and Perez-Escamilla 1999; Leung, Lam and Ho 2002) that medical interventions, including medications in labour can have a profound effect on the establishment of breastfeeding. These findings are supported by the current study results.

The fifth hypothesis predicts that health professionals' management of breastfeeding would determine breastfeeding duration. Conflicting advice and unhelpful health professional care were found to be significant for women on both parities (OR .407 for primipara and .916 for multipara). This finding was consistent with other studies (Rajan 1993) who reported that the quality and consistency of health professionals advice was particularly important to new mothers in the early weeks and months after birth. Women from the current

study reported becoming frustrated, distressed, confused and sometimes angry at the array of advice they received.

The sixth hypothesis predicted that low levels of knowledge about breastfeeding would determine breastfeeding duration. For primiparous women, not attending antenatal classes proved to be significant on analysis (OR 2.59) and multiparous women reported low levels of knowledge as being significant on analysis (OR .624). Having little knowledge about breastfeeding supports the findings of other studies (Avery et al. 1998; Cox et al. 1998; Alikasfoglou et al. 2001) who reported that increasing women's knowledge and understanding about breastfeeding increased their confidence to manage problems and improved outcomes.

The seventh hypothesis predicted that breastfeeding duration would be determined by the mother's expectation of returning to work in the first twelve months of her infant's life. This was particularly true for primiparous women who were working during the pregnancy (OR 2.72) and if they expected to return to paid employment within the first three months after birth (OR .282).

The study findings highlight the range of women's experiences of breastfeeding and how those experiences have the potential to negatively influence the duration of breastfeeding.

The current cohort was made up of 44% primiparous (N=296) and 56% multiparous (N=385) women who entered the study soon after the birth of their current baby. This study has shown that while there are influences that are distinct to each parity group, there are also a number of issues common to both groups.

6.1 KEY FINDINGS OF COMMON ISSUES

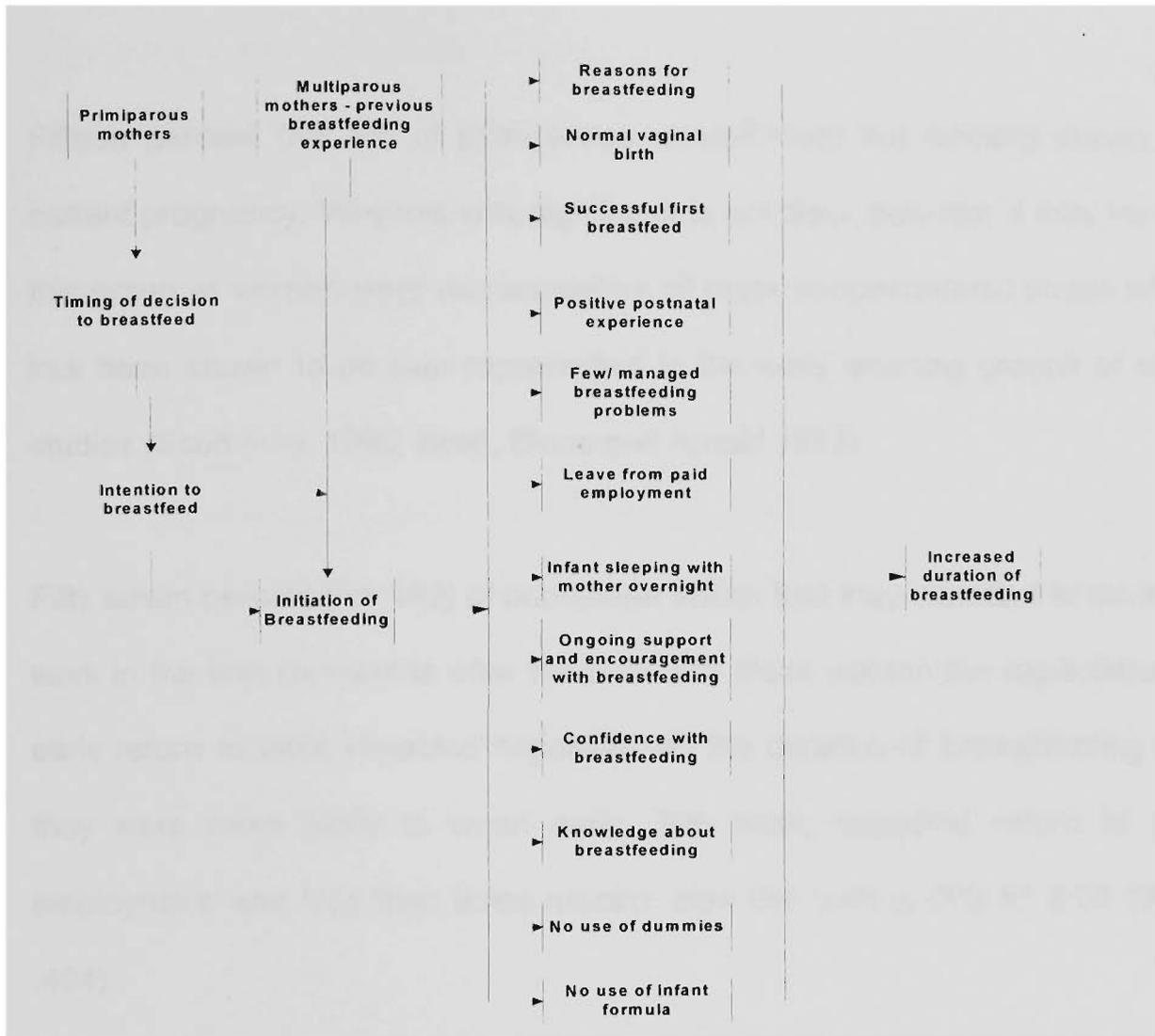
There were a number of issues favouring early weaning that were common to both multiparous and primiparous mothers. These included where the baby slept at night; the mother's level of confidence in attaching the baby at the breast; giving complementary/ supplementary feeds in the early days and weeks after birth and the range of breastfeeding problems experienced. All these aspects influenced the early cessation of breastfeeding.

While all women in this study initiated breastfeeding, 23% of multipara and 33% of primipara had weaned during the first three months after birth and 12% and 18% of these women (respectively) had weaned by 6 weeks. Women's intentions to breastfeed resulted in high initiation rates. This was consistent with the Theory of Reasoned Action. The high incidence of changes in feeding methods in the early postnatal period for both parity groups, with 52.4% (N= 43) of early weaning primiparous women and 52.4% of early weaning multiparous women changing from breastfeeding alone to either weaning totally or providing

mixed feeding by the first questionnaire. This is in direct contrast to women who weaned after the babies first birthday where only 5% (N= 2) of primiparous women and 3.4% (N= 3) of multiparous women who had provided mixed feeds. These findings are consistent with the Theory of Planned Behaviour which describe beliefs, knowledge and attitudes together with early experiences having the capacity to change planned outcomes.

Figure 6.1 depicts a graphic representation of the influences on women's decision-making by illustrating the range of issues that have been identified by the current study as having the potential to contribute to a longer duration of breastfeeding.

FIGURE 6.1 Key issues in decision making in a group of mothers living in Victoria (N= 681)



6.2 PRIMIPAROUS MOTHERS

Primiparous mothers were identified as experiencing specific issues that influenced both their experience of and confidence with breastfeeding.

6.2.0 Demographic/ background issues

Older parental age appeared to be significant to longer durations of breastfeeding, which was consistent with a number of other findings (Allen,

Ferris and Pekto 1986; Bar-Yam et al. 1997; Alikasfoglou et al. 2001; Binns et al. 2002).

Fifteen percent (N= 45) of primiparous women were not working during the current pregnancy. Why this was significant is not clear, however it may be that this group of women were representative of lower socioeconomic status which has been shown to be over represented in the early weaning groups of other studies (Scott et al. 1995; Scott, Binns and Arnold 1997).

Fifty seven percent (N= 169) of primiparae stated that they intended to return to work in the first six months after the birth. For these women the expectation of early return to work impacted negatively on the duration of breastfeeding and they were more likely to wean early. The mean expected return to paid employment was less than three months after the birth ($p.005$ X^2 8.86 SD of .484).

The mothers' exposure to breastfeeding, both from her friends and family breastfeeding their own children (OR .519) and whether the mother herself was breastfed (OR .519) was found to be significant to how long she breastfed her first infant. It is clear from a number of other studies (Allen et al. 1986; Cox and Turnbull 1994; Marchand and Morrow 1994; Avery et al. 1998) that when a new mother is attempting to establish breastfeeding, those around her have the potential to either support or sabotage her efforts.

6.2.1. Prenatal Issues

Even though 51% (N= 153) of primiparous women rated antenatal classes poorly regarding how much breastfeeding information they received, in terms of longer durations of breastfeeding, some education appears to be better than none at all, as those women who did not attend antenatal classes were more likely to wean in the first thirteen weeks (OR 2.59).

When they decided to breastfeed showed that those who made the decision during the pregnancy were more likely to continue past 13 weeks (OR 1.846). When asked why they decided to breastfeed, 50.6% (N= 150) of primiparous women stated that they believed breastfeeding was easier. These mothers were more likely to be breastfeeding past 13 weeks (OR 2.54) than those women who believed that breastfeeding was difficult.

Mothers who smoked cigarettes during the pregnancy were more likely to wean in the first 13 weeks than non-smokers. This finding was consistent with other studies (Jakobsen, Sodemann, Molbak and Aaby 1996; Mozingo, Davis, Droppleman and Merideth 2000).

6.2.2 Intrapartum and Early Postpartum Issues

The impact of the birth and early postnatal period on the successful establishment of breastfeeding is significant. Breastfeeding in the early postnatal days is often influenced by the use of medical interventions during labour, such as narcotic analgesia, which result in an exhausted mother and a sleepy baby that latches poorly to the breast. With poor attachment, the nipples are more likely to be damaged; there will be poor colostrum intake (and thus inadequate breast stimulation) resulting in subsequent infant hunger and a cycle of frustration for both mother and infant. The negative cycle begins. The early days after birth are marked by a poor understanding by many new parents of the needs of an infant to stay in close physical contact with its mother to allow frequent suckling at the breast. Instead, babies are placed in separate cots near the mother's bed or far away in the communal nursery. This separation occurs particularly overnight in the private hospital system, where new mothers will often insist that this happen or well-meaning midwives will take the baby away so the mother can sleep. The consequence of separating mothers and babies is that this important learning time between the mother and her infant is often lost. For this cohort, where the baby slept at night was significant at both Time One and Time Two for both primiparous and multiparous mothers. If the baby slept anywhere other than with the mother in her bed at night, the likelihood of early weaning was increased for primiparae (OR .324) and for multiparae, having the

baby with them in the maternal bed overnight increased the duration of breastfeeding (OR 9.11).

Forty four percent (N=128) of babies born to all primiparous mothers in this cohort were delivered instrumentally. This finding compares with the Victorian incidence for forceps birth for all mothers from 1996 – 1998 which was 48.3% (Riley et al. 1999). The impact of this type of birth on the initiation and duration of breastfeeding is not clear from the literature. The events that usually precede an instrumental birth may include a long difficult labour (mean length of labour for primiparous women in this study was 10.8 hours which is consistent with first labours lasting between 8 – 14 hours), malpresentation, ineffective pain relief leading to use of epidural anaesthesia and the need to hasten the birth for reasons related to the well being of the baby or mother.

Irrespective of why an instrumental birth was necessary, primiparous women in this cohort who did not achieve a normal vaginal birth more likely to wean in the first three months (OR .387). This finding was consistent with the results from Leung's study (Leung G.M 2002) which also found a clear association between mode of delivery and duration of breastfeeding.

The effects of narcotic medications during labour and early separation of the mother and infant after birth (even for a very short time) appear to have a significant impact on the early hours and days after birth, both in terms of the

mother's ability to breastfeed and bond with her baby and the baby's ability to breastfeed and bond with its mother. Early studies (Klaus et al. 1995) on maternal attachment showed higher levels of affectionate behaviour by mothers who experienced extended close physical contact with their infants from the earliest moments after the birth.

Breastfeeding was also shown to be more successful when mothers and infants were in close contact from birth (Klaus et al. 1995). Klaus and colleagues describe a 'sensitive period' in the first 60 - 90 minutes after birth, which is proposed as very important in the bonding process. This time of 'heightened awareness' in the infant during the hour following birth is vulnerable to external influences. The most obvious influence is pain relief medications given to the mother during labour (Ransjo-Arvidson, Matthiesen, Iilja, Nissen, Widstrom and Uvas-Moberg 2001)). Infants' innate breastfeeding behaviours are affected by maternal analgesic medications depending on the timing of administration and the type of drug. Narcotic based pain relief and sedatives given to the mother in labour compromise an infant's ability to engage in the initiation of bonding and lactation by reducing or "extinguishing normal patterns of behaviour" (Minchin 1991). Swedish researchers (Widstrom, Ransjo-Arvidson, Christensson, Matthiesen, Winberg and Uvnas-Moberg 1987) found that the un-medicated infant who is undisturbed after being placed on its mother's abdomen, will slowly crawl to her breast unaided and start to suckle within seventy minutes.

A study by Righard and Alade (Righard and Alade 1990; Righard L 1990; Righard 1995) found that almost all newborns who were not subjected to maternal medications or disturbed on their mother's abdomens after birth, crawled to the breast, found the nipple and sucked well. These findings highlight the importance of a drug free labour and birth and early, undisturbed contact between mother and infant in optimising the efficacy of the first breastfeed.

Over 66% (N= 53) of the current cohort of early weaning primiparous mothers described their first breastfeed with their newborn in either ambivalent or negative terms. These women described the first feed as "painful", "I don't remember it at all", "the baby wasn't interested" and "I just couldn't get the baby on". The infant was also more likely not to breastfeed in the first hour after birth. From these initial reactions, the likelihood of early weaning for these women increased (OR .458).

6.2.3 Postpartum issues

A number of early postnatal issues were identified by this study. Broadly, sources of information and available social support, offering feeds other than the breast, levels of maternal confidence about being able to attach the baby properly to the breast, where the baby slept at night and specific problems related to breastfeeding were implicated in early weaning.

The main sources of breastfeeding information identified by this group were midwives (74%), books and magazines (58%) and antenatal classes (47%). Over 65% (N= 193) did not see a lactation consultant even though over 45% (N= 134) described having nipple pain and trauma, more than 30% (N= 92) complained of breast pain, 22% (N= 67) stated their baby was fussy and unsettled and nearly 30% (N= 84) were having problems with attachment. This was so even though the majority of birthing centres had lactation consultants on staff. Why so many women who were having breastfeeding problems, did not see a lactation consultant is not clear. However, a number of participants stated that they were not aware that this type of support was available to them or it was suggested by staff immediately prior to discharge and therefore, they felt, too late to be of help.

Those women who weaned prematurely (< 13 weeks) described a number of later postnatal issues, which also influenced their decision making during the time frame between Time One and Time Two.

When supplementary or complementary feeds of infant formula were given by bottle in the early postnatal period (1st questionnaire), the incidence of early weaning rose (OR.375) for primiparae. Seventy three percent of primiparous women who weaned prematurely had given bottle feeds by Time One (N= 60) with a mean age of 19 days. Pacifier use in the early days and weeks after birth

was also identified as significant to early weaning (OR .492) which was consistent with other findings (Howard, Howard, Lanphear, deBliek, Eberly, Lawrence and Lawrence 1999; Kind C, Schubiger G, Schwarz U and Tonz O 2000; Kloblen-Tanver A.S 2001; Binns and Scott 2002).

6.2.4 Breastfeeding Problems

While a number of problems were identified on univariate analysis, the most significant findings on regression analysis were related to low milk supply and a fussy, unsettled baby (.444 Time One by 2.78 Time Two; .576 Time One .245 by Time Two).

Participants described a number of what they considered to be major issues up to Time Two that had contributed to their decision to wean. These included 'problems with breastfeeding' (OR .350), 'conflicting advice' (OR .791), maternal confidence (OR 1.240), knowledge about breastfeeding (OR 1.22) and lack of support (OR 2.17).

6.2.5 Sources of support for breastfeeding

In terms of social and health professional support at Time Two, 18% (N= 55) of women who sought support from the Nursing Mother's Association were nearly two times (OR 1.99) more likely to be breastfeeding beyond three months. This

was also true for maternal & child health nurse support (OR 1.38). Conversely, if they rated lack of support from any source as a major issue for them, they were two times (OR 2.1) more likely to wean early.

6.2.6 Maternal Confidence

Early weaning participants were asked to rate their level of confidence in attaching their baby to the breast. High reported levels of maternal confidence with breastfeeding were likely to increase the duration of breastfeeding at Time One by nearly one and a half times (OR 1.25). If this confidence persisted to Time Two, then the likelihood of longer duration was increased by over forty times (OR 42.93).

6.3 MULTIPAROUS MOTHERS

Multiparous women too had specific issues related to their experience of and confidence with breastfeeding.

6.3.0 Demographic and Background Issues

Parental age was once again found to influence weaning age. Younger mothers (aged 21-25 years) who were having a subsequent baby were more likely to wean early (OR .503) than older mothers (36 years +).

The age at weaning for their first baby was highly significant to early weaning for the current baby, thus if the first baby had been weaned in the first three months then the likelihood of weaning the current baby was over nine times.

Whether the mother herself was bottle-fed (OR .885) and deciding to breastfeed after the first baby (OR .238) also increased the risk of early weaning.

6.3.1 Prenatal issues

This appeared to be particularly true for women who weaned their first baby because of breastfeeding problems, such as perceived low milk supply and nipple pain/ trauma (84% N= 65). Over 90% (N=70) of early weaning women identified at least one breastfeeding problem for the current baby at Time One, which influenced their decision-making about when they would wean.

For multiparous women, reporting that their partner was fully supportive of breastfeeding increased the likelihood of a longer duration of breastfeeding by nearly four times (OR 3.61).

6.3.2 Intrapartum and Early Postpartum issues

Thirty one percent (N= 24) of early weaners had given their baby at least one bottle-feed by Time One and all (N= 77) were formula feeding by Time Two. If

the mother believed that breastfeeding was easier, then the likelihood of breastfeeding past 13 weeks increased by nearly two times (OR 1.81). If their decision to exclusively breastfeed changed to Time One, early weaning was a more likely outcome (OR .019).

The use of Pethidine in labour was found to negatively influence breastfeeding duration, with early weaning being more likely (OR .522).

Exclusive breastfeeding at Time One was highly correlated to longer durations of breastfeeding (OR 20.93). Not offering any bottles to Time One was found to increase the likelihood of breastfeeding past 13 weeks (OR 2.11).

The use of dummies/ pacifiers also appears to negatively influence breastfeeding duration for this cohort of multiparous mothers (OR .571). The use of dummies to calm an unsettled baby rather than offering a breastfeed can in itself interfere with the establishment of milk supply, particularly when introduced early and is used regularly.

6.3.3 Breastfeeding Problems

At Time One, there were a number of problems identified by multiparous mothers. On univariate analysis, these included feeling more tired than usual (62% N=45); breast pain (40% N=29); too much milk (11% N=8); milk not in yet (17% N=12) and attachment difficulties (36% N=26). Regression analysis

confirmed that maternal fatigue (OR .544) and too much milk (OR 4.54) continued to be identified as problems for these mothers. By Time Two, oversupply was found to increase the likelihood of early weaning (OR .301) together with mastitis (OR .466) breastfeeding problems overall (OR .624), conflicting advice (OR .624) and low levels of knowledge about breastfeeding (OR .916).

6.3.4 Sources of Support and Knowledge

Those women who rated 'other' (i.e. previous experiences) highly as their main source of breastfeeding information were more likely to still be breastfeeding at 13 weeks (OR 10.43). At Time Two however, those who rated 'other' (i.e. district nurse, themselves or books) highly as a source of support, were more likely to have weaned (OR .309)

6.3.5 Maternal Confidence with attachment and breastfeeding

As was observed with primiparous mothers, confidence with attachment and breastfeeding proved to be significant to longer durations of breastfeeding (OR 2.34 at Time One and 148.60 at Time Two).

6.4 WHERE DO THESE FINDINGS SIT IN TERMS OF OTHER RESEARCH?

The issues.

A range of studies (Vandiver 1997; Victora, Behague, Barros, Olinto and Weiderpass 1997; Walker 1997) have already identified some of the issues that were revealed by this study. Primarily, specific areas of concern were addressed in these studies but very few considered the broad range of women's experiences. These broader issues include attitudes towards breastfeeding and maternal confidence with breastfeeding (self efficacy), specific problems encountered, conflicting advice, pacifier use and social support issues.

6.4.1 Attitudes about breastfeeding

No studies were found which reported the specific belief that 'breastfeeding was difficult' as a significant influence on timing of weaning. However, a positive attitude to bottle-feeding was identified as a significant predictor to early weaners in a study by Avery and colleagues (Avery et al. 1998). The study found that women who had a positive attitude to breastfeeding were more likely to breastfeed longer. Fetherston, (Fetherston 1995) described multiparous participants who were willing "to give breastfeeding a go" following breastfeeding problems with the previous baby, weaned early again with the current baby when they encountered similar problems. This suggests a self-fulfilling prophecy at work where an expectation of breastfeeding being difficult the first time would

lead to it being difficult with the subsequent baby. Multiparous mothers in the current cohort were just as likely to wean the current baby as early or earlier than the first baby if they encountered problems with breastfeeding and early weaners did display a readiness to consider alternatives to breastfeeding if their experience with the first baby was negative. These findings were also consistent with a study by DaVanzo (DaVanzo, Starbird and Leibowitz 1990; DaVanzo J 1990) who found that those women who breastfed their first baby but perceived it to be unsuccessful or unsatisfactory, were less likely to breastfeed a later-born infant. These findings were also consistent with a study in 1999 (Amatayakul et al. 1999) researchers found that the breastfeeding duration of less than six weeks with the first child increased the likelihood of weaning subsequent babies during the first six weeks by more than five times.

6.4.2 Maternal confidence with breastfeeding

The current study identified a correlation between the level of maternal confidence in attaching the baby at the breast and duration of breastfeeding. The influence of confidence in overall breastfeeding has been examined in a number of published studies (Dennis 1999; Ertum et al. 2001). Papinczak, (Papinczak et al. 2000) found that higher levels of maternal confidence with breastfeeding were most significantly associated with longer breastfeeding duration. The Papinczak (2000) study findings also suggest that women who reported (in the early postnatal period) high levels of self confidence in “their

ability to breastfeed for a long time” were more likely to breastfeed for longer than six months (p29). Scott and colleagues (1997) also found significance in levels of maternal confidence in breastfeeding in the early postnatal period to be a significant predictor of longer durations of breastfeeding.

While the current study looks specifically at the mother’s level of confidence in attaching the baby at the breast, it is suggestive of her overall level of self-confidence with breastfeeding. The findings clearly show that the lower a mother’s confidence in attaching the baby to the breast during the early postpartum period, the more likely she will be to wean early. A study by Redman (Redman, Watkins, Evans and Lloyd 1995) found that 31% of women who had weaned early were unable to attach their baby correctly and gave this as one of their reasons for weaning. It seems reasonable to extrapolate from Redman’s findings that a mother who weans due to poor attachment will not be confident with breastfeeding, however these researchers did not identify confidence directly.

6.4.3 Reasons to breastfeed

This study identified a number of reasons why women chose to breastfeed. Most significant was the belief that breastfeeding was easier than bottle-feeding. This finding was consistent with Avery (Avery et al. 1998) who also found that the early weaners had a more positive attitude to bottle-feeding and a less positive

attitude to breastfeeding. No other studies were identified in the literature search that addressed reasons for breastfeeding as a possible influence on women's duration of breastfeeding.

6.5 Problems with breastfeeding

There were a significant number of studies identified in the literature search, which addressed breastfeeding problems. In particular, problems with perceived milk insufficiency; nipple pain/ trauma; delayed lactogenesis; mastitis; problems with attachment/ positioning and a fussy/ irritable baby were found to be significant to early weaning (Righard et al. 1990; Quinn et al. 1997; Papinczak et al. 2000; Scott, Landers, Hughes and Binns 2001).

6.5.1 Specific Problems with Breastfeeding

The influence of breastfeeding problems on the duration of breastfeeding was shown to be significant in the early weaning group. Over 90% of participants who weaned in the first 13 weeks experienced at least four distinct problems related to breastfeeding. These findings are consistent with a range of published studies (Cox et al. 1994; Chye, Zain, Lim, Med and Lim 1997; Avery et al. 1998) which identified 'perceived low milk supply' and 'breast and nipple pain' as the primary factors in the mothers' decision to wean early. The current study hypothesized that the number and nature of breastfeeding problems

encountered by women in the early postnatal period would influence the timing of weaning. The findings of this study and others support this contention.

It may be that as Sjolín (Sjolín, Hofvander and Hillervik 1977) suggest in their paper, that weaning is the result of a series of negative breastfeeding events. These emanate firstly from the decision to introduce infant formula as a supplement or complement, which in turn reduces the amount of suckling at the breast. This reduced suckling frequency in turn reduces the mother's milk supply finally leading to the decision to wean because of low supply. When a baby is affected by maternal labour medications at birth and is not able to initiate an effective first breastfeed, that early feeding is likely to be ineffectual and sporadic and the infant's inability to attach appropriately frequently results in nipple trauma. With both the baby and the mother more likely to be unhappy, unsettled and in discomfort, it increases the likelihood the infant will be given supplements in an attempt by the mother to regain a sense of control and normality.

Interestingly, multiparous women who believed that nothing could have been done to prevent their problems were also more likely to wean prematurely. No other studies have been found which report this finding. It may be that the mothers' previous experiences with attempting to overcome problems were unsuccessful and therefore they believed that when the same problems occurred again with the current baby, that nothing could be done to overcome

them. If they did not seek out support prior to attempting breastfeeding the current baby, and indeed repeated the same methods as with the first, then the likelihood of early weaning due to problems would be much greater.

Other studies have reported the increased likelihood of early weaning of a subsequent baby if previous breastfeeding experiences were negative and seen as unsuccessful by the mother. This study found that there was a significantly negative effect on breastfeeding duration for subsequent babies if the multiparous mother believed that breastfeeding is difficult and this was consistent with Janke and colleagues (1994) results.

6.5.2 Conflicting Advice

Over 45% of primiparous women who weaned early, identified conflicting advice as being a significant postnatal issue for them. With no prior experience of breastfeeding, primiparous mothers became confused and frustrated by information that was seen by them as contradictory. The vulnerability of new mothers to the lack of comparable advice can be considerable. This finding proved to be evident regardless of whether the mother gave birth in the private or public sector or whether the hospital was accredited as Baby Friendly (BFHI), which specifically aims to decrease the amount of contradictory advice that women are given about breastfeeding.

6.5.3 Pacifier Use

Early pacifier use was identified as being highly significant to early weaning for multiparous women in particular who were seventeen times more likely to cease breastfeeding than women whose babies did not use a pacifier (OR 17.3). Use of pacifiers by primiparous mothers in the early postpartum period was significant on univariate analysis ($p=0.0081$); however, this did not remain significant on multivariate analysis. This finding confirms a number of findings by other published studies (Howard et al. 1999); (Vogel, Hutchison and Mitchell 1999) which demonstrate a direct link between regular, daily pacifier use in the early postnatal period and a significant increase in reports of insufficient milk supply leading to early weaning.

6.5.4 Nipple Pain/ Trauma

In a study by Amir (Amir, Dennerstein, Garland, Fisher and Farish 1996), high levels of distress were described in women with nipple pain. These researchers found that the levels of emotional distress decreased once nipple pain was resolved. The current study identified nipple pain and trauma as being significant predictors of early weaning for primiparous mothers in particular (OR 28.5). Scott and colleagues (1995) suggest that 53% of women experience nipple pain/trauma during their hospital stay. The current study found that 48% of early

weaning primiparous women and 47% of multiparous mothers who weaned early reported nipple pain and trauma at Time One. While this type of pain and trauma is common, it is however, abnormal. It behooves health professionals who care for new mothers and babies to change their clinical practices, which contribute to poor breastfeeding outcomes.

6.5.5 Slow lactogenesis

Houston (Houston, Howie and McNeilly 1983) found that mean infant breastmilk intakes for day one were $7.4\text{g} \pm 3.5$ and $13.8 \pm 4.3\text{g}$ in the first 48 hours. This amount rose to $38 \pm 6\text{g}$ on day three with a further increase to $58 \pm 7.8\text{g}$ on the fourth day. The mean number of feeds in this study was 4.6 on day one to 6.8 on day 3. The current practice in many hospitals is to feed approximately 30mls/ feed on day one, 60mls/ feed on day two and 90mls/ feed on day three. It is unclear why these larger volumes are deemed necessary by paediatricians when this practice defies what is known about normal newborn needs and gastric capacity. It is also clear that large volumes can cause significant problems in the establishment of breastfeeding. The breastfed infant requires small, frequent, regular amounts of breastmilk until lactogenesis II begins. This process serves two main purposes. The first is the infant's way of stimulating maternal hormones to facilitate earlier lactation and the second is that frequent feeds ensure adequate neonatal hydration and nutrition and maintains appropriate maternal contact.

Lactogenesis II is commonly seen between Days two and five, with a mean onset by Day three (72 hours). This is evidenced by breast fullness, increased breast sensitivity and changes in the appearance of the colostrum to transitional milk and eventually to mature milk. The current study found that when milk was slow 'to come in' (after 72 hours) this often resulted in significant problems for the multiparous mother who was trying to establish breastfeeding (OR 11.6). Univariate analysis revealed that delayed lactogenesis was also a significant issue for primiparous women ($p=0.014$), however this was no longer significant on multivariate analysis.

The mean time to participant perceived onset of lactation in Chapman's (Chapman and Perez-Escamilla 1999) study was 66.9 hours postpartum; the range however, was from 1 to 148 hours. In a further paper on her research, Chapman (1999) found that for women who perceived the onset of their lactation at less than 72 hours and who planned to breastfeed for longer than six months, the duration of breastfeeding was significantly longer ($p < 0.0$) than in those mothers whose milk came in later.

6.5.6 Mastitis

Findings from the current cohort suggest that mastitis, in both primiparous and multiparous women in the early weaning group at Time One, was implicated in

women's decision to stop breastfeeding. Results from other studies are somewhat contradictory. Mastitis was found to be an indicator of ample milk supply (Vogel, Hutchison and Mitchell 1999) and therefore women were more likely to continue breastfeeding with only 2% of women reporting weaning because of this condition. In contrast, a study by Fetherston (Fetherston 1997) found that 18% of women reporting mastitis cited it as a reason for weaning early. It is difficult to determine the reasons for the contradictory nature of these two findings. It is apparent that while both studies require self-reporting of mastitis by the mother, the criteria for mastitis in the Fetherston study are somewhat more precise, listing required symptoms and duration. Anecdotally, experience has shown that the diagnosis of mastitis by general practitioners is not always accurate and therefore taking antibiotics may not be an accurate indicator of incidences of mastitis.

Most researchers have found that the primary reason for weaning is perceived insufficient milk supply. If however, Vogel's findings are to be accepted, it may be possible that for those women who experience mastitis once, with possible recurrences, that the evidence of ample milk supplies being the precursor of mastitis is sufficient evidence for them to know that they have more than enough milk for their baby. Therefore, with sufficient support, management and appropriate treatment they are likely to continue feeding for longer than average durations.

The latter supposition however, does not explain why women in the current cohort cited early mastitis as a reason for weaning. Twelve percent of primiparous women reported mastitis at Time One and 11.3% at Time Two; eleven percent of multiparous women reported mastitis at Time One and 18.6% at Time Two. The mastitis rate for primiparous women who weaned later than 13 weeks was 5.9% and for multiparous women was 9.3%. For those women who weaned later than twelve months the rate was 6.3%. This finding is in contrast to the Vogel (1999) results. Mastitis was found to be weakly significant for early weaning at Time One for primiparous women and multiparous women in this cohort. The implication of this finding may be consistent with the Vogel and colleagues (1999) suggestion that ample milk supply makes women more prone to mastitis if the breasts are not emptied sufficiently or if a breastfeed is missed for some reason. The early weeks are often marked by an abundant milk supply and for multiparous women; milk supply tends to be more plentiful with appropriate emptying (Ingram et al. 2001). Why the weaning rate for the women in this cohort who had had early mastitis is significant is unclear but may be that either mastitis was misdiagnosed or was the result of unrelieved early engorgement.

6.5.7 Lack of Social Support (primiparae)

First-time mothers from the current cohort described 'lack of support for breastfeeding' to be a major issue ($p= 0.07$; OR 2.17) by Time Two (14 weeks).

For these primiparous women, lack of support, problems with breastfeeding and conflicting advice were all found to be significant predictors of early weaning. Because this was a Likert type scale question, it was not possible to identify examples of the support which the mother felt was lacking. In retrospect, it would have been more useful to ask for specific reasons about their sources of support. However, it is reasonable to suggest that these particular mothers did not feel supported generally in their attempts to breastfeed. This lack of support may have emanated from health professionals (midwives, maternal & child health nurse's or medical practitioner's), from her partner, family and friends or from all these sources.

A number of studies (Bar-Yam et al. 1997; Humphreys, Thompson and Miner 1998; Anderson 1999; Hailes and Wellard 2000; Hawkins and Heard 2001) have addressed a range of support issues for breastfeeding women. In particular, fathers have been identified as potentially providing significant support in four key areas. These include: participating in the initial decision to breastfeed, supporting the initiation of breastfeeding after birth, how long a baby is breastfed for and finally, he is a major influence on the risk factors for bottle-feeding. Bar-Yam (1997) in her review of the literature, describes these four key areas of support as having the potential to determine the final experience of breastfeeding for his partner and infant. If the father is not supportive or is ambivalent about breastfeeding, the likelihood of choosing to bottle-feed is increased. Bar-Yam's review also identified ongoing support and

encouragement by fathers as being particularly influential on the duration of breastfeeding for women who fed for longer periods (i.e. >150 days).

A study by Humphreys (Humphreys et al. 1998) discussed the attitudes to and knowledge about breastfeeding of the mother's partner and her family. They found that if the mother had heard about breastfeeding from these sources of support then this was positively correlated to her intention to breastfeed. Interestingly, health professionals generally were not found to influence the mother's intentions, however lactation consultant support was found to be a significant factor.

In a number of focus groups conducted in South Australia (Hailes et al. 2000), women described support for breastfeeding in terms of places, people and timing. During the postnatal period, they reported that midwives were not able to provide appropriate support due to time constraints and lack of continuity of care providers. The participants also cited receiving contradictory advice from midwives as being very confusing, making the establishment breastfeeding more difficult.

6.5.8 Multiple breastfeeding problems

Other researchers (Vogel et al. 1999; Mozingo et al. 2000; Braund and Amir 2001; Ertum et al. 2001; Binns et al. 2002) have also identified the range and number of breastfeeding problems experienced by early weaning mothers in the

current cohort. In a study of 350 mothers in Auckland, New Zealand, the early cessation of breastfeeding was correlated with daily pacifier use, use of formula in the first postnatal month and the occurrence of mastitis. Participants in this study identified a range of problems including insufficient milk supply, nipple pain, breast and nipple thrush and mastitis as the reasons for weaning.

In a larger study (Binns et al. 2002) conducted in Perth of 556 mothers, it was found that “mothers were not prepared to experience any difficulties or problems with breastfeeding (p13).” The study identified insufficient milk supply, breastfeeding being too painful, low levels of confidence, incorrect positioning and attachment problems at the breast as being correlated to weaning time.

The current cohort of early weaners also described these issues as being significant in their decisions about early weaning. The current study found that if these issues were not resolved early, then mothers were more likely to view the whole experience of breastfeeding in a negative way. This was highly likely to influence subsequent infant feeding practices and experience both with the present infant and for subsequent children.

6.5.9 Supplementary/ Complementary Feeds

The findings of this study clearly show that offering other feeds during the early days and weeks after birth by the mother will have a negative impact on overall

breastfeeding duration for a significant number of women. Of the whole cohort, nearly half of the multiparous women and over half of the primiparous women had given other feeds by Time Two (14 weeks). Almost all of the early weaners had given other feeds since birth.

What is not entirely clear from the data is whether it was the act of giving other feeds or the reasons for giving it in the first place, which are implicated in the decision to wean early. Previously published studies (Lawson K 1995) have identified that 'perceived low milk supply' and 'problems with breastfeeding' are the two primary reasons for early weaning. These two factors were confirmed by this study.

6.5.10 Employment issues

A search of the literature failed to identify other studies that addressed the influence of work status during pregnancy on the duration of breastfeeding. The findings of significance for this issue in this study may be indicative of maternal social status and therefore be predictive of early weaning in those terms rather than being directly influential on duration.

Intentions and expectations of returning to paid work postnatally have been reported by a number of researchers (Galtry 1995; Galtry 1998; McIntyre 2000). Early return to work, particularly to full time hours was identified in the current

cohort of early weaners as being significant to the duration of breastfeeding and is consistent with other studies. Interestingly, one study, (Fein and Roe 1998) found that when mothers were working full time by month three, this was highly significant to early weaning whereas working part time hours was not. For the current cohort of primiparous women, returning in the first three months was significant, whereas for multiparous women returning to work was not found to be significant. These findings were consistent irrespective of the number of work hours engaged in.

In another study, (Gielen, Faden, O'Campo, Hendricks and Paige 1991) found no association between the mother planning to work in the first six months postnatally and the initiation of breastfeeding. These researchers did find that actually working in this time negatively influenced breastfeeding duration. The researchers went on to suggest, "Working less than 20 hours per week appeared to be protective for continued breastfeeding (p298)."

6.5.11 Birth type and the first breastfeed

The current study found that instrumental delivery for first-born infants was correlated with early weaning. It is common for instrumental deliveries to follow long and or difficult labours, particularly during the second stage. In terms of the early breastfeeds, which are often ineffective, what is not yet clear is what caused the problems. Was it the length or level of labour difficulties? Was it the

effects of medications in the epidural that crossed the placenta and slowed the labour, which almost always accompanies the forceps birth or was it something about the instrumental delivery itself that was implicated in the breastfeeding difficulties?

Chen (Chen et al. 1998) has discussed the relationship between stress during labour and delivery and the impact this has on the early lactation experience. In this study stress hormones (catecholamines i.e. norepinephrine in the fetus and epinephrine in the mother) were measured during parturition and lactation in an attempt to determine if high levels of stress influenced the experience and outcomes of early breastfeeding. Even though this was a fairly small study (N= 40), the findings clearly identified primiparity, longer duration of labour and type of delivery and elevated cord glucose and maternal exhaustion scores as risk factors for delayed lactogenesis.

In a very large study of 7825 women, Leung and colleagues (Leung et al. 2002) found that assisted deliveries (caesarean, forceps and vacuum extractions) were a significant risk factor against breastfeeding duration. These researchers proposed “the mechanisms whereby breastfeeding duration is curtailed may work through a delayed psychological reaction of the mother to an eventful delivery (p792).”

In a review of the literature on the use of medications in labour, Walker (Walker 1997) cites reports of significant neurobehavioral effects of these medications on the newborn and the mother-infant relationship. Thus, a newborn affected by maternal labour analgesia will not be able to actively seek out the breast, attach and suckle effectively leading to further problems in the establishment of lactation.

6.5.12 The first breastfeed

The current study identified primiparous mothers whose first breastfeed was experienced negatively (painful, ineffective) and therefore were at increased risk for early weaning. A review of the literature did not identify any other studies that reported this finding. However, a number did discuss the mother's enjoyment of breastfeeding in the early weeks after birth (Scott et al. 1997). In the study by Scott and colleagues only 56% of primiparous mothers stated that they enjoyed breastfeeding at two weeks postpartum in contrast to 82% of multiparous mothers. While this does not specifically address the first feed, it does indicate that a significant number of first time mothers do not describe their breastfeeding experience in positive terms.

6.5.13 The early postnatal days

A number of researchers and authors (Banapurmath and Selvamuthukumarasamy 1995; Chen et al. 1998; Neifert 1998; Chapman et al. 1999; Hailes et al. 2000) have described the significance of the early postnatal breastfeeding experience and its effect on ongoing lactation. The current study identified issues that were significant to a shortened duration of breastfeeding.

6.5.14 Where the baby sleeps at night

There is growing interest in the significance of keeping breastfeeding mothers and babies in close contact, particularly in the establishment phase of lactation, and its relationship to the prolonged duration of breastfeeding. Bed sharing has been investigated by several researchers including McKenna (McKenna 2001), who found that babies who routinely slept with their mothers breastfed longer with a two-fold increase in the number of breastfeeding episodes. McKenna's research showed that mother-infant pairs synchronized their sleeping patterns resulting in more efficient breastfeeding.

Those early weaning primiparous women, who were identified by the current study as not sleeping in the same bed with their baby overnight, may have experienced fewer episodes of nocturnal breastfeeding and thus their milk supply was reduced over time. Having to actually get up during the night to

breastfeed means that the mother is required to fully wake and continue to be awake until the baby is returned to its cot. It is reasonable to suggest that this practice, which may occur a number of times over night in the first few months, will contribute significantly to maternal fatigue.

6.5.15 Management of breastfeeding by health professionals

Participants from the current cohort were more likely to successfully establish and continue breastfeeding beyond three months if they considered the information they received and the management of breastfeeding in the postnatal stay was appropriate to their needs.

6.5.16 Inappropriate Health Professional Management of Breastfeeding

For the current cohort of multiparous women in particular, the issue of inappropriate management of and information about breastfeeding was significant to early weaning (OR 17.8). Primiparous participants described the negative impact of contradictory advice by health professionals on their breastfeeding experience in the early postnatal period (OR .791) this was also correlated for the multiparous group (.916).

The early postnatal period is recognised as a significant learning time for the new mother, father and baby. It has been shown in a number of studies

(Quarles, Williams, Hoyle, Brimeyer and Williams 1994; Lawrence 1995; Hailes et al. 2000; Henderson et al. 2000) that midwives have a considerable role to play in teaching and supporting new parents during this time. If, however, teaching is contradictory and confusing, then new mothers who are experiencing feeding problems are less likely to establish or continue breastfeeding for longer than six to twelve weeks.

6.5.17 Maternal age at Current Baby for Multiparous Women

The current research found that the women who were reporting in relation to the current baby, who had another child (or children) and who were aged 21 – 25 years at the time of recruitment, were more likely to wean the current baby in the first three months (OR .503). Why this was significant is not clear and a search of the literature failed to identify this finding in other studies, except from the perspective of younger mothers tending to wean earlier than older mothers, which has been widely acknowledged.

6.6 Prolonged breastfeeding nine months later. Reports from the Fourth Questionnaire (N=393)

Women who completed the 4th Questionnaire with a mean baby's age of 9.1 months, were asked to rate the impact of any breastfeeding problems they had experienced to date. The researcher was interested to know if women who were

still breastfeeding at this time had experienced problems, if they did how did they rate them and if they rated them as a major issue, how did they manage or overcome them. The only significant reasons identified ($< .05$) were the mothers own self confidence, emotional support from the family and spending time in a day stay clinic (Table 6.1)

Table 6.1 How mothers managed any problems

Coping method	<i>n</i>	X^2	<i>p</i>
<i>My own confidence</i>	88	15.07	.05
<i>Past breastfeeding experience</i>	71	8.75	.36
<i>Physical support from family</i>	59	2.41	.96
<i>Emotional Support from family</i>	70	15.56	.04
<i>This baby wasn't too demanding</i>	59	9.27	.31
<i>My own determination</i>	112	5.54	.69
<i>Sought help from health professional</i>	62	11.06	.19
<i>Sought help from NMAA</i>	27	10.84	.21
<i>Just kept trying</i>	101	10.79	.21
<i>What I learned in antenatal classes</i>	5	6.32	.61
<i>Went to day stay clinic</i>	15	16.09	.04
<i>Am still coping with problems</i>	34	8.28	.46

Women from this group were also asked what advice they would give to pregnant women or new mothers about breastfeeding. This was an open-ended question, to allow women to answer more fully than they would have been able to with a closed question. The answers were then categorized according to themes by the researcher for ease of data entry in the statistical package. The themes and responses rates included:

- | | |
|--|-------|
| 1. Ignore negative and conflicting advice | 11% |
| 2. Get plenty of information about breastfeeding | 23.5% |
| 3. Get help early if you are having problems | 19% |
| 4. Persevere, it gets better | 64.5% |
| 5. Go with the flow – relax | 19% |
| 6. Do your best, if it doesn't work it's OK | 12% |

Clearly, the leading theme was promoting perseverance. For women who were still breastfeeding at nine months postpartum, how they themselves approached and viewed their experience was illustrated in their advice to others.

Pamela, a second time mother said, *"It is good in the long term – not as much work eg. Washing bottles- more convenient and cheaper than bottle-feeding. As long as you aren't discouraged with initial problems – which mothers will have. Don't expect too much too soon – try different suggestions people give you, but don't worry if they don't work. Ignore that piece of advice and try something else.*

Most of the time its lovely to feed – special time with child – but don't be upset if you don't feel that happy about it at times.”

Beverley, a primiparous mother said *“Persist – its hard at first and very easy to give up!”*

Robyn, also a primiparous mum said, *“Stay relaxed, don't listen to everybody else, just trust your own feelings. Feed in a quiet environment, take your time.”*

6.7 SUMMARY

This study identified a range of influences on women's overall experience and duration of breastfeeding. Many of the results were consistent with other studies; some had not been identified in the literature search. What is clear from the findings is the significant range of influences on women's experience of breastfeeding. The challenge for health professionals, communities, employers and government policy makers is to recognise that each has a role in improving outcomes and developing ways to achieve the Australian breastfeeding targets of 80% of babies still receiving breastmilk at three months and 50% at six months, which were set some years ago and have still not been achieved in 2002.

Chapter 7

FROM PRIMIPAROUS TO MULTIPAROUS: HAVING A SECOND BABY

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CHAPTER SEVEN

FROM PRIMIPAROUS TO MULTIPAROUS

Are there differences between women's experiences of breastfeeding their first baby compared to their second baby? (Findings from the final questionnaire)

7.0 INTRODUCTION

The current study originally analysed the experiences of both primiparous and multiparous women (296 and 385 respectively) for the first two time frames (up to three months). The multiparous women had given birth to their second (or more) child during the initial study period (62% - 2nd baby; 26% - 3rd; 8% - 4th; 4% - $\geq 5^{\text{th}}$ baby). The researcher was interested to explore the experiences of mothers who were having their second baby to determine if the presence of a previous baby from the initial cohort influenced the results. As has been previously shown, the experiences of breastfeeding the first baby is highly correlated with how subsequent babies were fed, which was consistent with other published studies. This is particularly true also for how long a baby is breastfed.

The second phase of the study identified a group of primiparous women (n=90) who had given birth to second babies since being initially enrolled to participate in the original study. It should be noted that the size of this cohort proved to be problematic in terms of analysis and consequently, the findings presented here

are descriptive. The median age of babies was three months at the time of maternal re-recruitment.

7.1 SECOND BABIES: The Cohort

At the original recruitment, forty eight percent of mothers in this group were aged between 26 and 30 years, with 36% of fathers being slightly older, 31 – 35 years – these participants were not asked again what their age was at the seventh questionnaire (however, there was up to a 3 year time lag between first recruitment and second). Fifty-five percent of mothers in this group were College or University educated and 36% had been professionally employed on initial recruitment.

Twenty-five of the original 35 shires were represented in the second phase group. The household income was calculated using figures from the 1996 ABS Census figures, which show that the current cohort is largely representative of lower mid range incomes with wide variation in both minimum and maximum incomes (low and high socioeconomic status). The median income was \$314 per week with a range of \$247 - \$536 per week. There were no differences in income range and median income for these regions.

7.2 THE EARLY WEANERS (N=24)

Of the 24 (out of 90 infants) that were weaned early, fifty percent (N= 45) gave birth in a public hospital, 45% (N=41) in the private system and 4% (N= 4) gave birth at home. Seventy five percent (N= 68) had a normal vaginal birth, 4% (N= 4) had a forceps birth, 12% (N= 11) by elective caesarean section and 8% (N= 7) an emergency caesarean section. There were no ventouse extractions for this group. Twenty five percent (N= 23) of participants received intramuscular injections of narcotics during the labour, 30% (N= 27) had nitrous oxide and 25% (23) had an epidural or spinal anaesthetic.

7.3 THE EARLY WEANERS EXPERIENCES OF BREASTFEEDING THE FIRST BABY

The mean weaning age for the second baby was seven weeks of age compared to six weeks for first babies. Sixty two percent (N= 56) of the early weaning group described moderate to severe problems breastfeeding their first baby. Only 16% (N= 14) stated that they had not experienced any problems with the first baby – 26% (N= 23) from the second baby group stated they had had no problems.

Table 7.1 Comparison of percentages of problems experienced by early weaners for both first and second babies on Crosstabulation

Description N=90	% for 1st baby	% for 2nd baby	% change	<i>P value</i>	<i>Chi sq</i>
No problems	16	26	=10	.005	7.68
More tired than usual	57	29	-28	.016	5.70
Breast pain	35	18	-17	.007	7.06
Nipple pain/ trauma	48	20	-28	.039	4.25
Baby was fussy	19	13	-6	.042	4.09
Too much milk	22	14	-8	.025	5.00
Milk not in yet / not enough	4	14	+10	.007	7.08
Attachment problems	34	13	-21	.210	1.56
Mastitis	9	18	+9	.638	.220

These figures show that the mothers of second babies described the same problems as they had with the first, however they were identified substantially less often except for an increase in low milk supply and mastitis. Even so, early weaning occurred at almost the same rate as was seen with the first baby (26% (N= 23) weaned in the first 13 weeks for the first baby and 23% (N= 21) weaned in the first 10 weeks with the second) This appeared to be highly significant on t-test for dependent samples with a $p < .001$. Multiple regression analysis showed that age of weaning for the first baby is a strong predictor of breastfeeding duration for the second baby ($t_{3.13}; p=0.002$) These findings were consistent with the first phase results and with other published studies (Victoria, Huttly,

Barros and Vaughan 1992; Victora C.G 1992; Scott et al. 1997; Scott J.A 1997; Amatayakul et al. 1999; Ingram et al. 2001; Ingram J 2001).

7.4 WAS IT EASIER TO BREASTFEED THE SECOND TIME AROUND?

The majority of mothers in the second phase of the study described their experiences with feeding the current baby as, just as they expected it would be (42% N= 38) or easier (33% N= 30) with only 8% (N= 7) stating that it was harder. Seventy five percent (N= 67) stated that it was easier to feed their second baby than their first. From this report it would be would expected to see significantly longer durations of exclusive breastfeeding and increased total durations. This did not prove to be the case for the current group.

7.5 OTHER FEEDS

Seventy four percent (N= 67) of mothers in the second baby group had given bottle feeds at the time of the 7th questionnaire and 25% (N= 23) had changed their feeding method in some way in the first three months. These changes included the introduction of infant formula and in some cases solids. Interestingly, 76% (N= 68) of the group stated that they were feeding as they had planned to feed ($t5.42; p < .001$).

7.6 AGE AT WEANING

Previous research has shown that the experience of breastfeeding a first baby is highly significant and determines how subsequent babies are fed. This finding was confirmed in the current findings with a $X^2 55.41; p < .001$. For a significant proportion of mothers (53% N= 48), there was an obvious shorter duration of breastfeeding (N=24) compared to the first baby. As can be seen in Table 7.2, only 18% (N=16) of second babies were breastfed for longer than their older sibling. The reasons for this are not entirely clear, however, it may be that the multiparous woman who has breastfed before, may believe that she will be able to do so again and will be treated by staff as 'knowing how to breastfeed' and therefore will not be seen as requiring the same level of support as she might have received as a primiparous mother. Only one out of the five women who fed for the same amount of time fed for one year, the other four weaned the first in the first week and did the same with the second.

Table 7.2 Comparison of weaning age in weeks of first and second babies (N=45)

Weaning age of first baby in weeks	Weaning age of second baby in weeks	Change +/- in weeks	Weaning age of first baby	Weaning age of second baby in weeks	Change +/- in weeks
24	6	-18	33	36	+3
9	3	-6	35	28	-7
56	40	-16	39	7	-32
21	16	-5	6	10	+4
23	24	+1	14	52	+38
45	32	-13	26	28	+2
10	1	-9	5	20	+15
39	36	-3	48	52	+4
39	44	+5	4	1	-3
45	52	+7	1	1	Same
4	8	+4	26	28	+2
1	1	Same	47	44	-3
35	40	+5	26	4	-22
52	40	-12	43	10	-33
13	44	+31	9	2	-7
39	52	+13	1	3	+2
52	52	Same	30	4	-26
13	1	-12	1	1	Same
11	40	+29	1	1	Same
9	2	-7	6	1	-5
45	16	-29	32	28	-4
3	1	-2	2	1	-1
8	1	-7			
	Total means in weeks		22.9	20.2	

Forty-five women were still breastfeeding at the time of the seventh questionnaire. The median age of babies at this time was 4 months with a range of one to twenty one months.

7.7 POSTNATAL EXPERIENCES

Participants were asked to describe for each baby their perceptions of their experiences during the early weeks after birth. They were asked specifically about what they considered to be the least helpful and the most helpful experiences. Open-ended questions were chosen to allow women to describe experiences more fully; their responses were then coded in broader categories by the researcher according to themes that emerged during data management to facilitate analysis.

The four categories chosen for 'least helpful experiences' included: poor information; poor management; pain and problems with breastfeeding and not getting enough rest. For this group of women, some findings were noticeably less for the second baby. However, reports of negative experiences were still identified in a significant number of women. Thirty percent (N= 27) of women having their first baby and 21% (N= 19) of women having their second baby reported poor information. Poor management was seen as least helpful by 34% (N= 31) of primiparous women and 17% (N= 11) with their second baby. Interestingly, only 9% (N= 8) of first time mothers and 12% (N= 11) of second time mothers reported pain/ problems as being significant to them. This is in contrast to their earlier reports of having experienced a number of problems. Finally, and not surprisingly, 13% (N= 12) of primiparous women and 21% (N= 19) of multiparous women cited not getting enough rest as being least helpful.

Most helpful experiences were categorised as: accurate information; appropriate management; acceptance of maternal role; general support and past experience with first their baby (the comparison for this last category was made with women who had previous children). The first two categories saw increases in reporting, with 25% ((N= 22) of second time mothers citing accurate information compared to 10% (N= 9) with their first and 21% (N= 19) stating that their management was appropriate compared to 13% (N= 12) for their first baby. Acceptance of the maternal role was described by a small number of women, increasing from 1.2% for first babies to 4.1% for their second. One area of concern was the reported subsequent change in general support, which was reported as most helpful by 39% of women with their first baby and by only 21% with their second. Thirty seven percent of second time mothers described their experiences with the first baby as being most helpful with their second.

7.8 EXTERNAL SOURCES OF SUPPORT

Only 24% (N= 21) of this group had had contact with the Nursing Mothers' Association (now called the Australian Breastfeeding Association) during the first pregnancy. Forty six percent (N= 41) had had contact by the final questionnaire. However, only 41% (N= 37) of these women described the contact as helpful.

For those women who described their breastfeeding problems with the first baby as being moderate to severe, very few sought help or advice during the most recent pregnancy and only a small percentage sought help in the early postnatal

period. A lactation consultant was seen in 7% (N= 6) of cases and the Maternal & Child Health nurse was consulted by 6% (N= 5) of participants. No other studies reviewed reported this finding.

7.9 TIMING OF DISCHARGE

Timing of discharge once again varied, with 57% (N= 51) going home after day five with the first baby and 58% (N= 52) going home prior to day five with their second baby. Thirty percent of early weaning mothers did not feel ready to go home when they were actually discharged. Day of discharge in itself does not appear to be an issue for this group; rather their sense of readiness to go was seen as the issue. This finding is consistent with Brown's (Brown, Lumley and Small 1995) study which reported that women were significantly more likely to be dissatisfied with the length of stay when they were discharged because of hospital policy rather than because they felt ready to leave and return home.

7.10 RETURNING TO PAID WORK

The current group of early weaning mothers were once again asked about their expectations of returning to paid work. Thirty percent (N= 27) either expected to return in the next three months or had already returned. This proved to be a lower number than following their first baby, where 47% (N= 42) had either returned or expected to return in the same time frame. This result was not

unexpected, as other studies (Hills-Bonczyk, Avery, Savik, Potter and Duckett 1994; Fein et al. 1998; Galtry 1998, 1998) have shown that women having subsequent babies tend to stay at home longer than they did following the first baby. The majority of women at both time frames however, were either back at work or expected to be by the time the second baby was 12 months of age. Very few women (16%) intended to continue breastfeeding once back at work. Ninety percent of those expecting to go back to paid employment expected to return on a part time basis (< 35 hours per week).

7.11 SUMMARY

The final phase of the study proved to be problematic in terms of achieving statistical significance due to the small numbers available for recruitment. However, these women's breastfeeding experiences and weaning durations proved to be highly variable and often showed worse outcomes in terms of reduced breastfeeding duration than they did with their first baby, which was consistent with the findings of other studies.

Chapter 8

WEANING EARLY, WEANING LATE. A COMPARATIVE LOOK AT THE TWO GROUPS

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CHAPTER EIGHT

WEANING EARLY, WEANING LATE. A COMPARATIVE LOOK AT THE TWO GROUPS

8.0 INTRODUCTION

The current study gathered data from seven time frames: early postnatal (mean age of 19 days) and at 3,6,9 and at 12 months in the first postnatal year; an exit questionnaire at any time for those who weaned and finally, the seventh questionnaire (Appendix 9) for those primiparous mothers who had had a second baby. Statistical analyses were performed on the initial data set for times one and two, gathered when infants had a mean age of 19 days and 13 weeks respectively. This group of early weaning women was of particular interest to the researcher. However, the second baby and the potential differences between early (< 3 months) and late weaning (>53 weeks) mothers were also of interest. This chapter will describe and discuss the differences between these two groups.

8.1 Demographics

Cross-tabulation analysis was performed to determine whether there were any statistically significant differences between the findings from the two groups. The early weaning group (grouping one weaned <13 weeks; grouping two weaned >52 weeks) was more likely to be primiparous (52% vs. 31%; $p = .001$, $X^2 12.44$); the mothers were largely aged between 26 –31 years and fathers between 31 –

35 years (late group: 31 – 35 year old mothers, >36 year old fathers); and had a greater likelihood of twins (5 sets in this early weaning cohort) than among later weaners (all singletons). The mother's highest level of education was less likely to be described as College/ University (38% vs. 59%), and they were less likely to work in a professional or managerial role (32% vs. 43%). While 63% of early weaners expected to return to paid employment, this was in contrast to the later group (47%) who stated that they intended to return. Forty six percent of early weaning mothers were breastfed by their own mother compared to the later group of which 55% reported being breastfed. Thus, the women's personal history of being breastfed appeared to play a determining role for this cohort.

Fathers in the early weaning group were less likely to be professionally employed or in a management position (18% vs. 50%) which however did not reach statistical significance ($p > 0.05$). The majority of fathers in both groups were described as supportive of breastfeeding (95.5% vs. 97%). Late weaning women rated their partners support as high at Time One more often than their early weaning counterparts, however this was not statistically significant ($p = .75$).

8.2 WHEN AND WHY MOTHERS DECIDED TO BREASTFEED

The majority of women had decided that they wanted to breastfeed prior to their first baby, with 59% of early weaners and 74% of late weaners deciding how they would like to feed their baby ($p = .003$, $X^2 11.85$).

The early weaning group was a little less likely to believe that breastfeeding was best for the baby (96% vs. 99% - *n.s.*); or to describe breastfeeding as costing nothing (42% vs. 48% - $p < .001$ X^2 33.31); and significantly less likely to believe that breastfeeding was easier (33% vs. 63%, *ns*); was better for bonding (2% vs. 9% - $p = .045$, X^2 6.19) and is better for the mother's health and well being (2% vs. 13% - $p = .003$ X^2 11.55).

8.2.1 The pregnancy

A significant number of women in both groups took vitamins and minerals during the pregnancy (early weaning group 49.6% vs. 56% late group); over the counter and prescribed medications were taken in similar numbers by both groups (15%, 22% vs. 13%, 23%). Social drugs and alcohol usage was reported by 1.2% vs. 1.5%. Of interest was the finding for rates of maternal smoking where 15% of early weaning women and 6.3% of the later group ($p = .05$ X^2 5.89) reported smoking, which is consistent with other studies findings.

8.2.2 The birth and intrapartum period

The majority of both groups gave birth in a public hospital (66% vs. 55%), with a further 29.5% vs. 25% birthing in a private hospital. Birth centre choice was low in both groups with 4.4% of early weaning women and 7% of mothers choosing this option. Of note is the small number of women who gave birth at home, with

none from the early group and 12% (N= 15) from the late group reporting this birthplace.

Seventy four percent (N= 93) of the late group had a normal vaginal birth compared to 65% (N= 103) of the early group. Early weaning mothers were more likely to have given birth via an instrumental delivery such as forceps (12% early weaners, N= 19 vs. 8% late weaners, N= 10); elective cesarean (13.4% early weaners, N= 17 vs. 11% late weaners, N= 15); emergency cesarean (10% early weaners, N= 16 vs. 5% late weaners, N= 7) and vacuum extraction (2.5% early weaners, N= 4 vs. 0.79% late weaners, N= 1).

The late weaning group was more likely to have taken up a more active birthing position such as standing, squatting or kneeling on all fours (early weaners, 12% N= 20 vs. 25% late weaning group, N= 32) and use alternative methods of pain relief (early weaners, 33% N= 53 vs. 48% late weaners, N= 60) such as the bath or shower, massage and movement such as rocking. Eighty two percent (N= 131) of early weaning mothers had used medications such as gas and narcotics in labour compared to 69% (N= 88) of later weaning mothers. Intramuscular injections of narcotics were more likely to be used by the early weaning group (39.6%, N= 63) compared to the late group (24% N= 30). The use of nitrous oxide gas was similar for both groups (42.7% early weaners, N= 68 vs. 46% late weaners N= 58). The early group was more likely to have had an epidural or

spinal anaesthesia (33.3% early weaners, N= 53 vs. the late group at 20% N= 26).

Both groups had similar rates of complications in labour with 50% (N= 80) in the early weaning women and 54% (N= 68) in the late group. Complications were graded as mild (ie. episiotomy), moderate (delay in second stage, fetal distress) and severe (postpartum haemorrhage, severe preeclampsia). The rates for complications were: mild 20% (late weaners, N= 25) vs. 17% (early weaners, N= 27); moderate 29% (late weaners, N= 37) vs. 31% (early weaners, N= 49) and 7% (late weaners N= 9) vs. 8% (early weaners, N= 13) See Table 8.1.

Table 8.1 The birth and intrapartum period. Cross tabulation results

	<i>Early weaners %</i>	<i>Late weaners %</i>	<i>X²</i>	<i>P</i>
<i>Intrapartum experiences</i>				
<i>Birth place</i>				
<i>Public</i>	66	55		NS
<i>Private</i>	29	25	6.98	.030
<i>Birth Centre</i>	4	4	30.84	<.001
<i>Home</i>	-	12		NS
<i>Birth type</i>				
<i>Normal vaginal</i>	74	64	5.99	.050
<i>Forceps</i>	12	8		NS
<i>Elective cesarean</i>	10	11		NS
<i>Emergency cesarean</i>	10	5		NS
<i>Vacuum extraction</i>	2	.79		NS
<i>Position for birth</i>				
<i>Squatting</i>			7.34	NS
<i>Pain relief methods</i>				
<i>Alternative</i>	33	48	6.25	.043
<i>Narcotics</i>	40	24	8.27	.015
<i>Nitrous oxide</i>	42	46		NS
<i>Epidural/ spinal</i>	33	20	10.05	.006
<i>Intrapartum complications</i>				
<i>Mild</i>	20	17		NS
<i>Moderate</i>	31	29		NS
<i>Severe</i>	8	7		NS
<i>The first breastfeed</i>				
<i>Felt positive</i>	65	45	28.27	<.001
<i>Planned to feed</i>				
<i>Feeding how planned</i>	56	98	146.67	<.001
<i>Feeding method</i>				
<i>Fully breastfeeding</i>	23	96	158.75	<.001
<i>Both bottle and breast</i>	48	3	45.11	<.001
<i>Bottle</i>	28	0	109.04	<.001
<i>When changed feeding method</i>				
<i>Regardless of when changed</i>			150.11	<.001

Fewer mothers in the early weaning group reported the first breastfeed in positive terms (46% N= 73 vs. 65% later weaners, N= 82). Fifty six percent (N= 89) of the early weaning group were feeding as they had planned to at the time of the first questionnaire (vs. 98% N= 124 of the late group). Forty two percent (N= 67) of early weaners were fully breastfeeding and 23% (N= 36) were combination feeding at Time One compared to 96% (N= 121) exclusively breastfeeding and 3% (n= 5) combination feeding in the late group. Early weaning women were more likely to be feeding by bottle than the later group where no one had offered a bottle at the time of enquiry, which was on average 19 days after birth. Offering any bottles in the early postnatal period was found to be a significant predictor of the duration of breastfeeding. Regardless of when the mothers' planned method of feeding changed at all, the fact that they changed was significant to early weaning.

8.2.3 Time One: The postnatal period

The majority of babies had been well up to the time of the first questionnaire, which was completed in the first 19 days (mean time) after birth. Of interest is the reported rate of formula use for the early weaning group, with 55.5% (N= 88) ($p = .001$, $X^2 107.25$) reporting the baby having some formula by bottle in this early postnatal period. This is in direct contrast to the late group where only 8% reported using any infant formula. A further 20% (N= 32) of the early group gave the baby boiled water compared to 10% of the late group and 37% (N= 59) of

the early group compared to 13% of the late group giving expressed breastmilk by bottle ($p < .001$, $X^2 20.77$).

Women were asked about specific problems with breastfeeding at this time. Three findings were found to be significant on analysis. If women stated that they had too much milk, ($p = .015$, $X^2 8.32$); if they described their milk not being in yet or being concerned about low supply issues ($p < .001$, $X^2 8.32$) and if they described attachment problems ($p < .001$, $X^2 21.56$).

The early weaning group was more likely to either have the baby in another room overnight (27.6% early weaners, $N = 44$ vs. 20% late weaners, $N = 26$) or more likely to have the baby in a cot by their own bed (64% early weaners, $N = 102$ vs. 48% late weaners, $N = 61$, $p = .027$, $X^2 7.17$). The late weaning group was more likely to have the baby in the family bed overnight (14% late weaners, $N = 18$, vs. 1% $N = 2$ $p = .001$, $X^2 21.27$) or a combination of the same parental bed and by the bedside (17% late weaners, $N = 21$ vs. 5.6% $N = 9$ $p < .001$ $X^2 17.04$). Pacifier use was also higher in the early weaning group, with 69% ($N = 110$) of babies using a pacifier vs. 37% in the late weaning group ($p < .001$ $X^2 28.99$).

8.2.4 Sources of information about breastfeeding

Participants were asked about their sources of information about breastfeeding and were asked to rate the information sources. A rating of three or four was considered high. Table 8.2 shows the differences between the two groups.

Table 8.2 Sources of information about breastfeeding

Source of information	Early weaning group %	Late weaning group %	χ^2	p
Antenatal classes	46	21	18.61	.017
Books/ magazines	51	48	14.88	.061
Family	27.5	13	15.42	.051
Friends	30	21	5.30	.724
Doctor	12	9	4.52	.806
Midwives	61	69	8.56	.380
NMAA	17	28	13.30	.101
Lactation Consultant	26	20	14.70	.065
Other	3	13	15.77	.045

Sources of information were rated differently for both groups. In particular, the early women rated antenatal classes, books and magazines, family, friends, midwives and lactation consultants highly. For later weaning women, the source distribution was more evenly spread. For both these groups, midwives were reported as the main source of information about breastfeeding, with books and magazines providing information for about half. This suggests that what

mothers see and read together with health professional management has the potential to influence outcomes if presented appropriately. Of these sources, only three reached conventional levels of significance. These were antenatal education, family and other sources such as previous experience.

The early weaning group was twice as likely to state that their family was a source of information, however this source accounted for only 27% of early weaners. It is possible that family was not an effective source for appropriate breastfeeding information for these women if the information was inaccurate or not appropriate for the mother's needs. Late weaning women were more likely to have had contact with NMAA ($p=0.05$, X^2 5.98).

8.2.5 Maternal confidence with attachment at the breast

At Time One, women were asked to rate how confident they felt with positioning and attaching the baby at the breast. The early weaning group rated significantly lower (44%, $N= 70$) in their self-reported confidence level of two or lower than the late weaning group (14%, $N= 18$ $p < .001$ X^2 84.93).

8.2.6 Early breastfeeding problems

Table 8.2 describes the differing rates of problems experienced by the two groups at Time One. Overall, the early weaning group reported more problems, such as being more tired than usual and nipple pain and trauma, however the

late weaning group reported 'too much milk' as a problem more often. Oversupply is recognised as a precursor for engorgement, poor breast emptying and possible mastitis. The late weaning group appear to have managed this issue more effectively than the early weaning group, which was illustrated by the lower incidence of reported mastitis in that group (6% vs. 12%).

Table 8.3 Rates of breastfeeding problems for both groups

Description	Early weaning group %	Late weaning group %	X^2	p
No problems	11	16	1.99	.373
More tired than usual	60	48	4.22	.121
Breast pain	36	27	4.60	.100
Nipple pain/ trauma	48	38	4.19	.122
Baby was fussy	31	17	8.01	.018
Too much milk	14	32	17.71	<. 001
Milk not in yet / not enough	15	6	11.85	.002
Attachment problems	35	18	16.77	<. 001
Mastitis	12	6	2.76	.250

8.2.7 Most helpful experiences

Participants described appropriate management of breastfeeding ($p = .006 X^2 10.07$) and their acceptance of the maternal role ($p = .008 X^2 9.64$) as the most helpful experiences for them in the postnatal period.

8.2.8 Final comments at Time One

Eighty-nine women described the impact of having the current baby on their life in the final comments section. The experiences described by these mothers proved to be a significant determinant to duration of breastfeeding ($p.032 X^2 6.89$). Several women commented:

"I believe the midwives tried very hard to work out my problems with breastfeeding, but I was very upset to know that the hospital had a Lactation Consultant that came to the hospital once a week and that they didn't inform me, or her of me and my problems, until after I had left the hospital. And then I was told she was going away for two weeks and I had one hour to phone her back if I wanted to talk to her with a house full of visitors and a new screaming baby!" Sharon and her baby left hospital topping up with formula, weaned at 4 weeks.

Janeen wrote: *"I have found breast feeding to be a "HUGE" (sic) challenge, more than labour. I was very prepared for labour and thought breastfeeding would come naturally. It hasn't. I want to continue despite our initial difficulties, having retained products hasn't helped either We have had a hard time. I want to continue feeding at the moment. Hopefully we will."* Janeen left hospital fully breastfeeding. Weaned at 8.5 months.

Faye said *"When I breastfed my first (daughter) I found it very easy considering it being my first experience at feeding. But when I had my second (son) I found it hard but I think it was because I was stressing myself that I had to feed for 12 months because I did it for my first. Although I did get a lot out of feeding my son and now I am feeding again I just take each day as it comes and I find it much more relaxing and I am very pleased that I have been able to feed my children although I wish*

someone would come and do my house-work!" Still breastfeeding at 9 months – lost contact due to relocation.

8.3 TIME TWO: The second questionnaire (mean age 14 weeks)

The early weaning group had all weaned by the time of the second questionnaire at around 14 weeks. Information about the preceding weeks was gleaned from their responses to this questionnaire that explored variables such as early postnatal support, feeding methods since the last questionnaire and return to work issues. Exit questionnaires were also completed for these women and enquired about variables such as breastfeeding problems, reasons for weaning and plans for the feeding the next baby.

8.3.1 Discharge from hospital

The timing of when discharge was discussed proved to be significant to duration of breastfeeding ($p < 0.001$, X^2 23.70), although it is not entirely clear why this would be so. The discharge plan was discussed with the majority of early weaning women on the first postnatal day (63% $N = 101$). For primiparous women who have just given birth and who are trying to come to terms with their new role and responsibilities, as well as beginning the process of recovering from the birth, this may have created additional stress over and above what was going on for them at that time.

Over 53% (N= 51) of the early weaning group went home by the fifth day or later. For the majority, the timing was their choice (75%, (N= 72) which was not statistically significant). However, it was common for first time mothers to experience significant breastfeeding problems. If they felt they were not being appropriately supported they would be more likely to choose to leave the postnatal setting. This was in contrast to the late group, where 39% (N= 50) went home on the fifth postnatal day or later and with 66% N= 83 (also not significant) stating that the timing was their choice.

The current common practice of postnatal discharge is for women who have had a normal vaginal birth to go home at 48 – 72 hours and following cesarean birth, on day four or five. While there are a number of published studies which report that early discharge in itself has little impact on the experience of breastfeeding (Waldenstrom, Sundelin and Lindmark 1987) it appears that those discharged involuntarily were far more likely to be dissatisfied (Waldenstrom et al. 1987) and experienced more problems in the first 14 days. What would be logical to assume however, is that for vulnerable women struggling to initiate breastfeeding in this very short hospital stay, they would be at increased risk for early termination of breastfeeding.

8.3.2 Sources of support for breastfeeding

Participants were asked to rate their sources of support for breastfeeding since the last questionnaire (table 8.3). Partner's support rated highly once again, however not as highly as would be expected. Overall, the late weaning group's ratings were lower for all categories except the Nursing Mothers' Association of Australia (NMAA), which was a little higher.

Table 8.4 Sources of support

Sources of support	Early weaning group %	Late weaning group %	X^2	p
Partner	64	56	22.95	.010
Family	43	30	16.24	.092
Midwives	48	35	7.75	.652
Friends	26	22	14.25	.161
Doctor	19	13	16.78	.079
NMAA	4	12*	19.43	.035
Lactation Consultant	21	15	9.86	.452
M&CHN	53	31	9.99	.440
Other	6	5	17.35	.066

Only two of these reported sources, partner and NMAA, showed significant differences between the groups.

8.3.3 Mother, baby and breastfeeding problems

The majority of mothers and babies were reported as being well in the preceding period; however, the early weaning group were less likely to report themselves as feeling well than the late group (71% N= 69 vs. 85% N= 107 ($p = .030$, $X^2 6.99$)). Breastfeeding problems were described by the early weaning group in 77.4% (N= 72) of cases compared to only 33% (N= 41) of the late weaning women ($p = < .001$, $X^2 54.30$). Women were asked if they believed anything could have been done to prevent or improve their problems. Of interest are those women who weaned early, who stated that nothing could have been done to prevent or rectify their problems (N= 19). This proved to be statistically significant ($p = < .001$, $X^2 27.66$). The findings for women who stated that they did not know if anything could have been done (N= 12) were also significant ($p = .023$, $X^2 7.46$). A further category stated by this group (N= 10) was that more help at home would be beneficial ($p = .001$, $X^2 13.16$).

Ninety percent (N= 113) of the late group were exclusively breastfeeding at Time Two, with only 10% (N= 9) offering some formula. Over 96% (N= 121) were feeding according to how they planned to feed and the group differences were significant ($p = < .001$, $X^2 228.70$). Seventy four percent (N= 94) stated that they had experienced no problems with breastfeeding since the last questionnaire. Compared with the early weaning group, over 90% (N= 115)

stated that they felt confident or very confident with breastfeeding ($p < .001$, χ^2 238.49).

Babies in this group were more likely to be kept close to their mother overnight (53% late weaners, $N= 67$ vs. 39% of early weaners $N= 38$) with 10% ($N= 13$) still taking their baby to bed or they slept in a combination of maternal bed and being in a cot next to the mother's bed. Fifty one percent ($N= 65$) of late weaning babies were using a pacifier compared to over 83% ($N= 80$) in the early group.

8.3.4 Returning to paid work

The issue of returning to paid employment was seen in the earlier analysis as being significant to early weaning. This finding was consistent with other studies (Gielen et al. 1991; Vissness and Kennedy 1997; Fein et al. 1998; Galtry 1998). At Time Two, women were again asked if they had returned to, or if they expected to return to work in the near future. Thirty eight percent ($N= 49$) of the late weaning group reported they either had returned already or were expecting to return to work compared to the early group, whereas 44% ($N= 43$) of the early weaning group had either returned or expected to soon. This proved not be significant on analysis. However, if the mother planned to return to paid employment and maintain breastfeeding then this was found to be significant at $p < .001$, χ^2 23.59.

8.3.5 Maternal issues

There was a significant difference between the groups in reports of what women considered to be major issues for themselves during the early postnatal period. Over 88% of the late weaning groups stated that they had not had any major issues compared to over 94% of the early weaning groups stating that they did have major issues. Table 8.4 shows the 10 categories, which participants rated as either significant or major.

Table 8.5 Major maternal issues

Issue	Early weaning group %	Late weaning group %	X^2	p
Lack of confidence	21	9	15.07	.057
Lack of support	11.5	7	17.36	.026
Breastfeeding problems	59	11	86.17	< .001
Lack of knowledge about breastfeeding	19	4	29.26	< .001
Baby was unsettled	33	15	21.68	.005
Received conflicting advice	37	17	17.87	.022
Feeling alone	24	13	11.13	.194
Feeling exhausted	53	28	15.51	.049
Difficulty in adjusting to being a mother	21	19	18.48	.017

All of these issues except 'feeling alone' showed significant differences between the two groups. If participants described being upset by conflicting advice, there was a clear significant result in terms of shortened breastfeeding duration ($p < .013$, $X^2 8.65$); if they described exhaustion as being a major issue for them, then this too was a significant determinant to early weaning $p < .003$, $X^2 11.45$.

8.3.6 Participant's final comments at time two

At the end of the second questionnaire, women were given an opportunity to make any comments that had not been addressed in the two previous questionnaires. The comments were then placed into broad categories for analysis. The late weaning group (52% $p < .001$, $X^2 62.62$) described the information and management of breastfeeding they received as being positive and appropriate. This was in contrast to the early weaning group which was more likely to highlight negative information and management (14.5% $p < .005$, $X^2 10.33$), breastfeeding problems (24% $p < .001$, $X^2 22.57$) and to describe the impact of the baby on their lives in more negative terms ($p < .001$, $X^2 22.09$). Conversely, there were a number of women who described breastfeeding as the best way to feed their baby ($p < .001$, $X^2 22.23$).

Linda said: "I am still thoroughly enjoying breastfeeding, and Jaydon is gaining weight beautifully. I feel proud of that. People often ask me 'when are you going to put him on the bottle'. This annoys me because people assume that babies should be weaned onto bottles. I plan on skipping the 'bottle phase' and in due time introduce a cup!" Linda was still breastfeeding at 12 months.

8.4 WEANING AGES

The median weaning ages for the early weaning group was six weeks with a range of one – thirteen weeks. The late weaning group median weaning age was 69.0 weeks with a range of 53 – 143 weeks.

8.5 SUMMARY

It is apparent from the comparisons, that the early weaning group overall, believed that they had less support, had more problems and issues and were more likely to report negatively on a range of maternal issues than their later weaning counterparts. These findings highlight the range of needs of women who may be more likely to wean early. How we as health policy developers and practitioners reverse the growing trend to wean early will be discussed in the chapters Nine and Ten.

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CHAPTER NINE

CAN WE DO BETTER?

9.0 STRENGTHS AND LIMITATIONS OF THE STUDY

This was a longitudinal descriptive study of a convenience sample of 681 Victorian mothers and their babies. The researcher recruited the majority of participants, with 120 women being recruited by other health professionals. The first phase of the research followed the babies from birth to weaning or up to 12 months depending on which occurred first. The second phase identified primiparous mothers from the first phase who had had second babies and sought to identify differences in the mother's experiences of breastfeeding between the first and second babies. The researcher was aware of potential biases of convenience sampling and attempted to overcome this by recruiting widely both geographically and through sampling across the range of birthing services that included the private and public maternity system; maternal and child health service; midwives in private practice and antenatal and lactation services.

9.1 STRENGTHS

The large population of women recruited to the study meant that statistically significant results could be obtained on analysis. A large range of variables was

identified through professional experience and from comprehensive literature reviews as being potentially influential on women's experiences and decision-making and these were addressed in the study.

The chosen overall time frame of 12 months was significantly longer than other reported studies, which are typically of up to six months duration, and was chosen for a number of reasons. First, the researcher wanted to report on 'whole breastfeeding durations' rather than the more commonly used first 20 weeks or six months. Second, three monthly contact intervals were considered close enough for accuracy of recall and distant enough to reduce the potential for researcher influence via regular contact. The overall results of the study suggest that participants were able to provide honest information, for example some women indicated they had used illicit drugs during the pregnancy, that researcher influence was minimal. This type of contact also assisted with reducing 'lost to follow-up' problems, which are encountered when the time frame between contacts is too long.

The resultant data set provided considerable variety in both the information gained and the time frames studied. While it is acknowledged that there has been increasing research interest in breastfeeding issues, particularly over the last 10 – 15 years, no identified studies have addressed both the scope and nature of women's overall breastfeeding experiences.

9.2 LIMITATIONS OF THE STUDY

The sample was convenient, not randomly selected, and therefore there was the potential for self-selection bias. However it should be noted that the weaning rates for the cohort were similar to the Australian statistics reported by Donath and Amir in 2000 (Donath and Amir 2000) on the 1995 Australian National Health Survey results. The Survey results showed that 81.8% of women were breastfeeding on discharge from hospital (the current study revealed 82%); at three months 57.1% fully breastfeeding (current study showed 55%) and 14.6% was reported by giving any breastfeeding (current study showed 18.5%). These figures suggest that the cohort was motivated to initiate breastfeeding, but was as likely to be influenced by similar experiences as the larger population and therefore to behave in comparable ways.

9.3.1 Questionnaire content

A range of questions was developed for each questionnaire and these were tested for validity and reliability by peer review and the pilot study. The amended questions were then used in the final questionnaires for data collection. Questions used in the final draft consisted of both quantitative and qualitative styles. This was done to increase the amount and range of information obtained from participants.

Following analysis, interpretation of some questions provided less information than was desirable due to the nature of those questions. On occasion the researcher was unable to determine further information because the question was written in a closed manner and unfortunately provided only limited information. An example would be the questions about the father's support. It is not clear what sort of support the father provided i.e. practical/ instrumental or emotional support or both. In hindsight, expanding those questions further would have provided valuable details.

The researcher encountered a number of logistical difficulties (some were identified early as potential problems, while others were unexpected) during the life of the study.

9.2.1 Potential problems:

There was an expected 'lost to follow-up' of between 25 – 40%, which the researcher attempted to avoid by gaining consent on recruitment for telephone follow-up if questionnaires were not returned within the recommended time frame. This proved to be very time consuming, but was also very effective with over 90% of participants being followed up in the first phase of the study. This compared favourably with other studies reported by Dillman (cited in (de Vaus D.A 1991)) who suggests a response rate of 60 – 75% can be expected in a well conducted study of this type. However, for the second phase too much time had

elapsed and over a third of primiparous women (N=104; 35%) could not be found when the researcher attempted to identify those women who had given birth to a second baby.

9.2.2 Unexpected problems:

The researcher recognised that seeking approval for the study from the Human Research Ethics Committees from a number of agencies would be problematic. However, the complexities of these applications and the lengthy time delays to approval contributed significantly to the prolongation of the total research. The point of contact to final approval for a number of agencies was as little as three months and up to twelve months for others. Meeting each agency's requirements for submission required up to 25 copies of applications of up to 12 pages in length. One Agency changed the procedures for applying and did not inform the researcher, leading to lengthy time delays and a complete revision of the application.

Maternal and Child Health Services in several Shires were approached and agreed to facilitate recruitment on behalf of the researcher. This provided an opportunity for wider recruitment than was possible for a sole researcher to achieve. Unfortunately, a small percentage of questionnaires were given to mothers of older babies (> three months) and these were discarded and some unused questionnaires were lost in a fire, which was not identified until later.

The researcher identified a number of funding opportunities for the study. Following a small initial grant (of \$1,250) from the Australian College of Midwives (Victoria Branch MAVI Trust Fund Scholarship) to begin the study, the Nursing Mothers' Association (now called the Australian Breastfeeding Association) was approached to request that they auspice any grant applications to benevolent funds and charities. Following a difficult application process, the Board duly granted permission to proceed. A number of charities and trusts were identified and applications were prepared and sent. Three organisations were prepared to provide funding; these were the Helen M Schutt Trust (for \$2,500) and Perpetual Trustees for the W B Paxton Charitable Fund (for \$8,633). The third organisation to provide some funding was Medela, (a company which produces a range of breastfeeding aids) who gave the researcher \$500 towards the costs of producing the seventh questionnaire. While funding received fell well short of the costs of undertaking a study of this size, the researcher was very grateful to these organisations for their support. Once again however, the process of searching and applying for funding was expensive and time consuming.

The researcher has been required to provide annual reports to nine Ethics Committees, the Australian College of Midwives Incorporated Victorian Branch and the Nursing Mothers' Association of Australia. A final report on completion of the study is required by all participating organisations, with specific

information about each site's findings for seven agencies. One hundred and eighty-six women who participated in the study have requested a report of the findings, which will be developed as a brief report in lay terms and sent to them by mail.

Another unexpected experience was loss of questionnaires in the mail. Australia Post lost over 150 questionnaires during the study period. Most of these were completed questionnaires, requiring the mothers to redo them. One participant completed the first questionnaire three times in the space of one month.

Finally, as women were identified as weaning their baby, the researcher, on following them up, soon realised that many of the women were distressed about their experiences. In the majority of cases, the exit questionnaire follow up also became a debriefing session for mothers to explore what had gone wrong and how her problems might be avoided in the future. The feedback from these women was that the debriefing provided an opportunity to explore their experience and recognise that the outcome was not their fault. These debriefing sessions proved to be very time consuming, some taking up to an hour. However, the researcher was convinced that the process was of value to participants. One mother in the study was not lost to follow-up, but died when her baby was four and a half months old. The researcher discovered this when the third questionnaire had not been returned and a follow up phone call was made. While ill health of mother and or baby were anticipated, this loss was not

expected and the researcher spoke at length to the woman's husband by telephone, providing an opportunity for him to talk about his grief and his wonderful wife. The researcher was deeply moved and saddened by this experience.

9.5 IMPLICATIONS FOR PRACTICE

The results from this study are consistent with findings from a range of published international studies (DaVanzo et al. 1990; Cox et al. 1994; Chye et al. 1997; de Oliveira, Camacho and Tedstone 2001; Binns et al. 2002). Many of the findings should not surprise health practitioners and in particular, those who work closely with mothers and babies. The primary purpose of the study was to identify reasons for early weaning and quantify women's experiences in an attempt to clarify how best to begin the task of reversing the trend to early weaning. While these results are not necessarily new to those of us who work with mothers and babies, there appears to be reluctance by far too many health workers to accept research findings and recommendations. The implications for this disinclination are deleterious to the feeding outcomes for babies and ultimately to their future health outcomes. The long-term health benefits of breastfeeding are no longer in question (Hanson, Adlerberth, Carlsson, Castrignano, Hahn-Zoric, Dahlgren, Jalil, Nilsson and Robertson 1988; Galtry 1997; Hanson 1997; Heinig 1997; Lee 1998), with newly identified benefits increasingly being reported (Beral 2002). The benefits have been widely reported and continue to be identified. The

challenge for all health professionals is to develop strategies which incorporate current knowledge into practice in both appropriate and effective ways. While many have attempted to do this the results of the multitude of programs have not, in the final analysis, proved to be effective in reversing the trend to earlier weaning. In Australia, the targets for breastfeeding have not only not been met; they have at best remained static.

9.6 RECOMMENDATIONS: To the future

The range of issues identified by this and other studies have illustrated why babies are not breastfed for the recommended durations. Converting this knowledge into solutions is as complex as the reasons women wean in the first place.

9.7 SOCIETY – ATTITUDES TO AND PROMOTION OF BREASTFEEDING

An earlier section (chapter two) described the impact of three health promotion campaigns on changing societal attitudes and behaviours. The chapter also discussed the less than effective Australian government strategies that have attempted to improve breastfeeding rates and durations in this country. One of the identified methodologies for increasing community awareness about an issue is to utilise one of the most recognised mediums, television. The success of the three health promotion campaigns has been attributed to the impact of

this type of media coverage together with well-developed messages. In the most recent Breastfeeding Strategy what is lacking is sound planning, coordination of strategic programs, implementation of well resourced media campaigns and appropriate dissemination of clear information – information that is not influenced by the concern that bottle-feeding women must not be made to feel guilty and the fear of the possible repercussions by the influential and powerful infant formula companies. The following chapter proposes a new way forward in the marketing of breastfeeding on a national level.

Infant formula has the potential at best, to interfere with the establishment and maintenance of breastfeeding and at worst, as a man made product, is vulnerable to mistakes in production and miscalculations in product ingredients, running the risk of causing great harm. It certainly will never be able to fully mimic the dynamic and ever changing breastmilk (Drane 1997; Minchin 1998; Ball et al. 1999).

Minchin, in her book *Breastfeeding Matters* (Minchin 1998) describes many instances where mistakes by manufacturers of infant formula have at best required recalls of products and more seriously caused significant harm. For example, “Carnation Evaporated Milk (Australia) in 1985 was mislabelled as Prosobee (a soy brand), a potentially fatal mistake for severely milk-intolerant babies. (p36)” She also cites the case in 1984 where “De-Lact Infant contained calcium caseinate, an ingredient which could have been fatal for infants. It

proved difficult to trace all cans. (34)” Van Esterik, in her book *“Beyond the Breast-bottle Controversy”* (Van Esterick 1989) discusses similar concerns about the risks of infant formula manufacture in her proposed bottle feeding trajectory scenario saying:

“Infant formula ‘mishaps’ are common from industrial accidents; serious medical consequences for infant and potential wider community consequences if the defect is not discovered quickly, e.g. bacterial contamination; defective formula (too much salt, iron, iodine, fluoride, or lead, or not enough zinc, selenium, chloride, biotin, cysteine, or taurine) (p208).”

While it is recognised that infant formula manufacturers endeavour to achieve safe standards of production, there is always the risk that a ‘man made’ product can be tampered with, be contaminated and ultimately is vulnerable to inadequacies in knowledge and understanding of human infant dietary needs. Historically, the development of infant formula has been from one of concern for the well being of abandoned infants and their need for nutrition in the 1800’s (Wolf 2001), evolving through development and experimentation of artificial feeds for babies in general, which has been to the detriment of breastfeeding rates and duration world wide.

Generations of young men and women have grown into parenthood never observing an exclusively breastfed baby. This is so, even though while many

babies are breastfed – they are breastfed mostly in private and are only occasionally seen in the public domain. New parents have not changed in their desire to do what is best for their babies and most know that breastfeeding is the optimal method. However, lack of knowledge, experience and limited support ensure that for many new parents, attempts to breastfeed are made more difficult and are certainly undervalued by their communities.

9.8 PREGNANT WOMEN AND THEIR FAMILIES

Antenatal education and care by health professionals has been identified as being prime opportunities for breastfeeding education. However, it is clear from the findings, that women glean more breastfeeding information from reading books and magazines than they do from antenatal classes or carers. The prevailing belief that pregnant women simply do not remember the information, says little for our education methods and suggests that as health educators, we need to examine not only what is taught, but also to identify ways to ensure that the important messages are more effective.

Preparing women for a medication free birth and then ensuring that they receive the support needed to achieve this are significant to facilitating a successful start to breastfeeding.

Pregnant women need to know that breastfeeding is a learned skill and will require patience and persistence to succeed and that it may well take up to six to twelve weeks for them to feel that they have mastered the basics of breastfeeding. As it stands now, women believe that they need to learn how to give birth, but have a sense that the baby will know how to breastfeed. They have unthinking confidence that their body will nurture the unborn but doubt their ability to produce enough breastmilk. When the baby does not behave in an expected way, then milk supply is usually the first to be blamed. The current education is not effective and it is imperative to identify why and to strive to develop strategies that will work in the future. The next step is to evaluate those strategies over the longer term and not simply assume that they will work. Vigilance to identify outcomes for any program, must follow women through to the end of their experience, otherwise we will learn nothing.

9.9 INTRAPARTUM AND EARLY POSTPARTUM PERIOD

It is well known that by interfering with the process of labour and birth there are undesirable consequences to the outcomes of breastfeeding. This is particularly true for the early days of initiation where the impact of induction of labour, maternal medications, prolonged second stage and instrumental delivery are all implicated in changing the normal course of breastfeeding initiation. Sixty two percent of late weaning women in the current study received no pain relief medication during their labour. For the early weaning group, almost seventy five

percent received pain relief. The impact of these medications on the first breastfeed is seen in the participant's descriptions of how they felt about the feed. Sixty five percent of the late weaning group described the first feed in positive terms in contrast to the early weaning group (54%) who could either not remember the feed or described it in negative or ambivalent terms.

The second contributor is to provide mother and baby every opportunity to remain in skin-to-skin contact following the birth. By minimising interruptions prior to the first feed, we can facilitate the innate abilities of the alert, well, newborn baby to initiate breastfeeding with minimal support and the normal hormone driven responses of the unmedicated mother to respond to her baby.

For the majority of mothers and babies, early feeds should be effective and satisfying. The reality is that many babies do not feed well in the first few days for a range of reasons. This results in damaged, painful nipples, poor colostrum intake and either a fussy wakeful baby or one who becomes sleepy and jaundiced. The role of the midwife is to focus on getting breastfeeding right from the start by ensuring good positioning and attachment and understanding the signs of effective feeding. This last point is often not well understood and poor feeding is often classified as 'feeding well' when in fact the opposite is true. It is not clear from the literature how widespread the low level of breastfeeding knowledge by midwives really is. However, the high levels of breastfeeding

problems suggest that in practice, lack of knowledge is a significant factor, even though theoretical knowledge may well be higher.

From this study, too many mothers are being discharged from hospital without the basic skills of attachment and an understanding of what constitutes a good feed. With high workloads and chronic midwife shortages together with shorter stays, women's needs are not being met. Redefining what midwifery care should be, is becoming critical to better breastfeeding outcomes.

9.10 THE FIRST YEAR – Issues

This study has identified a number of issues which influence the duration of breastfeeding. The findings are consistent with other studies that show that the timing when the mother returns to paid work, lack of social and workplace support and negative community attitudes to breastfeeding in public, are all implicated in shorter durations of breastfeeding (Adair, Popkin and Guilkey 1993; Bar-Yam et al. 1997; Galtry 1997; McIntyre, Hiller and Turnbull 1999; Binns et al. 2002). If there are changes of any significance to be made, it can only happen through policy and attitudinal shifts in the way mothers and the work of mothering are viewed and supported.

Currently in Australia there is significant debate about the introduction of paid maternity leave. Australia is only one of two industrialised countries that do not

provide this support to employees who become mothers. In a recent published statement, Pru Goward (Crabb 2002) the Sex Discrimination Commissioner said *“paid maternity leave could help save Australian women from breast cancer.”* Goward was responding to recent research findings published in the Lancet (Beral 2002) that suggests that the incidence of breast cancer is linked to the absence or shortened durations of breastfeeding. She went on to say, *“So I think that 14 weeks, if it can be added on with other forms of leave and enable women to breastfeed their babies for longer, certainly means that it can, and we certainly can, impact on breast cancer incidence in Australia.”*

The concept of the health protective benefits for breastfeeding mothers is further explored in recent media coverage of the release of the Beral study (Beral 2002). These researchers suggest that the findings help explain why the breast cancer rate is increasing in developed, more affluent countries with a contrasting low level of breast cancer rates in developing countries, where women have more children and breastfeeding durations are much longer.

9.11 SUMMARY

What is puzzling is that while health professionals and health policy developers understand the positive impact of ongoing breastfeeding for mother, infant and the community, there are few effective strategies in place to facilitate acceptance that breastfeeding for 12 months or more becomes the norm.

This study has identified and discussed the range of issues experienced by breastfeeding women and their families. A number of recommendations have been proposed to instigate changes to practice and the way maternity care is provided. Unless health policy makers change their health promotion strategies by recognising the costs associated with low levels of breastfeeding and responding accordingly, health professional practice changes will continue to be minimally effective in changing breastfeeding statistics in this country, and indeed internationally.

Chapter ten presents an overview of the range of current and recent national and community breastfeeding programs that have worked to address identified community needs. The chapter recommends potential promotional activities which will address some of the findings from this and other studies.

Chapter 10

GETTING PAST GUILT: WHERE BREASTFEEDING PROMOTION IS NOW AND WHERE IT SHOULD GO NEXT

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CHAPTER TEN

GETTING PAST GUILT: WHERE BREASTFEEDING PROMOTION IS NOW AND WHERE IT SHOULD GO NEXT

10.0 INTRODUCTION

According to the Oxford dictionary, guilt is the feeling of culpability over “*having committed a specified or implied offence*” (p592) (Moore 1997). This explanation is taken further by Reber (Reber 1986) who states that guilt is

“an emotional state produced by the knowledge that one has violated moral standards. Most authorities recognize an emotional state as guilt only when the individual has internalised the moral standards of the society; thus it is distinguished from simple fear of punishment from external sources – guilt is, in a sense, a self-administered punishment” (p313).

From Reber’s interpretation, it is reasonable to conclude that a mother who is ‘feeling guilty’ about making the choice to feed her baby with infant formula within a culture that recognises the importance of breastfeeding, is likely to ‘self-administer’ guilt as a response to internalised and socialised values for not feeding her baby in an optimal way. Further, McKay (McKay 2002) suggests that an individual cannot be made to feel guilty without their ‘permission’ – guilt is an individual’s value system at work.

For the mother who has struggled with breastfeeding and who has attempted to overcome those problems to the best of her ability, the result of weaning to infant formula is unlikely to produce feelings of guilt. Rather, she is more likely to experience feelings of disappointment. If however she has not been fully informed about the risks of formula feeding and her infant has adverse outcomes, then she is likely to experience feelings of anger. Regardless of why weaning occurs, an inability to successfully breastfeed threatens a mother's sense of her ability to provide for and protect her offspring. As a parent, this is not a comfortable position.

Many health professionals who work with mothers and babies often feel that they walk a fine line between breastfeeding promotion and ensuring that women who wean to formula do not feel guilty about doing so. Australian babies are born into a culture that accepts formula as a reasonable substitute for breastmilk; through powerful multinational manufacturing companies ensuring this view is endemic through aggressive marketing strategies and widespread availability. Not only is formula seen as acceptable, for generations it was made to be seen as preferable. The prevalent belief that infant formula was based on scientific research and an industry innovation at its best and therefore was superior to breastmilk, led women away from the understanding that their own milk was best for their babies. What is becoming increasingly clear, however, is that artificial feeding represents a significant departure from the physiological norm which thus requires that *“those who propose this deviation establish that it*

is safe and of benefit to the subject exposed to it, both in the short and long term” (p244) (Minchin 1992).

With our growing understanding of the complexities of breastmilk it has become increasingly clear that there is still much that we do not understand. In terms of producing a breastmilk substitute, technology and science is in the position where they are trying to replicate a product that continues to evade knowledge and is therefore, at present, impossible to copy and in fact may never be replicable.

Achieving breastfeeding as the norm in a culture that now accepts that infant formula is at least as good as breastmilk, is a complex process which will require a coordinated, multifaceted approach from a wide range of sources if it is to succeed. The current study originated in the recognition that breastfeeding promotional activities are not achieving the desired breastfeeding outcomes identified by the World Health Organization. The key findings of this and other Australian research identify a range of variables that negatively influence breastfeeding duration, and yet promotional activities have not incorporated what is known in any effective way. This chapter will describe a range of strategies that have been introduced to date and propose a number of further strategies to facilitate breastfeeding as the normal and accepted way to feed babies in Australian society.

10.1 MARKETING AND HEALTH PROMOTION: GETTING THE MESSAGE OUT THERE

Health promotion strategies have been shown to effectively change behaviours of population groups especially if they are identified at community level, coordinated at national and state level, have appropriate funding, resources and time commitment and are managed, monitored and evaluated over time. Conversely, the breastfeeding strategy has not been managed in this way, resulting in a number of projects that are very positive but are working in isolation and thus are not able to influence overall change.

To date, all breastfeeding promotion (see 10.4) has been focussed on the benefits of breastfeeding rather than the risks associated with feeding infants artificial substitutes. This type of message is clearly at odds with the way other health promotion strategies have been portrayed, for example the public are told of the risks associated with smoking, speeding and unprotected sex, the messages are clear accompanied by often graphic depictions in the media of the negative outcomes.

In the national newspaper *The Sunday Age* in 1999, Peter Hennessey (Director of Sweeney Research) was quoted as saying *"What's really important is to get the level of anxiety and fear right to motivate people to change their behaviour"* (p11). This statement by Mr Hennessey referred to the Traffic Accident

Commission's advertisements, which clearly showed the adverse repercussions of risk taking behaviours on the road (Dow S 1999). Media campaigns should be mindful of the need to counteract the highly visible nature of infant formula products when developing breastfeeding promotional materials.

10.2 THE FEDERAL NATIONAL BREASTFEEDING STRATEGY

Chapter Two described a number of successful health promotion campaigns that have been initiated at both national and state levels. The success of these campaigns has required serious commitment from government at both levels and the allocation of significant funding for mass media promotions to occur. If communities and individuals are to take public health messages seriously, then government must commit to ensuring the message is clear, effective and reaches the population, and does not merely target small key groups.

If breastfeeding is to be accepted as the desirable norm, then the whole of society must be targeted. To do this, other successful campaign methods can be used to develop a 'back to the breast' campaign that incorporates all we know and understand about the benefits of optimal infant feeding.

10.3 WHY WOMEN STOP BREASTFEEDING

Women stop breastfeeding for a number of reasons. Primarily, these include perceptions of breastmilk insufficiency (Beasley 1998/99; Ingram J 2001; Binns

et al. 2002); breastfeeding problems (Avery et al. 1998; Vogel A 1999; Binns et al. 2002) lack of knowledge and low levels of confidence (West 1980; Lowe 1994; Jakobsen et al. 1996; Mozingo J 2000; Ertum I.O, Votto N and Leventhal J.M 2001; Sellen 2001); mothers' early return to paid employment (Galtry J 1995; Fein S.B 1998; Galtry J 1998) and issues around lack of social support and low acceptance of breastfeeding by the community (Matich and Sims 1992; Rajan L 1993; Isabella and Isabella 1994; Marchand et al. 1994; Langer A, Campero L, Garcia C and Reynoso S 1998; Scott J.A 2001; Scott, Landers, Hughes and Binns 2001).

The majority of participants from the current cohort stated that they chose to breastfeed because it was perceived to be best for the baby. What is of concern is that these mothers did not appear to have a clear understanding of the real risks posed to their success in breastfeeding by the introduction of infant formula. For those women who weaned in the first three months, all had fed infant formula by bottle in the early postnatal period. The physiology of lactation is well understood by clinicians. Breastmilk is made in response to maternal hormones together with appropriate nipple stimulation and regular milk removal. This is particularly important during the establishment period of the first six to twelve weeks after birth. The introduction of other feeds, in particular infant formula, which is recognised as more difficult for the young infant to digest, reduces the infant's demand for breastmilk. Thus a cycle begins whereby the infant takes less breastmilk, the mother's body produces less breastmilk

requiring the baby to take more infant formula who then takes even less breastmilk and so on until the perception of not having enough breastmilk becomes a reality.

If parents do not understand how breastfeeding works, how a normal breastfed baby behaves and how to overcome basic problems with breastfeeding, then current overall durations will not change. If women feel they do not have the support of those around them to breastfeed whenever the baby is hungry, wherever they are, then this too will negatively influence breastfeeding duration (McIntyre 1998). It is only through a coordinated health promotion strategy that community knowledge and attitudes will begin to change.

10.4 CURRENT STRATEGIES, PROGRAMS AND LEGISLATION

In 1998 an attempt was made to increase breastfeeding duration when the Australian Federal Government introduced the National Breastfeeding Strategy (1996 – 2000). Two million dollars, to be spent over two years, were allocated to fund a range of promotional and education activities in an effort to address identified groups, maternity services and health professionals and the community. While it is laudable that the Federal Government identified breastfeeding as a primary health issue by allocating some funding, there is little evidence of a considered or coordinated approach, which is essential for any successful strategy. An individual's health behaviours do not change easily

(Crocker 1999) and a population's health behaviour does not change in the short term. The nature of successful strategies is ongoing, over many years, with a coordinated approach that is inclusive of all stakeholders. In terms of lactation, stakeholders would include clinicians, practitioners, lay counsellors, families, and government agencies.

It is apparent from reviewing a number of recent and current projects (ABA 2001; McIntyre, Hiller and Turnbull 2001), that community involvement and consultation has occurred. What is not evident is a central body who oversees and evaluates all projects to ensure that targets are being met overall and not only for specific target groups. In November 2000, the Federal Minister for Health and Aged Care appointed the former Victorian Health Minister (Rob Knowles) to examine the Marketing in Australia of Infant Formula (MAIF) Agreement in order to ensure that Australia adheres to the objectives of the WHA International Code of Marketing of Breast-milk Substitutes (1981). Mr Knowles met with key stakeholders and a range of individuals in order to determine whether the then current problems with the Australian Panel on the Marketing in Australia of Infant Formula (APMAIF) and the MAIF Agreement could be identified and overcome. The final report (Knowles 2001) made a number of recommendations. Two of these were for:

1. *A public health partnership to be developed and maintained between the Commonwealth, States and Territories to enable a longer-term, comprehensive, strategic approach to the promotion of breastfeeding and*
2. *The establishment of the position of Infant Nutrition Coordinator at a National level. The Coordinator would be supported by a broad based Advisory Council to advise the Commonwealth, State/ Territory Governments on the various components of a comprehensive strategy un the Public Health Partnership. In addition, a panel of scientific experts in infant nutrition would be established, who would provide advice as required on an ad hoc basis on technical issues.*

The Knowle's report (2001) explained that a health partnership would "provide a framework for initiatives that State and Territory Governments might take to promote good practices with the Health Services that they fund and operate. Such an approach would allow for initiatives within public and private maternal services to be encouraged that promote breastfeeding" (p10). The report went further by discussing the role of the media, and in particular television, to openly encourage a positive model for breastfeeding in the community by creating role models in Australian television drama programs.

Knowle's recommendations recognise the need for a coordinated, comprehensive approach to breastfeeding promotion that is inclusive of all

stakeholders. At the present time, the Federal Government is considering Knowle's recommendations, with no decisions made to date.

10.4.0 BREASTFEEDING IN PUBLIC

Raising community awareness of any public health issue is crucial to influencing population behaviours. All successful strategies, such as the *Immunize Australia* and *SunSmart* campaigns have worked first and foremost to stimulate public discussion, provide information and thus increase knowledge of a specific theme. A number of Australian studies and published papers on breastfeeding barriers (McIntyre et al. 1999; Kennedy 2000; Sheeshka, Potter, Norrie, Valaitis, Adams and Kuczynski 2001; ANF 2002; Mannien, van den Brandhof, McIntyre and Hiller 2002) have community identified concerns about women breastfeeding in public as a significant influence on both women's experiences and the duration of breastfeeding. These studies have predominantly identified negative community attitudes to breastfeeding occurring in public places. They have also found significant fears and concerns by young women, who have not yet had children, about the potential attitudes of their communities if they were to feed their infant in public. If there are to be changes in breastfeeding duration in Australia, then there must be a concerted effort by public health proponents to raise and maintain the issue in the public's mind. As discussed in Chapter Two, social isolation and negative community attitudes towards breastfeeding

mothers in the early weeks and months following birth, serve as major influences on both the experience of breastfeeding and the timing of weaning.

10.4.1 Breastfeeding in public: The Victorian Equal Opportunity Act

Under the Victorian Equal Opportunity Act (1995), it is unlawful to discriminate against women because she may become pregnant, is currently pregnant, and is breastfeeding and or expressing her breastmilk (Victorian State 2002). This part of the legislation was not added until the year 2000 in response to a number of well publicised examples of discrimination against women who breastfed in public places (restaurants, parks etc..).

On New Years Eve in 1998, a Melbourne woman who was eating with friends in the Crown Casino food court was asked by a security guard to either stop breastfeeding her baby or to relocate to the Baby Care room. This incident provoked a large-scale response in both the print (Shaw 1998; Titelius and Owen 1998) and television media and a strong response by the State Opposition spokeswoman on women's affairs. In a draft presented to Parliament later that year, the Member of Parliament called for legislation to protect the rights of nursing mothers that was unsuccessful at that time. However, on becoming State Minister for Community Services, the Minister once again presented the bill (Costa 2000), this time successfully as an amendment to the

Equal Opportunity Act. In the same year, changes were made to the Federal sex discrimination laws to protect the rights of pregnant and breastfeeding women (Gray 2000).

10.4.2 Australian Breastfeeding Association: Breaking down the barriers. A Tasmanian Health Strategy (Kennedy 2000)

In 1999 a Melbourne based study (Donath et al. 2000) reported that the State of Tasmania had been identified as having the lowest rates of breastfeeding initiation of any Australian State or Territory. The State Government recognised the primary importance of breastfeeding promotion in the Food and Nutrition Policy (1994) identifying this issue in context with the national mandate described in the Federal Government's *Health Throughout Life Policy*. In keeping with the need for increasing breastfeeding rates in the State, the initiative "*Breastfeeding - Breaking Down the Barriers*" was developed by a coalition of interested stakeholders (ABA, ACMI, Clinicians). It was recognised by the stakeholders, that it was time for a public health intervention to be initiated in order to influence community attitudes with expectations to thus change behaviours.

The project commenced in two stages. Stage One was a series of focus groups with young women, which firstly sought to identify common beliefs and values held by adolescent girls and young women (not mothers) living in rural and

urban areas of Tasmania, that may influence their decision to breastfeed. The second aim was to promote a more positive image of breastfeeding amongst the target group of young women and their communities.

A number of key themes were identified in Stage One and these were consistent across the cohort. Most participants indicated that they were open to the idea of breastfeeding in the future, with attitudes ranging from undecided to determined. In the initial stages, most participants acknowledged the nutritional value of breastmilk though many did not recognise a significant difference between breast and artificial milks. The general theme for this reasoning was that "*it (infant formula) wouldn't be on the shelves if it wasn't good*" reflecting the community belief in the science of manufacturing and product quality control. Further, among the stronger supporters of breastfeeding, issues centred on personal choice, bonding and breastfeeding in public were raised as significant to their decision-making. Many of the respondents believed that a mother would need 'courage' to breastfeed in the public domain.

The stakeholders concluded that for an initiative to be successful, it would need to target younger women prior to their entering childbearing years, as well as the need to address wider community attitudes to breastfeeding that suggest that this is a private activity and should not be seen in the public domain.

Stage Two of the project involved conducting a statewide media campaign to address the key findings of the focus groups. The findings concluded that there was a significant lack of social support for breastfeeding in public places and this negatively influenced young women's decisions about breastfeeding.

A television commercial was developed and aired as a Community Service Announcement on two commercial stations. Posters and stickers were distributed statewide together with internal bus advertising. The commercial depicted a middle-aged businessman enjoying a take-away meal of noodles during his lunch break. The man is sitting in a typical public toilet cubicle, it is drab, cramped and there is some graffiti on the walls. The screen fades to black as a super text appears: *"you wouldn't eat here, so why should a baby?"* followed by another super text which stated, *"Breastfeeding in public is a mother's right."*

The developers of the commercial (Community Nutrition Unit, Department of Human Services, Hobart, Tasmania) recognised that the image was certainly unpleasant and may have offended some viewers, however they felt it was important to ensure that it stood out from other commercials and that it would attract attention. This view is consistent with other successful promotions whose aim is to make viewers take notice even if they feel uncomfortable or even guilty. Market research has shown for example, that the Traffic Accident Commission's television advertisements make audiences uncomfortable. The messages

however, are recognised as important; they have successfully increased community awareness of the issues of road safety and reduced the national road toll (Dow 1999).

The evaluation of Stage Two was again carried out using a focus group modality in order to determine the impact of the campaign. These focus groups consisted of a cross section from communities made up of males, females from rural and urban populations, with a broad age range and background. One middle-aged male said " *I am ashamed to think that in 2000 we as a society are unaccepting (sic) of breastfeeding to the extent that women are forced to feed their children in the toilets...*" The main responses to the campaign were that it was strong and the message was clear. A small number of respondents also felt that it would be useful to include other strategies in the campaign to strengthen the impact. The post evaluation of the initial focus groups found an increase in their knowledge and understanding of breastfeeding issues.

In December 2000, a series of questions related to attitudes to breastfeeding and community awareness of breastfeeding promotion campaigns were included in the *Eat Well Tasmania* survey. Eight hundred adults were sampled at random and interviewed by telephone. They were asked

1. *"How comfortable do you feel about women breastfeeding in public areas such as a restaurant?"*

2. *Have you recently seen or heard anything about a campaign to promote breastfeeding in public areas?*
3. *If yes, where did you hear/ see about the campaign?" (p31)*

The results showed that 90% of respondents were comfortable or very comfortable about women engaged in breastfeeding in public. Almost 70% stated that they had seen or heard about breastfeeding from a range of sources, with the majority citing the earlier television campaign.

It is clear from the evaluations to date, that this campaign has been successful in raising public awareness of breastfeeding issues through a comprehensive effort by the coalition members and the appropriate use of marketing strategies and the media – in particular television, and the public arena. The executive summary in the report *Breastfeeding is OK in public*, states that

"Despite being successful in increasing public awareness the intervention had a limited effect on changing community attitudes to breastfeeding in public. This was in part due to the fact that approximately 75% of the population surveyed already supported breastfeeding in public. The campaign served to reinforce positive attitudes about breastfeeding in public and achieved a small shift in previously unsupportive attitudes" (Tasmanian 1998)

This statement raises the question that if 75% of the community surveyed already supported breastfeeding in public, why was the campaign necessary?

Other studies support the notion that there is considerable disapproval of breastfeeding in public (McIntyre, Turnbull and Hiller 1999) and yet those surveyed in Tasmania purported to support the practice, which defied the findings of the focus groups. The perception by young women and new mothers that breastfeeding is not acceptable in public will ultimately guide their practices. It will not be until they are convinced of public acceptance and support, which will require breastfeeding to become commonplace that they will become more confident feeding in the public domain.

10.4.3 Australian Breastfeeding Association (ABA): The Boss (unpublished report)

The Australian Breastfeeding Association (ABA) has, for many years, aimed to run a television advertising campaign to increase awareness and to promote breastfeeding. In 2001, ABA was given the opportunity to develop an advertisement in conjunction with an advertising agency. This opportunity was part of the Victorian Government's *Federation 100 hour's program*, which matched volunteer hours with expertise and time from individuals or organisations.

The Boss commercial aimed to entertain, capture attention, promote the work of ABA and most importantly raise community awareness about breastfeeding. The

ABA hoped that the 'The Boss' would stimulate discussion – an aim that was not only met, but expectations were surpassed.

The slogan for the campaign was "*Sometimes it is alright to suck up to the boss*" which depicts a mother playing with, then breastfeeding her baby. The mum then puts the baby over her shoulder as if to burp him, and he looks at the camera and says '*Get on in life. Suck up to the boss*'. The final version was submitted to the Federation of Australian Commercial Television Stations (FACTS) to be rated. While the assumption was that FACTS would provide a 'G' General Exhibition rating, the actual rating given was a 'PG' (Parental Guidance) rating. What this meant in reality was that the commercial could only be shown away from typical children's viewing times. When FACTS were asked for a reason for the more reserved rating, the ABA was told the decision was made on the grounds of the nudity when the mother's breast was visible during the breastfeed and the decision could not be changed.

The media response to the rating was substantial following the press release in January 2001. For three days the television news and current affair programs, talk back radio and newspapers discussed and debated the advertisement at length. Ironically, the exposure for this commercial was far greater than the ABA ever hoped for. While there was a small number of adverse reactions to The Boss, with comments such as "why is it you feel the need to publicise such a solitary act? " and "If a female wants to breastfeed it is certainly her choice,

however, to promote such a private act is to me disgusting". The majority of responses were positive and fully supportive, for example "I would like to express my support of the commercial. It is tasteful, discreet and charming. I watched the ad with my 13-year-old son and we talked about the images. We were both impressed by the ad, and agree that it is absurd (if not wrong) that the content is deemed unsuitable for children (if they view it) without parental supervision".

Regardless of the tone of the responses, the ABA had achieved significant discussion about breastfeeding at a community level. In response to the widespread outcry from the community, FACTS reviewed its decision and changed the rating of the advertisement to a 'G' (General) classification, citing the Australian Broadcasting Authority's ability to re-classify a community service announcement, which may normally be a 'PG' as a 'G' if it is deemed to be in the public interests. While no formal evaluations have been conducted to determine the impact of the commercial, the immediate and widespread responses showed that it was very successful in raising the profile of breastfeeding in the community. The Sex Discrimination Commissioner, Ms Pru Goward applauded the reclassification in a press release stating "the move was a victory for commonsense". Ms Goward said "it was hard to imagine that a picture of a woman feeding her child could be deemed inappropriate for certain age groups and restricted in its screening times" (March 2002).

10.4.4 Australian Breastfeeding Association: Breastfeeding Welcome Here Project. A joint project of Adelaide University, the Commonwealth Department of Health and Aged Care and the Australian Breastfeeding Association.

In a series of studies carried out in South Australia (McIntyre 1998; McIntyre et al. 1999; McIntyre et al. 2001) researchers found that breastfeeding in public places was regarded as unacceptable by a significant proportion of the population. How then to reverse current community attitudes and increase acceptability? The Breastfeeding in Public Project (part of the “National Child Nutrition Program (McIntyre et al. 1999)) was developed in 2001 following a series of small focus groups (8 –12 participants) and cross-sectional paper and telephone surveys (373 community participants 1997, 66 restaurant managers 1999), which attempted to identify appropriate methodologies to begin the process of raising community awareness of breastfeeding as a public health issue.

Following analysis of the project results, the “Breastfeeding Welcome Here” sticker and kit were developed. The goals for the kit were to widely acknowledge public places that were accepting of breastfeeding mothers. One focus group participant said *“as a nursing mother myself, I’m not going in to a place where I can’t feed my child if I need to.”* There is a belief amongst mothers of breastfed infants that they are restrained in their movements in public which require them to time outings between their infant’s feeds so as not to need to breastfeed in

public. This perception creates unnecessary social isolation and places significant unacceptable restrictions on mothers' lives.

The Kit was launched in August 2002 and consists of 'Breastfeeding welcome here' stickers for businesses to display, an accreditation criterion to which the business must comply to be accredited and which addresses the environment and staff attitudes. If they become accredited, they can register their pro-breastfeeding activities on a website. Further proposed promotion activities include television advertising to increase public and media awareness, a national launch, fridge magnets and a public health seminar.

10.4.5 NMAA: Breastfeeding and Employment package. South Australia.

In the current cohort, returning to paid employment was identified as a significant influence on the duration of breastfeeding. This was consistent with other research findings (Allen et al. 1986; Bridges, Frank and Curtin 1997; Australian Federal Dept. Industrial relations - Work & Family Unit 1998; Fein et al. 1998; Fein S.B 1998; Brown, Poag and Kasprzycki 2001) where similar results have been reported. For early weaning women who were experiencing problems with breastfeeding, the expectation of returning to work in the first six months after the birth often resulted in their decision to wean completely. One primiparous participant who weaned at 10 weeks described her experience of breastfeeding as "*painful and stressful*" and said that because she was returning

to work soon and had not been able to overcome her problems, she 'needed' to wean her baby. This participant stated that antenatal education should be more realistic and practical. Another first time mother said that she "*didn't enjoy breastfeeding – it hurt!*" Her recommendations were for better education prior to discharge from the maternity hospital, especially for women who had undergone cesarean section. Also that staff should spend more time observing breastfeeds rather than getting the baby on to the breast and then leaving to do other things. This mother weaned at two and a half weeks and expected to return to work when the baby was 9 weeks old. Had this mother been able to work through her breastfeeding problems in the early weeks after birth she may have felt confident enough to continue breastfeeding after returning to work.

The expectation of returning to paid employment, particularly before breastfeeding is well established, clearly has a significant impact on the choices women make about how long they will continue to breastfeed. With few working women having access to maternity leave beyond a few weeks, and few options other than an early return to work, the reality of resuming paid employment and continuing to breastfeed is seen by many as daunting and others as impossible. Few workplaces recognise the importance of supporting their employee to establish breastfeeding prior to returning to work and then facilitating the maintenance of continued breastfeeding once they have come back. Those workplaces that do offer maternity leave and provide facilities for mothers to use for expressing breastmilk or engaging in breastfeeding, show marked decreases

in staff turnover and in absences due to child illness with simultaneous increased morale and productivity (Cohen and Mrtek 1994; Bar-Yam 1998, 1998; IBFAN 1999; Moriarty 2000).

In August 2000, a kit was released during ‘National Breastfeeding Awareness Week’ to address a range of breastfeeding and paid employment issues. The kit, ‘Balancing Breastfeeding and Work’ was developed as part of the Commonwealth Government’s National Breastfeeding Strategy in conjunction with the Adelaide University’s Department of Public Health. Fifty thousand kits were distributed to workplaces around Australia that had been identified as being medium to large employers (> 20 employees) of women of childbearing age.

The kit aimed to:

1. Inform women that they can continue to breastfeed after they return to work
2. Inform them of the benefits of continuing to breastfeed, both to themselves and to their babies, and
3. What they can do to ensure that they make a successful transition back to their workplace

The kit also aimed to:

1. Inform employers of the benefits of supporting breastfeeding in the workplace, and

2. Identify workplace practices that would facilitate an employee's return and support her maintenance of breastfeeding.

The kit included a 32-page booklet, an A4 poster and a letter of endorsement from the Australian Chamber of Commerce and industry, the Australian Council of Trade Unions and the Nursing Mothers' Association of Australia. Translation was available in several languages including Arabic and Chinese of the summary for employees. There was widespread promotion of the project in professional journals, newspapers, magazines and radio media.

Evaluation of the kit primarily was conducted soon after the national distribution focussed on the distribution and content (McIntyre 2000). Contact was made either by email or fax to 1571 workplaces, with a 12.8% response rate (n=202). The majority of respondents were from governmental and health organisations. Seventy percent of these (N=140) rated the kit highly and most stated that the kit was going to be useful and provided sufficient information for their human resource needs. However, the low response rate together with the nature of the employer's workplaces is of concern. The evaluation cannot describe the experience or attitudes of private businesses and therefore the results should be viewed with considerable caution. One comment from a non-government organisation stated, "*Very nice thought but totally impractical in a business that is struggling for survival in today's manufacturing environment*" (p48). It is clear from previous research that women from blue collar and non-skilled workplace

environments continue to struggle with maternity issues in an environment that does not recognise the significance of the contribution to the business by women employees of childbearing age.

The final recommendations included the need to target small businesses (i.e. <20 employees) and more extensive evaluation of the impact of the kit on workplace practices. Clearly further work is urgently needed in the area of assisting employers as they develop and implement family friendly policies.

10.4.6 Breastfeeding and You: A handbook for antenatal Educators NSW.

The Commonwealth Government, as part of the National Breastfeeding Strategy, identified antenatal education as an area that would benefit from the development of a comprehensive resource for educators. While it is recognised that most maternity units offer antenatal education to pregnant couples about breastfeeding, it is also recognised that the focus has been primarily on the physiological changes of pregnancy rather than on the practical issues of breastfeeding.

The breastfeeding education resources package developed to address this need and was launched in 2000, with evaluation reported in 2002 (unpublished). The package consists of a folder containing 11 modules that address a range of education issues including preparing to breastfeed; the breastfeeding

experience; facilitating antenatal groups; planning antenatal strategies; resources for educators and participants; breast-feeding related learning strategies; handouts for participants and evaluating antenatal strategies. The kit also included a poster and video, which explores *“the emotional, social and practical issues which arise for many women and their partners during pregnancy as they consider breastfeeding their baby”* (video notes). The kit was distributed widely and without cost to practising antenatal educators.

The holistic nature of the package recognises the diverse needs of Australians by approaching breastfeeding education from a multifactorial viewpoint. The material encourages educators to explore various themes and offers resources from which to begin to develop a program, and importantly, through to evaluating the program efficacy.

The Centre for Family Health and Midwifery, University of Technology, Sydney undertook the evaluation process in 2001. The report is currently awaiting approval for publication by the Department of Health and Aged Care. The evaluation methodology was made up of three phases:

1. Two hundred and fifty package recipients were followed up after a random selection process and asked to complete a questionnaire
2. A further 92 recipients were randomly selected for a telephone survey, and

3. Qualitative data was collected over twelve months via seminars and conferences, email responses and a focus group held in Sydney.

The package was generally well received by educators and feedback revealed that they believed it was an excellent resource. The evaluation process revealed a number of concerns with regard to the marketing and distribution of the package, the contents of the video and opinions that a need for workshops for educators was required that detailed how best to use the material. In terms of the video, comments ranged from very negative to very positive –(i.e. the scenes were too staged, very middle class in orientation), whereas others believed it was comprehensive and useful. It appears that the evaluation of the video was largely dependent on the socioeconomic backgrounds of the clients. Some educators had the opportunity to participate in workshops detailing how to use the package. One participant's comments on completion of the workshop was that they had participated to help them *'make the activities come alive. I need to see something before I understand how to use it'* (Svensson J, unpublished evaluation report Oct 2002). Others expressed concern that they were not sure how to adapt the material for their clientele, which consisted of young mothers or single parents for example. It was for these reasons that they did not use the package, or had used only parts of it.

The final recommendations from the evaluation included ensuring that any future packages would be sent to suitable targets with appropriate pre-marketing and

at the time of release the provision of education in the form of workshops should be available to educators.

10.4.7 Naturally: The Facts About Breastfeeding package: Nursing Mothers' Association of Australia; Royal Australian College of Physicians; Royal Australian College General Practitioners & Royal College of Nursing Australia & Pharmaceutical Society of Australia. 1998 - 1999

'Naturally: The Facts About Breastfeeding' package was developed by a number of stakeholders to provide education opportunities to a range of health professionals who work in the community and to provide continuing education. The kit consists of a best practice guide to managing breastfeeding problems, a lactation resource guide and samples of consumer materials, which were developed for the family education package.

Thirty thousand copies of the package were distributed to general practitioners, paediatricians and child health nurses nationally. An initial evaluation occurred to determine the effectiveness of the distribution process (details not available). Time constraints for the project resulted in minimal feedback from recipients with no further evaluation results being available.

10.4.8 National Breastfeeding Education/ promotion for families: Nursing Mothers' Association of Australia (NMAA) – 1997 - 1998

The family education strategy (Commonwealth Department 2001) was developed to target Australian families, in particular focussing on rural and remote areas i.e. settings more than 100 kms distant from a town, together with culturally and socioeconomically disadvantaged groups. A range of material was developed by the NMAA following extensive market testing with target groups. Once finalised, the material was distributed widely through relevant health agencies and services, with accompanying marketing and publicity.

The material was developed in an attempt to raise community awareness of breastfeeding together with providing accurate information about breastfeeding.

The resources developed included:

1. *“Two series of tip cards in Vietnamese, Chinese, Arabic, Turkish and Spanish*
2. *“You can breastfeed your baby” booklet for those with low literacy*
3. *‘Let’s give our baby the best’ comic booklet aimed at young parents and*
4. *Two posters with captions ‘Mothers Milk perfect anytime anywhere” (p11)*

To date there has been no formal evaluation of this material.

10.4.9 Mothercarer Program: South Australia

A relatively new project developed in South Australia, is the Mothercarer Program. Developed on a Dutch maternity care model, the South Australian

project currently offers postnatal support to young women who have given birth at Lyell McEwin Hospital in Adelaide, to a full term healthy newborn and who live in one of the county's poorest geographic regions in the north of Adelaide (as identified by the Australian Bureau of Statistics Census).

The aims of the program are to increase the rate of breastfeeding and to decrease the incidence or at least the severity of postnatal depression. The Mothercarers are not nurses or midwives but they work very closely with the home-visiting midwives over the first six postnatal days of care. The care is provided for six consecutive days and consists of up to six hours per day of general household activities; childcare for older siblings, shopping and baby care assistance. The Department of Human Services employs the Mothercarers, following successful completion of a customised course. Nominating 18-25 year old women for this role was another strategy that aimed to improve employment opportunities for a disadvantaged group and to engage the carers as role models for their peer group.

The project is currently entering stage two and as yet there has been no evaluation of the project's impact on the community or on breastfeeding rates. The Project Manager states "we do encourage breastfeeding where ever we can. Lyell McKewin is a Baby Friendly hospital (BFHI Accredited), but we have no official figures on outcomes as yet."

10.4.10 Development of national accreditation standards for maternal and infant care services

The Australian College of Midwives, the Quality Improvement Council and the Australian Council on Health Care Standards were contracted to develop national standards of care for integration of maternal and infant care services (QICL 1999). Stakeholders from a range of backgrounds contributed to the development of the Module and Guidelines by acting as a reference group for the consortium. Within the module there is the provision to facilitate the delivery of support for the initiation and maintenance of breastfeeding and address the transfer of care from hospital to community health services.

The Standards are designed to *“promote quality outcomes for clients, guide staff in service development and enable quality improvement, evaluation and accountability. Their purpose is to develop a consistent, high level of quality across services (viii)”*

Three sites were chosen to pilot the guidelines and three were chosen to pilot the module. Following the pilot and evaluation process, revisions were incorporated into the materials and the final documents were made available to health care providers nationally. Health care facilities are required to show that they conform to the guidelines when they undergo Accreditation. (Information

relating to the location of sites for piloting, how they were chosen or expected timing for accreditation is not currently available).

10.4.11 Indigenous health service provider's projects

The Federal Government, as part of the National Breastfeeding Strategy, developed two projects (Commonwealth Department 1997, 1997) in order to review current breastfeeding support and interventions for breastfeeding by Aboriginal and Torres Strait Islander women. The Office for Aboriginal and Torres Strait Island Health Services were commissioned to undertake both parts of the project, which were to be developed concurrently.

Project 1A: Audit of current training and breastfeeding support and infant nutrition

The audit report identified shortcomings in breastfeeding and infant nutrition content in existing practices by health practitioners, recommending that this could be improved across all educational settings. In particular, the report states that training and resources should be brought in line with current National Health & Medical Research Centre (NH&MRC) dietary guidelines with specific focus on the first 12 months of life.

The audit also highlights the importance of taking a holistic approach to the care of mothers and their children, and recommended that continuity of care issues be incorporated throughout all maternity care services. Short, medium and long-term recommendations have arisen from this report which incorporates a broad range of initiatives that include health care provider training and resource development.

Project 1B: Review of current interventions and identification of best practice.

The review aimed to assess current practices in the promotion of and support for breastfeeding in indigenous communities. Broad consultation occurred across a range of health providers, with 22 providers specifically working in indigenous health services. A most disappointing finding from the review was that not all service providers rated breastfeeding as a priority health issue. The Report found that lack of expertise in the diagnosis and management of breastfeeding problems and few referral options, all reflected less than ideal outcomes for indigenous mothers and babies.

Recommendations from the review incorporated a broad and holistic approach in order to improve indigenous infant and child nutrition. Recommendations addressed issues ranging from improved health worker knowledge through appropriate education, the provision of culturally appropriate information about

breastfeeding for indigenous women and their families and the development of appropriate referral sources. The focus on national policy, goals and target development together with a national health information system including indicators for breastfeeding and infant nutrition practice would facilitate and inform of strategy achievement and developments.

10.4.12 Data collection: monitoring national breastfeeding rates

Obtaining accurate national data on breastfeeding has proved elusive for many years. Primarily this has been due to inadequate data collection and inconsistent breastfeeding definitions. The latest attempt to define breastfeeding comes from the 1995 National Health Survey (NHS) (Donath et al. 2000), which collected breastfeeding information on each child under four years of age together with the mother's experiences of breastfeeding. What it did not do was investigate the proportion of breastfeeding compared with all other types of infant feeding.

It is clear from the work of Donath and Amir (Donath et al. 2000) that the most recent NHS statistics are unreliable and therefore the development of a strategic plan to improve data collection methodologies and analysis is required. As part of the National Breastfeeding Strategy, the Federal Government has accepted a tender by a consortium from Queensland, Sydney and Deakin Universities to develop a discussion paper together with recommendations to monitor and report accurately on breastfeeding nationally.

Broadly, the discussion paper identified that Australia lags behind international attempts to standardize breastfeeding data collection methods (Webb, Marks, Lund-Adams and Abraham 2001). The paper recognised that Australia needs to develop breastfeeding indicators, which address the “*purpose, definitions, data elements and requirements, and data sources*” (pvii) in order to accurately identify current breastfeeding practices nationally and to standardise data collection in line with international standards – specifically the WHO definitions which are presented in Table 10.1.

Table 10.1 WHO definitions of Breastfeeding

Category of infant feeding	Requires that the infant receive:	Allows the infant to received:	Does not allow the infant to receive:
Exclusive	Breastmilk, EBM or from wet nurse	Drops, syrups, (vitamins, minerals, medicines)	Anything else
Predominantly	BM, EBM or from a wet nurse, predominant source of nourishment	Liquids (water and water-based drinks, fruit juice, ORS) ritual fluids and drops or syrups (vitamins, minerals, medicines)	Anything else in particular, non-human milk, food-based fluids
Complementary Breastfeeding	BM and solid or semi-solid foods or non-human milk	Any food or liquid including non-human milk	
Non-breastfeeding	No BM	Any food or liquid including non-human milk	BM, including EBM or from wet nurse
Breastfeeding	BM	Any food or liquid including non-human milk	

(pviii) (Webb et al. 2001)

Consistency in definitions, both within Australia and internationally would ensure research comparability and greater accuracy of data results.

A number of recommendations were made in the discussion paper (Webb, Marks, Lund-Adams and Abraham 2001). Together with the call to standardise breastfeeding definitions and bring them in line with international definitions, the group proposed a number of indicators to be used in the monitoring process.

These indicators are:

1. *Based on mothers' recalled practice among children aged less than 4 years*

- *Percent ever breastfed*
- *Percent breastfed at each completed month to 12 months*
- *Median duration of breastfeeding among 'ever breastfed' children*

2. *Indicators based on mothers' reported current practice (previous 24 hours) among infants aged less than 6 months*

- *Percent exclusively breastfeeding in the previous 24 hours among infants at each completed month of age to 6 months*
- *Percent fully breastfed in the previous 24 hours among infants at each completed month to 6 months*

- *Percent receiving solid foods in the previous 24 hours among infants at each completed month to 6 months*
- *Percent receiving breastmilk substitutes in the previous 24 hours among infants at each completed month of age to 6 months*

(p xv) (Webb et al. 2001)

A data collection methodology was proposed which was intended to enhance results. Primarily, a survey was the principle method used. In addition, the recommendation was that all children under four years were to be included for 'recalled practice' and all children under six months of age were to be included for the 'current practice' component. The group also recommended that further questions be designed to evaluate the accuracy and validity of survey questions. Following broad consultations with stakeholders from clinicians, community representatives and related government health authorities, amendments were made to data elements and measurement methods. The next step is to run pilot activities to determine the efficacy of the recommendations, if and when this may occur has not yet been made public by the Government.

10.4.18 Starting Out – Caring for new mothers at community level

The Starting Out Program was developed in 1992 to identify the needs of and to plan effective services for pregnant and parenting young women by the Uniting Church in Australia (Victoria). The program is based in the east of metropolitan Melbourne and services the outer eastern region. Young women who are under

25 years of age and who are either pregnant or have a child (or children) under five can access the service. A range of services are offered to clients including a variety of counselling services, antenatal support and information, supported accommodation, outreach support that includes practical parenting and living skills and peer support groups. The primary aim of the service is to *“enhance the capacities of young mothers and their children to develop positive relationships with each other and the community”* (p11)(Lovell and Littlejohn 1997).

In 2002 a community educator and midwife with the Starting Out Program chose to research the experience of breastfeeding for the program’s clients as part of her Master’s degree. Her thesis, currently being examined, sought to investigate the breastfeeding patterns of clients in the Starting Out Program in order to better meet their needs. The objective of the study was to determine young mother’s antenatal intentions and describe their breastfeeding outcomes within the context of their experiences.

Greenwood’s study identified a number (N=42) of the participant young women as from complex backgrounds, suggesting that up to 60% had a history of past child abuse, 87% were current recipients of Government pensions, had low levels of education and lived in poor accommodations. Previous research (Donath et al. 2000) has identified that young disadvantaged mothers are less likely to successfully breastfeed and this was consistent with the Greenwood study.

The findings from Greenwood's study were interesting. In the antenatal period she found that 97.6% intended to breastfeed and most of those expected to breastfeed for at least six months. The breastfeeding rate on discharge was actually higher (82.8%) than in the general population (77.4%) but not all achieved their expectations (DHS. 1997/8). Of note is a comment by one participant who said *"I wanted to go back to work in three months, but if I find it more beneficial I will wait until six months"* and *"I only want to breastfeed up until New Years Eve. I want to drink"* (Greenwood 2002). Questionnaires were sent out to clients at three monthly intervals following the first and disseminated soon after birth. Twenty percent (n=8) of the group breastfed for the time they intended or longer. Those women who said they would breastfeed for as long as they could, breastfed for between two days and seven months. Participants who did not achieve their goals reported a range of reasons for weaning earlier. The primary reasons were nipple pain and trauma, low infant weight gains, the baby was difficult to feed, there was not enough milk and the mother hated breastfeeding. The breastfeeding rate for this group at three months was 48.5% and 37.1% at six months. Exclusivity of breastfeeding was not identified. The author recognised that these post-discharge rates were lower than for the general population, however this is not surprising given the population being studied.

Unlike older populations, young pregnant women are more likely to decide how they will feed either late in pregnancy or will wait until the infant is born before deciding. With higher levels of support such as the Starting Out Program, almost all (98%) participants initiated breastfeeding. The high drop out rate however, suggests a need for equally high levels of support in the postnatal period if breastfeeding is to become established and ongoing.

10.5 WHERE TO NOW? A COORDINATED APPROACH

This chapter has detailed a number of breastfeeding strategies, campaigns and projects. The list is by no means exhaustive or complete. It does however, provide an overview of projects that have been developed over the last five years, with varying degrees of evaluation. What is evident from these strategies is the recognition that breastfeeding is an important health issue and as such the Commonwealth Government has begun the process of protecting, promoting and supporting breastfeeding in our society. What is of concern is the lack of a central coordinating body to oversee this process. Individual projects cannot hope to change community attitudes to a specific health practice in anything but a limited way. Breastfeeding rates in Australia are not rising, and may in fact be decreasing. Victorian breastfeeding statistics from 1998 (DHS. 1997/8) suggest that this may be the situation. The most recent National Health Survey results suggest that initiation rates are static with rates at three months slightly improved. Exact figures are not available as yet.

10.6 WHAT IS MISSING?

With a large number of individual projects working in isolation from each other, the national awareness of breastfeeding remains stagnant and Australia continues to lose significant opportunities to improve the number of babies who are breastfed for the recommended durations. Increasing community awareness and support for breastfeeding is a major undertaking, one that warrants far more resources than have to date been allocated by Governments. The following proposals have the potential to enhance current strategies and facilitate a change in breastfeeding promotion direction:

- ❖ The appointment of a National Coordinator for Infant Nutrition who has access to appropriate resources and expertise would be a positive beginning. The provision of a central body responsible for infant nutrition would help ensure that any work in the area meets best practice guidelines and continually recognises the effect on the 'big picture' rather than specific target groups alone.
- ❖ The relatively small amount of funding allocated to breastfeeding promotion to date, has produced specifically targeted campaigns that show little evidence of overall change in either community attitudes or health practices. Knowing that breastfeeding is the best way to feed

babies, and most people do know this, is not being translated into improved breastfeeding statistics. Current and recent strategies have made little impact on the overall picture. Recognition by Government that breastfeeding decreases health costs by reducing infant and maternal morbidity and mortality must be translated into more appropriate funding levels.

- ❖ Conflicting advice and inappropriate management of breastfeeding by health professionals has been found to be a significant issue for the mothers in the present study during their attempts to establish breastfeeding. Training programs for health professionals are often adhoc and do not recognise the importance of providing women with all the information they require about infant feeding. The result is that women cannot make an informed decision. Coordinated education programs for health professionals linked to professional development accreditation would have the potential to ensure that those who work with mothers and babies remain current in their knowledge and their practices.

- ❖ Future promotion strategies of breastfeeding need to reach broad populations via methods that are seen and heard by large numbers of people. Targeting television, radio, print media, billboards, television program content, schools and public transport systems are all viable ways to target large numbers of the population. The goal of this type of

activity would be to saturate the market until people stop 'seeing' the material and it becomes a normal way of life for babies to be breastfed - an ingrained part of our culture to breastfeed babies wherever and whenever the need arises.

- ❖ It is essential that health professionals change the way breastfeeding is discussed and promoted during the pregnancy at each prenatal visit. Currently, women commonly receive inappropriate, inadequate or ambivalent information and often conflicting advice, which decreases the likelihood of effective education. By discussing early parenting and breastfeeding issues during the pregnancy, first time parents are more likely to feel prepared rather than overwhelmed when they take their baby home.

- ❖ Antenatal health care providers should identify multiparous women who did not successfully breastfeed previous children. Once identified, women can be offered time with a lactation consultant to work through what went wrong last time and to develop a plan for the expected baby. Other women with special needs could also be identified and supported in this way. For example, women with inverted nipples or who expect a baby who may require special care for a time or if she has a disability herself. By identifying potential problems during the pregnancy, a significant

opportunity for support and education is available with a greater likelihood for successfully initiating and then establishing breastfeeding.

- ❖ Breastfeeding, particularly for primiparous women takes six to twelve weeks to become established. Currently, women are discharged from hospital following a normal birth on around day three, with some domiciliary visits being offered for up to a week – usually two or three visits. The responsibility for care is then handed on to child health community nurses, who may see the mother and baby every other week for a short consultation. With increasing responsibilities for social and emotional health and wellbeing of mothers and their babies together with growth and development needs of infants, complex breastfeeding problems can often not be managed effectively due to time constraints and inadequate resources. With significant numbers of babies being weaned in the first three months, the disparity between postnatal support and education needs and availability of care must be addressed.

- ❖ A number of studies have identified limitations in postnatal education during the hospital stay (McKellar 2002). McKellar describes how low levels of maternal confidence with an associated anxiety have the potential to negatively influence a woman's ability to care for herself and her infant. Currently midwives are, by necessity, task oriented for a range of reasons. What this equates to for individual women is an inability to identify and address specific learning needs. The development of a tool

that can facilitate each woman's learning rather than relying of Care Maps that are proscriptive rather than responsive, should be developed. Each woman comes to motherhood with varying degrees of knowledge and experience. By identifying each woman's needs early in the postnatal stay, education can be planned to optimise her learning outcomes.

- ❖ Currently, access to breastfeeding support post hospital discharge is uncoordinated, not freely available and those services which are available are often under resourced. Mothers who are experiencing breastfeeding problems can wait up to six weeks before being seen in a Day Stay Program. This is simply too long. Most women would have weaned in that time. While there are some lactation consultants in private practice, their services are costly and not rebatable meaning that this is not an option for many women. Clinical experience has shown that the earlier a mother and baby are seen, the more likely that breastfeeding problems can be overcome and maternal confidence established.

10.7 SUMMARY

The incidence of breastfeeding in Australian society reflects community attitudes to and understanding of how and where infants should be fed. With high initiation rates followed by swift dropout as the postpartum weeks progress, it is recognised that significant change must take place before breastfeeding

mothers can feel secure with feeding their babies. This can only happen if a comprehensive and coordinated approach is widely adopted and actioned.

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APPENDICES

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BREASTFEEDING SURVEY : QUESTIONNAIRE ONE

Please complete and return this questionnaire, regardless of how you are feeding your baby now.

You may complete and return it during the first two weeks after the birth of your baby.

(Please fill in the spaces provided, circle the appropriate numbers or tick the appropriate boxes)

Section 1: Personal Information

--	--	--

1. Name.....

2. Address.....

for office

3. Telephone.....

use only

4a. Your age in years at next birthday:	under 20	<input type="checkbox"/>	1
	21 - 25	<input type="checkbox"/>	2
	26 - 30	<input type="checkbox"/>	3
	31 - 35	<input type="checkbox"/>	4
	36 - 40	<input type="checkbox"/>	5
	41 +	<input type="checkbox"/>	6

4b. Baby's fathers' age in years at next birthday :	under 20	<input type="checkbox"/>	1
	21 - 25	<input type="checkbox"/>	2
	26 - 30	<input type="checkbox"/>	3
	31 - 35	<input type="checkbox"/>	4
	36 - 40	<input type="checkbox"/>	5
	41+	<input type="checkbox"/>	6

5a. What country were you born in ?

5b. What country was the baby's father born in?

6. Main support person (with whom you live)	Partner	<input type="checkbox"/>	1
	Other	<input type="checkbox"/>	2
	None	<input type="checkbox"/>	3

7. Your highest level of education?	Primary School	<input type="checkbox"/>	1
	High School	<input type="checkbox"/>	2
	TAFE	<input type="checkbox"/>	3
	College / University	<input type="checkbox"/>	4

8a. What is your usual occupation?	Professional	<input type="checkbox"/>	1
	Proprietor/ Manager	<input type="checkbox"/>	2
	Office/ Sales	<input type="checkbox"/>	3
	Skilled Workers	<input type="checkbox"/>	4
	Semi skilled	<input type="checkbox"/>	5
	Unskilled	<input type="checkbox"/>	6
	Farmers	<input type="checkbox"/>	7
	Home duties	<input type="checkbox"/>	8
	Other	<input type="checkbox"/>	9

8b. Has this been your main source of income? Yes 1
 No 2

9a. Were you working in paid employment during the most recent pregnancy? Yes 1
 No 2

9b. How many hours per week did your work in paid employment during this pregnancy?
 <10 1
 11 - 20 2
 21 - 30 3
 31 - 40 4
 > 40 5

10. At what stage of the most recent pregnancy did you stop work?
 0 - 16 weeks 1
 17 - 28 weeks 2
 29 - 40 weeks 3

11a. Are you planning on going back to paid employment in the near future? Yes 1
 No 2

11b. If yes when will this be?months

11c. What is the baby's father's occupation? Professional 1
 Proprietors/ Managers 2
 Office/ Sales 3
 Skilled Workers 4
 Semi skilled 5
 Unskilled 6
 Farmers 7
 Other 8

Section 2: The Antenatal Period

12a. Were you well throughout the most recent pregnancy? Yes 1
 No 2

12b. If not, what was the problem(s).....

12c. How much weight did you put on during the most recent pregnancy? < 6kgs 1
 6 - 10kgs 2
 > 10kgs 3

13a. What is your baby's name?.....

13b. What was your baby's birth weight?grams

13c. How old is your baby now? days

14a. Is this your first baby? Yes 1
 No 2

14b. *If this is not your first baby*, how many other children do you have?.....

15. How old in years/ months are your other children now? Child one.....
 Child two.....
 Child three.....
 Child four.....
 Child five.....

16. In the first three months, how did you feed your *other babies*?

BABY	BREASTFED	BOTTLEFED		BOTH	CUP
		expressed breastmilk	formula		
One	1	2	3	4	5
Two	1	2	3	4	5
Three	1	2	3	4	5
Four	1	2	3	4	5
Five	1	2	3	4	5

17. *If breastfed at all*, how old was each baby when you weaned and why did you wean?

Baby	Age fully weaned	Reasons for weaning
1		
2		
3		
4		
5		

18. How were you fed as a baby for the first three months?
 Breast 1
 Bottle 2
 Both 3
 Unknown 4

18b. Have your family/ friends breastfed their babies?
 Yes 1
 No 2

19a. Did you attend 'antenatal classes' *during the most recent pregnancy*?
 (If your antenatal education was provided by your private Midwife,
 please cross out 'antenatal classes' above)
 Yes 1
 No 2

19b. Did your partner attend antenatal education with you? Yes 1
 No 2

19c. Were the classes held where you gave birth? Yes 1
 No 2

19d. In your antenatal education, were the following topics covered?

- 1. Preparation for breastfeeding 1
- 2. Importance of breastfeeding 2
- 3. What is colostrum/ breastmilk 3
- 4. How to establish/maintain your milk supply 4
- 5. How to position and attach your baby 5
- 6. Where to get further information about breastfeeding 6
- 7. How to breastfeed if returning to paid employment 7
- 8. None of above discussed 8

20a. When did you decide that you wanted to breastfeed?

- Had never thought about breastfeeding before 1
- Decided prior to first pregnancy 2
- Decided during the first pregnancy 3
- Decided after the birth of my first baby 4

20b. Why did you decide to breastfeed? (You can tick more than one)

- Best for baby 1
- Breastfeeding is easier 2
- Breastfeeding costs nothing 3
- Other (please describe) 4

.....

20c. Did your decision to breastfeed change? Yes 1
 No 2

20d. If yes, when did this happen and why

.....

20e. How does your partner feel about breastfeeding? Supportive 1
 Not supportive 2
 Not interested 3

20f. If other than supportive could you describe your partners attitude to breastfeeding

21. Did you take any of the following during the most recent pregnancy?

- No 1
- Vitamins/ minerals 2
- Over the counter medications 3
- Prescribed medications 4
- Social drugs 5
- Cigarettes (>5/ day) 6
- Alcohol (at least 1 drink /day) 7

SECTION 3: THE BIRTH

22. Where did you give birth to this baby?.....

23. Was this birth place planned? Yes 1
 No 2

24. If you gave birth in hospital, were you accompanied by your own private midwife? Yes 1
 No 2
 N/A 3

- 25a. What type of birth did you have with this baby?
- Normal vaginal 1
 - Forceps 2
 - Elective caesarean 3
 - Emergency caesarean 4
 - Vacuum extraction 5

- 25b. What position were you in for the birth of your baby?
- Standing 1
 - Squatting 2
 - All fours 3
 - Semi reclining 4
 - Lithotomy (stirrups) 5

- 26a. Who was with you when you gave birth?
(You can tick more than one)
- Partner 1
 - Mother (in law) 2
 - Hospital Midwife 3
 - Doctor 4
 - Friend 5
 - Student 6
 - Other 7
 - Private Midwife 8

- 26b. Who delivered the baby?
- Doctor 1
 - Midwife 2
 - Support person 3

26c. What was the length of labour?hours

27a. Did you have any medications during labour? Yes 1
No 2

27b. *If you did*, what type of medication was it? (you can tick more than one)

- Pain relief injection 1
- Gas 2
- Epidural/ spinal 3
- General anaesthetic 4

27c. Did you use any other techniques to help you with the labour and birth?
for example: water, massage, acupuncture) Yes 1
No 2

27d. *If you did use other techniques*, please list them?.....

.....
.....

28a. Did you experience any complications during labour or after the birth? Yes 1
No 2

28b. *If yes*, what were the complications? (please include episiotomy and
or a tear that required stitching).....

.....
.....

29a. How soon after the birth did you hold your baby?

.....

29b. Who did the initial examination of your baby after birth? Doctor 1
Midwife 2

29c. Did your baby stay with you during the examination? Yes 1
No 2

29d. If your baby was examined or given any medical care away from you,
how long was this for? minutes/ hours approximately

30. If you decided to breastfeed. when did you first put the baby to the breast?
.....

31a. Did you receive help in getting your baby onto the breast for the first feed? Yes 1
No 2

31b. Please can you describe how you felt about the baby's first breastfeed?
.....
.....
.....

Section 4: The Postnatal Period

32a. Has your baby been well since the birth? Yes 1
No 2

32b. *If no*, what has been the problem/s?.....

33a. How are you feeding your baby at the moment? Breast 1
Bottle 2
Both 3
Cup 4

33b. Is this how you planned to feed? Yes 1
No 2

33c. *If no*,
 1. what was your original plan?.....

 2. When did your original plan change?.....

 3. Why did your original plan change?.....

34. Where does your baby sleep at night? Same bed 1
Another room 2
Cot beside bed 3

35a. Has your baby received any bottlefeeds? 1
Unknown 2
Boiled water 3
Glucose water 4
Formula 5
Expressed b/milk 6

35b. Was this given with your consent? Yes 1
No 2

35c. Has the baby been given a dummy/ pacifier? Yes 1
No 2

36. Indicate the main sources of breastfeeding information that you have received since becoming pregnant. (please rate rows 1 - 9 by circling the appropriate number. 0 = no information and 4 = the greatest amount of information given about breastfeeding)

Please mark one number in all rows

- 1. Antenatal class (none) 0 1 2 3 4 (greatest)
- 2. Books/ magazines (none) 0 1 2 3 4 (greatest)
- 3. Family (none) 0 1 2 3 4 (greatest)
- 4. Friends (none) 0 1 2 3 4 (greatest)
- 5. Doctors (none) 0 1 2 3 4 (greatest)
- 6. Midwives (none) 0 1 2 3 4 (greatest)
- 7. Nursing Mothers' (none) 0 1 2 3 4 (greatest)
- 8. Lactation Consultant (none) 0 1 2 3 4 (greatest)
- 9. Other, please specify (none) 0 1 2 3 4 (greatest)

37a. How do you feel confident about getting the baby on to the breast by yourself?

Not confident 1	Fairly confident 2	Confident 3	Very confident 4
--------------------	-----------------------	----------------	---------------------

37b. If other than very confident, what could be done to help improve your confidence.....

38. Are you experiencing any of the following (you can tick more than one):
- | | | |
|--------------------------------------|--|----|
| Feeling very tired - more than usual | | 1 |
| Breast pain | | 2 |
| Nipple pain/ trauma | | 3 |
| The baby is fussy / unsettled | | 4 |
| Too much milk | | 5 |
| Milk not in yet | | 6 |
| Attachment difficulties | | 7 |
| Mastitis | | 8 |
| Other (please explain)..... | | 9 |
| | | 10 |

39. What do you consider to be the most and the least helpful experiences you have encountered with breastfeeding since the baby was born?

a. Least helpful.....

b. Most helpful.....

.....
.....
.....

40a Will you have help and support at home?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2
Don't know	<input type="checkbox"/>	3

40b. If yes, who will that be?.....

40c. Did you have any contact with the Nursing Mothers' Association prior to the birth?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

41a. Was a plan for your discharge home been discussed with you ?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2
N/A	<input type="checkbox"/>	3

41b. If yes, when was this discussed?

Day one	<input type="checkbox"/>	1
Day two	<input type="checkbox"/>	2
Day three	<input type="checkbox"/>	3
Day four	<input type="checkbox"/>	4

42a. If you gave birth in hospital, were you been offered domicillary care when you went home?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

42b. If yes, how many days were available to you?

.....days

Please use this space for any other comments that you would like to make

.....

.....

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.....

.....

Thankyou for taking the time to complete this questionnaire. Please complete and return it before your baby is 14 days old. There is a prepaid envelope provided for your convenience.

The next questionnaire will be posted to you in approximately 2 1/2 months.

Thankyou once again..

Dear Participant,

My name is Jennifer JAMES. I am a midwife and Breastfeeding Counsellor. Currently I am undertaking a Masters Degree in Nursing by Research at the Faculty of Nursing, RMIT.

Thank you for your consideration of this study, entitled: **An Analysis of the Breastfeeding Practices of a Group of Victorian Mothers.**

This study is an opportunity to gain an understanding of the current patterns and practices of breastfeeding mothers. Specifically, the aim of the study is to identify factors that influence women's' breastfeeding experience, and information will be collected using questionnaires during the first year of your baby's life.

The first questionnaire (which is attached) will be followed by five more which will be mailed to you, at the following times (approximately): 10 - 14 days after birth, 3 months, 6 months, 9 months and 12 months. Included will be a stamped self-addressed envelope for the return of the completed questionnaires to me. Each questionnaire will take approximately 30 minutes of your time to complete.

You will be asked to sign a consent form prior to commencement of the study. You are free to withdraw at any time or for any reason. If you have any concerns, you may contact either myself or my supervisors. You will be given a case number and your name will not appear on the questionnaire. Your name will not be used in the writing up of this study or in any report submitted for publication. Only myself (the researcher) and my supervisors will have access to the information you provide. To ensure confidentiality, this information will be held in a locked cupboard in my home for a period of 5 years following completion of the study and then shredded.

It is my hope that your participation in the study will give you an opportunity to describe and explore your breastfeeding experience. The results of the study will provide health care providers with a broader understanding of the needs of mothers who breastfeed their babies. Should you need advice about breastfeeding issues, please contact the midwives where you gave birth, the Nursing Mothers 24 hour counselling line - 9878 3304 or the Maternal and Child Health centre in your area.

If you have any queries or concerns about the study at any time, please do not hesitate to contact myself on 9873 0238 or my supervisors, Associate Professor Diane Cutts 9468 2448; Associate Professor Zevia Schneider 9468.2301.

Thank you for your time.
Sincerely,

Jennifer James.

Dear participant

Thankyou for agreeing to be part of the pilot study for this research. Please find enclosed copies of the letter that introduces myself and the study, a consent form for you to read and sign if you are happy to participate, and the questionnaire for you to complete once your baby is born. Could you please fill in the questionnaire on day 2 or 3 after the birth. Also included is a stamped self addressed envelope, for you to return the signed consent and completed questionnaire.

As this is a pilot study, this will be the only questionnaire you will be asked to complete. A pilot study is a very important step in the research process and it is done to ensure that the information gained and the method of gaining data is valid for the purposes of analysis.

I encourage you to write any comments about the questionnaire - positive and negative, including if you experienced any problems with the questions or the format. That way I can make any modifications if needed.

Once again, thank you for your participation
Best wishes

Jenni James

CONSENT FORM

I, (name of participant)
agree to participate in the research project entitled **An Analysis of the Breastfeeding Practices of a Group of Victorian Mothers**, being conducted by **Jennifer James**.

My consent is based on the understanding and acknowledgment that:

1. I have read and retained a copy of the project information sheet and am satisfied that I understand the nature and purpose of this study.
2. My involvement entails completion of questionnaires which will take approximately 30 minutes each.
3. I am satisfied that anonymity and confidentiality is assured, as outlined in the information sheet, which I have read.
4. This study may not be of direct benefit to myself.
5. My consent to participate in this study is voluntary and I am free to withdraw from the project at any time.
6. I will retain a copy of this consent form once it has been signed.
7. Should I wish to discuss my participation with someone not directly involved in the project, particularly in regard to matters concerning policies, information about the conduct of the study, or my rights as a participant, or if I wish to make a confidential complaint, I may contact the Secretary of the Human Ethics Committee, RMIT, 124 LaTrobe Street, Melbourne, 3000. Telephone (03) 9662 0611.

Signed.....

Date.....

BREASTFEEDING SURVEY: QUESTIONNAIRE TWO

(Please fill in the spaces provided, circle the appropriate numbers or tick the appropriate boxes)

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1. If you gave birth other than at home, what day did you go home?

Day 1	<input type="checkbox"/>	1
Day 2	<input type="checkbox"/>	2
Day 3	<input type="checkbox"/>	3
Day 4	<input type="checkbox"/>	4
After day 5	<input type="checkbox"/>	5

2. Was this your choice?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

3. If not your choice, what day would you have chosen?

Day 1	<input type="checkbox"/>	1
Day 2	<input type="checkbox"/>	2
Day 3	<input type="checkbox"/>	3
Day 4	<input type="checkbox"/>	4
After day 5	<input type="checkbox"/>	5

4. Could you briefly describe why you would have chosen that day to leave?

.....

.....

.....

.....

5. Who has provided you with support with breastfeeding so far? *(Please rate the following rows by circling the appropriate number. 0 = no support and 4 = the greatest support)*

(Please mark one number in all rows)

1. Partner	(none)	0	1	2	3	4	(greatest)
2. Family	(none)	0	1	2	3	4	(greatest)
3. Midwife	(none)	0	1	2	3	4	(greatest)
4. Doctor	(none)	0	1	2	3	4	(greatest)
5. Friends	(none)	0	1	2	3	4	(greatest)
6. NMAA	(none)	0	1	2	3	4	(greatest)
7. LC*	(none)	0	1	2	3	4	(greatest)
8. Other	(none)	0	1	2	3	4	(greatest)
9. M&CHN**	(none)	0	1	2	3	4	(greatest)
10. Other	(none)	0	1	2	3	4	(greatest)

Please describe.....

*LC = Lactation Consultant ** M&CHN = Maternal & Child Health Nurse

6. How old is your baby now? Days

7a. Has the baby been well?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

7b. If no, what has been the problems (s).....
.....
.....

8a. Have you been well? Yes 1
No 2

8b. If no, what has been the problem/s.....
.....
.....

9a. Have you experienced any problems establishing breastfeeding so far? Yes 1
No 2

9b. If yes, please describe the problem/s.....
.....
.....

9c. If yes, what do you feel could have been done to prevent or reduce those problems.....
.....
.....

10a. If you gave birth in hospital, how many visits by the midwife have you had since leaving the hospital?

10b. If you gave birth at home, how many visits by the midwife have you had since the birth?

11a. Have you found these visits helpful? Yes 1
No 2

11b. Could you explain in what way they have been helpful or not helpful?

12a. How are you feeding the baby at the moment? Breast 1
Bottle (formula) 2
Both 3
Other 4

12b. Is this how you planned to feed? Yes 1
No 2

12c. If no,
1. When did you change your method of feeding?.....
.....
2. Why did you change?

13. Where does your baby sleep at night?

- Same bed 1
- Another room 2
- Cot beside bed 3

14a. Has your baby received any feeds other than breastmilk since birth?

- Yes 1
- No 2

14b. If yes, why was this given?

15. Has the baby had a dummy/ pacifier?

- Yes 1
- No 2

16. Are you experiencing any of the following (you can circle more than one):

- Feeling more tired than usual 1
- Breast pain 2
- Nipple pain/ trauma 3
- The baby is unsettled/ fussy 4
- Too much milk 5
- Low supply 6
- Getting baby on to breast 7
- The baby is sleepy 8
- Mastitis 9
- Other (please explain) 10

17a. Do you feel confident about getting the baby on to the breast?

Not confident	Fairly confident	Confident	Very confident
1	2	3	4

17b. If other than very confident, what could be done to improve your confidence?

.....

18a. Do you anticipate returning to work/ study in the next 3 months?

- Yes 1
- No 2

18b. If yes, will it be

Full time?	<input type="checkbox"/>	1
Part time?	<input type="checkbox"/>	2

18c. If yes, will it be

From home?	<input type="checkbox"/>	1
Away from home?	<input type="checkbox"/>	2

18d. If yes, who will be caring for the baby?

Family	<input type="checkbox"/>	1
Friend	<input type="checkbox"/>	2
Family Day Care	<input type="checkbox"/>	3
Child Care Centre	<input type="checkbox"/>	4
Take baby to work	<input type="checkbox"/>	5

18e. If yes, do you intend to continue breastfeeding when you return to work?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

19a. Have any of the following been a major issue for you as a new mother? (please rate each row by circling a number 0 = not an issue and 4 = a major issue)

Please mark a number in every row

1. Lack of confidence	(not issue)	0	1	2	3	4	(major)
2. Lack of support	(not issue)	0	1	2	3	4	(major)
3. Problems with breastfeeding	(not issue)	0	1	2	3	4	(major)
4. Lack of knowledge about breastfeeding	(not issue)	0	1	2	3	4	(major)
5. Baby unsettled	(not issue)	0	1	2	3	4	(major)
6. Conflicting advice	(not Issue)	0	1	2	3	4	(major)
7. Feeling alone	(not issue)	0	1	2	3	4	(major)
8. Feeling exhausted	(not issue)	0	1	2	3	4	(major)
9. Adjusting to being a mother	(not issue)	0	1	2	3	4	(major)

19b. If you answered 3 or 4 to any of the above, could you describe in what way this has been an issue for you?.....

.....

.....

.....

.....

.....

20. Is there anything you would like to add about your experience of breastfeeding that has not been addressed in this questionnaire?.....

.....

.....

.....

.....

.....

Once again, I thank you for your participation in this study

Please fill in the spaces provided circle the appropriate numbers or tick the appropriate boxes

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1. Would you describe your breastfeeding experience so far as:

- | | | |
|----------------------|--------------------------|---|
| Just as expected | <input type="checkbox"/> | 1 |
| Harder than expected | <input type="checkbox"/> | 2 |
| Easier than expected | <input type="checkbox"/> | 3 |
| Managed any problems | <input type="checkbox"/> | 4 |

2a. If you attended antenatal classes, did you feel prepared for the realities of breastfeeding?

- | | | |
|-----|--------------------------|---|
| Yes | <input type="checkbox"/> | 1 |
| No | <input type="checkbox"/> | 2 |

2b. If no, what would you recommend be included in antenatal classes that would have made a difference for you?.....

.....

.....

.....

3a. Did you find the advice given to you about breastfeeding during the early days after birth:

- | | | |
|-----------|--------------------------|---|
| Helpful | <input type="checkbox"/> | 1 |
| Confusing | <input type="checkbox"/> | 2 |

3b. Please explain.....

.....

.....

.....

4a. Have you experienced any problems with breastfeeding?

- | | | |
|-----|--------------------------|---|
| Yes | <input type="checkbox"/> | 1 |
| No | <input type="checkbox"/> | 2 |

4b. If yes, could you please list them?.....

.....

.....

5. If you have experienced problems, who have you sought advice from? Please list them

.....

.....

.....

6. Who has provided you with ongoing support with breastfeeding so far?

(Please rate each row by circling the appropriate number. 0 = no support and 4 = a great deal)

Please mark one number in all rows

1. Partner	(none)	0	1	2	3	4	(greatest)
2. Family	(none)	0	1	2	3	4	(greatest)
3. Midwife	(none)	0	1	2	3	4	(greatest)
4. Doctor	(none)	0	1	2	3	4	(greatest)
5. Friends	(none)	0	1	2	3	4	(greatest)
6. NMAA	(none)	0	1	2	3	4	(greatest)
7. LC*	(none)	0	1	2	3	4	(greatest)
8. Other	(none)	0	1	2	3	4	(greatest)
9. M&CHN**	(none)	0	1	2	3	4	(greatest)

*LC = Lactation Consultant ** M&CHN = Maternal & Child Health Nurse

7. How old is your baby now? months

8a. Has the baby been well?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

8b. If no, what has been the problems /s.....

9. Have you been well?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

9a. If no, what has been the problem /s?.....

10a. How are you feeding the baby at the moment?

Breast	<input type="checkbox"/>	1
Bottle (formula)	<input type="checkbox"/>	2
Both	<input type="checkbox"/>	3
Other	<input type="checkbox"/>	4

10b. Is this how you planned to feed?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

10c. If no,

1. When did you change your method of feeding?.....

 2. Why did you change?

11. Where does your baby sleep at night?

Same bed	<input type="checkbox"/>	1
Another room	<input type="checkbox"/>	2
Cot beside bed	<input type="checkbox"/>	3

12a. Has your baby received any feeds other than breastmilk since the last questionnaire

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

12b. If yes, why was this given?

13. Are you experiencing any of the following (you can tick more than one):

- Feeling more tired than usual
- Breast pain
- Nipple pain/ trauma
- The baby is unsettled/ fussy
- Too much milk
- Low supply
- Getting the baby on to the breast
- The baby is sleepy
- Mastitis
- Other (please explain)

<input type="checkbox"/>	1
<input type="checkbox"/>	2
<input type="checkbox"/>	3
<input type="checkbox"/>	4
<input type="checkbox"/>	5
<input type="checkbox"/>	6
<input type="checkbox"/>	7
<input type="checkbox"/>	8
<input type="checkbox"/>	9
<input type="checkbox"/>	10

.....

14a. Do you feel confident about getting the baby on to the breast?

Not confident	Fairly confident	Confident	Very confident
1	2	3	4

14b. *If other than very confident*, what could be done to improve your confidence?

.....

15a. Have you returned to work or do you anticipate returning to work/ study in the next 3 months?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

15b. *If yes*, is it or will it be

Full time?	<input type="checkbox"/>	1
Part time?	<input type="checkbox"/>	2

15c. *If yes*, is it or will it be

From home?	<input type="checkbox"/>	1
Away from home?	<input type="checkbox"/>	2

15d. *If yes*, who is/ will be caring for the baby?

Family	<input type="checkbox"/>	1
Friend	<input type="checkbox"/>	2
Family Day Care	<input type="checkbox"/>	3
Child Care Centre	<input type="checkbox"/>	4
Take baby to work	<input type="checkbox"/>	5

15e. *If yes*, do you intend to continue breastfeeding when you return to work?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

16a. Have any of the following been a major issue for you as a new mother?

(please rate by circling a number in each row 0 = not an issue and 4 = a major issue)

Please mark a number in every row

1.	Lack of confidence	(not issue) 0	1	2	3	4	(Major)
2.	Lack of support	(not issue) 0	1	2	3	4	(Major)
3.	Problems with breastfeeding	(not issue) 0	1	2	3	4	(Major)
4.	Little knowledge of breastfeeding	(not issue) 0	1	2	3	4	(Major)
5.	Baby unsettled	(not issue) 0	1	2	3	4	(Major)
6.	Conflicting advice	(not issue) 0	1	2	3	4	(Major)
7.	Feeling alone	(not issue) 0	1	2	3	4	(Major)
8.	Feeling exhausted	(not issue) 0	1	2	3	4	(Major)
9.	Adjusting to being a mother	(not issue) 0	1	2	3	4	(Major)
10.	Returning to work/ study	(not issue) 0	1	2	3	4	(Major)

16b. If you answered 4 or 5 to any of the above, could you describe in what way this has been an issue for you?.....

.....

.....

.....

.....

.....

.....

.....

17. Is there anything you would like to add about your experience of breastfeeding that has not been addressed in this questionnaire?.....

.....

.....

.....

.....

.....

.....

Once again, I thank you for you participation in this study

BREASTFEEDING SURVEY: QUESTIONNAIRE FOUR

Please fill in the spaces provided, circle the appropriate numbers or tick the appropriate boxes

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1. Would you describe your breastfeeding experience so far as
- | | | |
|----------------------|--------------------------|---|
| Just as expected | <input type="checkbox"/> | 1 |
| Harder than expected | <input type="checkbox"/> | 2 |
| Easier than expected | <input type="checkbox"/> | 3 |
| Having managed | <input type="checkbox"/> | 4 |

- 2a. Have you experienced any specific problems with breastfeeding since the last questionnaire?
- | | | |
|-----|--------------------------|---|
| Yes | <input type="checkbox"/> | 1 |
| No | <input type="checkbox"/> | 2 |

2b. If yes, could you please list them?.....

.....

.....

3. If you have experienced problems, how have you managed them? Please explain.....

.....

.....

4. Who has provided you with ongoing support and information about breastfeeding so far? (Please rate by circling a number in each row. 0 = no information and 5 = a great deal of support +/- information)

Please mark one number in every row

a. Partner	(none) 0	1	2	3	4	5	(greatest)
b. Family	(none) 0	1	2	3	4	5	(greatest)
c. Midwife	(none) 0	1	2	3	4	5	(greatest)
d. Doctor	(none) 0	1	2	3	4	5	(greatest)
e. Friends	(none) 0	1	2	3	4	5	(greatest)
f. NMAA	(none) 0	1	2	3	4	5	(greatest)
g. LC*	(none) 0	1	2	3	4	5	(greatest)
h. Other	(none) 0	1	2	3	4	5	(greatest)
i. M&CHN**	(none) 0	1	2	3	4	5	(greatest)

*LC = Lactation Consultant ** M&CHN = Maternal & Child Health Nurse

5. How old is your baby now? months

- 6a. Has the baby been well?
- | | | |
|-----|--------------------------|---|
| Yes | <input type="checkbox"/> | 1 |
| No | <input type="checkbox"/> | 2 |

6b. If no, what has been the problems (s).....

.....

.....

7a. Have you been well?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

7b. If no, what has been the problem (s)?.....
.....
.....

8a. How are you feeding the baby at the moment?

Breast	<input type="checkbox"/>	1
Bottle (formula)	<input type="checkbox"/>	2
Both	<input type="checkbox"/>	3
Other	<input type="checkbox"/>	4

8b. Is this how you planned to feed?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

8c. If no,
1. When did you change your method of feeding?.....
.....
2. Why did you change?
.....
.....

9a. Is your baby taking solids?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

9b. If yes, how old was the baby when solids were introduced

Less than 4 weeks	<input type="checkbox"/>	1
4 - 8 weeks	<input type="checkbox"/>	2
9 - 12 weeks	<input type="checkbox"/>	3
3 - 6 months	<input type="checkbox"/>	4
More than 6 months	<input type="checkbox"/>	5

10a. Has your baby received any feeds other than breastmilk since the last questionnaire

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

10b. If yes, why was this given?
.....
.....

11. Are you experiencing any of the following (you can tick more than one):

Breast pain	<input type="checkbox"/>	1
Nipple pain/ trauma	<input type="checkbox"/>	2
The baby is unsettled/ fussy	<input type="checkbox"/>	3
Too much milk	<input type="checkbox"/>	4
Low supply	<input type="checkbox"/>	5
Attachment difficulties	<input type="checkbox"/>	6
The baby is sleepy	<input type="checkbox"/>	7
Mastitis	<input type="checkbox"/>	8
Other (please explain)	<input type="checkbox"/>	9

.....
.....

12a. How do you feel about breastfeeding now?

not confident	fairly confident	confident	very confident
1	2	3	4

12b. If other than very confident, what could be done to improve your confidence?

.....

.....

.....

13a. Have you returned to work or do you anticipate returning to work/ study in the next 3 months?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

13b. <u>If yes</u> , is it or will it be	Full time?	<input type="checkbox"/>	1
	Part time?	<input type="checkbox"/>	2

13c. <u>If yes</u> , is it or will it be	From home?	<input type="checkbox"/>	1
	Away from home?	<input type="checkbox"/>	2

13d. <u>If yes</u> , who is/ will be caring for the baby?	Family	<input type="checkbox"/>	1
	Friend	<input type="checkbox"/>	2
	Family Day Care	<input type="checkbox"/>	3
	Child Care Centre	<input type="checkbox"/>	4
	Take baby to work	<input type="checkbox"/>	5

13e. <u>If yes</u> , do you intend to continue breastfeeding when you return to work?	Yes	<input type="checkbox"/>	1
	No	<input type="checkbox"/>	2

14a. Have any of the following been a major issue for you ? (please rate each row by circling the appropriate number 0 = not an issue and 4 = major issue)

Please mark one number in all rows

1. Lack of confidence	(not issue)	0	1	2	3	4	(major)
2. Lack of support	(not issue)	0	1	2	3	4	(major)
3. Problems with breastfeeding	(not issue)	0	1	2	3	4	(major)
4. Little knowledge of breastfeeding	(not issue)	0	1	2	3	4	(major)
5. Baby unsettled	(not issue)	0	1	2	3	4	(major)
6. Conflicting advice	(not issue)	0	1	2	3	4	(major)
7. Feeling alone	(not issue)	0	1	2	3	4	(major)
8. Feeling exhausted	(not issue)	0	1	2	3	4	(major)
9. Adjusting to being a mother	(not issue)	0	1	2	3	4	(major)
10. Returning to work/ study	(not issue)	0	1	2	3	4	(major)

14b. If you answered 3 or 4 to any of the above, could you describe in what way this has been an issue for you?.....

.....

.....

.....

.....

.....

15. If you are still breastfeeding and have experienced problems with breastfeeding since the birth please answer the following *(if not, go to question 17)*

How would you rate the impact of those problems on your overall experience of breastfeeding? *(please circle the appropriate number)*

(No impact) 0 1 2 3 4 (major impact)

16. If you are still breastfeeding, please indicate how you have coped with these problems by ranking the following statements_

please rank each row -'0'= strongly disagree and '4'= strongly agree, by circling the appropriate number

1. My own confidence	(s/disagree)	0	1	2	3	4	(s/agree)
2. Past breastfeeding experience	(s/disagree)	0	1	2	3	4	(s/agree)
3. Physical support from family	(s/disagree)	0	1	2	3	4	(s/agree)
4. Emotional support from family	(s/disagree)	0	1	2	3	4	(s/agree)
5. This baby wasn't too demanding	(s/disagree)	0	1	2	3	4	(s/agree)
6. My own determination	(s/disagree)	0	1	2	3	4	(s/agree)
7. Sought help from health professional	(s/disagree)	0	1	2	3	4	(s/agree)
8. Sought help from Nursing Mothers'	(s/disagree)	0	1	2	3	4	(s/agree)
9. Just kept trying	(s/disagree)	0	1	2	3	4	(s/agree)
10. What I learned in antenatal classes	(s/disagree)	0	1	2	3	4	(s/agree)
11. Went to day stay clinic	(s/disagree)	0	1	2	3	4	(s/agree)
12. Am still coping with problems	(s/disagree)	0	1	2	3	4	(s/agree)

17. What advice would you give to pregnant women and new mothers about breastfeeding?

.....

.....

.....

.....

.....

.....

Is there anything you would like to add about your experience of breastfeeding that has not been addressed in this questionnaire?.....

.....

.....

.....

.....

.....

Once again, I thank you for your participation in this study

BREASTFEEDING SURVEY: QUESTIONNAIRE FIVE

Please fill in the spaces provided, circle the appropriate numbers or tick the appropriate boxes

for office
use only

--	--	--

1. How old is your baby now? months

2. Overall, how would you describe your experience of breastfeeding this baby?

- | | | |
|----------------------|--------------------------|---|
| Just as expected | <input type="checkbox"/> | 1 |
| Harder than expected | <input type="checkbox"/> | 2 |
| Easier than expected | <input type="checkbox"/> | 3 |
| Managed any problems | <input type="checkbox"/> | 4 |

3a. If not your first baby, would you say breastfeeding this baby was easier, harder or the same as your experience with your first baby?

- | | | |
|--------|--------------------------|---|
| Harder | <input type="checkbox"/> | 1 |
| Easier | <input type="checkbox"/> | 2 |
| Same | <input type="checkbox"/> | 3 |

3b. If harder, why do you think that is? (you can tick more than one)

- | | | |
|---|--------------------------|---|
| Thought I knew what to expect | <input type="checkbox"/> | 1 |
| Advice from Midwives confused me | <input type="checkbox"/> | 2 |
| Baby was harder to feed | <input type="checkbox"/> | 3 |
| I had a lot of problems feeding this baby | <input type="checkbox"/> | 4 |
| I had no support | <input type="checkbox"/> | 5 |
| Other children made it harder | <input type="checkbox"/> | 6 |
| I have not been well | <input type="checkbox"/> | 7 |
| Baby has not been well | <input type="checkbox"/> | 8 |
| Other | <input type="checkbox"/> | 9 |

3c. If easier, why do you think that is? (you can tick more than one)

- | | | |
|------------------------------|--------------------------|---|
| Knew what to expect | <input type="checkbox"/> | 1 |
| Sought help early | <input type="checkbox"/> | 2 |
| Better support from Midwives | <input type="checkbox"/> | 3 |
| I was more determined | <input type="checkbox"/> | 4 |
| Baby was easier to feed | <input type="checkbox"/> | 5 |
| I was more confident | <input type="checkbox"/> | 6 |
| I was more relaxed | <input type="checkbox"/> | 7 |
| Partner was more supportive | <input type="checkbox"/> | 8 |
| Other | <input type="checkbox"/> | 9 |

4a. Who has provided you with ongoing support for breastfeeding?

(Please rate each row by circling the appropriate number. 0 = none and 4 = the greatest amount of support +/- or information) Please mark one number in every row

a. Partner	(none) 0	1	2	3	4	(greatest)
b. Family	(none) 0	1	2	3	4	(greatest)
c. Doctor	(none) 0	1	2	3	4	(greatest)
d. Friends	(none) 0	1	2	3	4	(greatest)
e. NMAA	(none) 0	1	2	3	4	(greatest)
f. LC*	(none) 0	1	2	3	4	(greatest)
g. Other	(none) 0	1	2	3	4	(greatest)
h. M&CHN**	(none) 0	1	2	3	4	(greatest)

*LC = Lactation Consultant ** M&CHN = Maternal & Child Health Nurse

4b. If you answered 3 or 4 in 4a above, in what ways have these people supported you?

- a. Partner.....
- b. Family.....
- c. Doctor.....
- d. Friends.....
- e. NMAA.....
- f. Lactation Consultant.....
- g. Other.....
- h. Maternal & Child Health Nurse.....

5a. How are you feeding the baby at the moment?

Breast	<input type="checkbox"/>	1
Bottle (formula)	<input type="checkbox"/>	2
Both	<input type="checkbox"/>	3
Solids	<input type="checkbox"/>	4

5b. Is this how you planned to feed?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

6a. If the baby has had formula, why was this given?.....

6b. How many times does the baby eat/ drink on an average day (this is over 24 hours)

(For example. Breastfeeds - 5/6 times per day)

Breastfeeds	<input type="checkbox"/>	1
Other fluids	<input type="checkbox"/>	2
Formula	<input type="checkbox"/>	3
Solids	<input type="checkbox"/>	4
Snacks	<input type="checkbox"/>	5

6c. At what age were the following introduced?

- Other fluids 1
- Formula..... 2
- Solids..... 3
- Snacks..... 4

7a. Have you restarted menstruating yet?

- Yes 1
- No 2

7b. If yes, how old was the baby when you got your first period after giving birth?
.....

8a. Have you been using a contraceptive?

- Yes 1
- No 2

8b. If yes, how old was the baby when you started using the contraceptive?

8c. What method of contraception are you using?

- Mini pill 1
- Combined pill 2
- IUD 3
- Natural method 4
- Not using any 5
- Condoms 6
- Other 7

8d. If you started using one type then changed, at what stage did you change?

Baby was weeks or months old

8e. Why did you change?

9a. Have you already returned to or do you anticipate returning to work/ study in the next 3 mths?

- Yes 1
- No 2

9b. If yes, is it or will it be

- Full time? 1
- Part time? 2

9c. If yes, is it or will it be

- From home? 1
- Away from home? 2

9d. If yes, who is/ will be caring for the baby?

- Family 1
- Friend 2
- Family Day Care 3
- Child Care Centre 4
- Take baby to work 5

9e. If yes, do you intend to continue breastfeeding when you return to work?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

10. Please explain why you chose to breastfeed

.....

.....

.....

11. Please explain how you feel about your experience of breastfeeding.....

.....

.....

.....

.....

12a. Generally, do you feel society is supportive of breastfeeding? (for example, people, shopping centres, workplaces)

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2
Not sure	<input type="checkbox"/>	3

12b. If no, please explain?.....

.....

.....

.....

.....

As this is the final questionnaire, is there anything you would like to add about your experience of breastfeeding that has not been addressed in the questionnaires?

.....

.....

.....

.....

.....

.....

Once again, I would like to thank you for your participation in the study

EXIT INTERVIEW QUESTIONNAIRE

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1. Reason for dropping out of study?

Weaned
Other

<input type="checkbox"/>	1
<input type="checkbox"/>	2

2. Are you still breastfeeding?

Yes
No

<input type="checkbox"/>	1
<input type="checkbox"/>	2

3. If still breastfeeding, how long do you expect to breastfeed for?

Weeks
Months

4. If not breastfeeding, how old was the baby when weaned?

Weeks
Months.....

5. If not breastfeeding, why was baby weaned?

1. Not enough milk
2. Sore/ cracked nipples
3. Baby unsettled
4. Poor weight gains
5. Mother returning to work
6. Engorgement
7. Flat/ inverted nipples
8. Attachment problems
9. No support from partner
10. Poor maternal confidence
11. Mother didn't like breastfeeding
12. Other.....

<input type="checkbox"/>	1
<input type="checkbox"/>	2
<input type="checkbox"/>	3
<input type="checkbox"/>	4
<input type="checkbox"/>	5
<input type="checkbox"/>	6
<input type="checkbox"/>	7
<input type="checkbox"/>	8
<input type="checkbox"/>	9
<input type="checkbox"/>	10
<input type="checkbox"/>	11
<input type="checkbox"/>	12

6. Was the baby breastfeeding when you left hospital ?

If baby was born at home go to question 9

Not applicable
Yes
No

<input type="checkbox"/>	1
<input type="checkbox"/>	2
<input type="checkbox"/>	3

7. What day did you go home?

Day 1
Day 2
Day 3
Day 5
>Day 6

<input type="checkbox"/>	1
<input type="checkbox"/>	2
<input type="checkbox"/>	3
<input type="checkbox"/>	4
<input type="checkbox"/>	5

8. Did you feel ready to go home?

Yes
No

<input type="checkbox"/>	1
<input type="checkbox"/>	2

9a. Did the Midwife visit you at home?

Yes
No

<input type="checkbox"/>	1
<input type="checkbox"/>	2

9b. For how many days?

10. Was the midwife helpful?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

11a. Did you experience any breastfeeding problems?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

11b. *If yes*, what were they?

- | | | |
|--------------------------------------|--------------------------|----|
| 1. Not enough milk | <input type="checkbox"/> | 1 |
| 2. Sore/ cracked nipples | <input type="checkbox"/> | 2 |
| 3. Baby unsettled | <input type="checkbox"/> | 3 |
| 4. Poor weight gains | <input type="checkbox"/> | 4 |
| 5. Mother returning to work | <input type="checkbox"/> | 5 |
| 6. Engorgement | <input type="checkbox"/> | 6 |
| 7. Flat/ inverted nipples | <input type="checkbox"/> | 7 |
| 8. Attachment problems | <input type="checkbox"/> | 8 |
| 9. No support from partner | <input type="checkbox"/> | 9 |
| 10. Poor maternal confidence | <input type="checkbox"/> | 10 |
| 11. Mother didn't like breastfeeding | <input type="checkbox"/> | 11 |
| 12. Other..... | <input type="checkbox"/> | 12 |

12. If not, what could have been done to help you?

.....

.....

.....

.....

13. How would you describe your experience of breastfeeding?

.....

.....

.....

14. Do you plan to breastfeed your next baby?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2
N/A	<input type="checkbox"/>	3

Thank you for participating in the study

Dear

Thank you for agreeing to participate in this follow up study. As we discussed on the telephone recently, the follow up will provide an opportunity to understand whether a mother's experience of breastfeeding her second baby differs from her experience breastfeeding her first. If there are significant differences, this enquiry will assist in identifying those differences.

There will be only one questionnaire involved with this part of the study and is enclosed. Once again you will be assigned a case number and your name will not be used in the writing up of the study results or in any report submitted for publication. Only myself and my supervisor will have access to the information you provide. To ensure confidentiality, this information will be held in a locked cupboard for a period of 5 years following completion of the study and will then be shredded.

You will also find enclosed two copies of the 'consent to participate' form - could you please read, sign and return (in the stamped, self addressed envelope) one copy with the completed questionnaire as soon as possible. You are free to change your mind about participating for any reason. If you decide to withdraw, you are asked to return the unanswered questionnaire in the envelope provided.

If you have any concerns or queries, you may contact either myself on 03 9873 0238 or my Supervisor, Professor Carol Morse on 03 9688 4573. Should you need advice about breastfeeding issues, please contact the midwives where you gave birth, the Nursing Mothers' Association 24 hour counselling line (03 9885 0653) or your Maternal & Child Health Nurse.

Thank you once again for your time

Jenni James

(Please retain this letter and one copy of the consent form for your information)

CONSENT FORM

I, (please print name of participant) agree to participate in the follow up component of the study entitled **An analysis of the breastfeeding practices of a group of Victorian mothers**, being conducted by **Jenni James**.

My consent is based on the understanding and acknowledgment that:

1. I have read and retained a copy of the project information letter and am satisfied that I understand the nature and purpose of this component of the study
2. My involvement entails completion of one questionnaire which will take approximately 30 minutes
3. I am satisfied that anonymity and confidentiality is assured, as outlined in the information letter, which I have read
4. This component of the study may not be of direct benefit to myself
5. My consent to participate in this component of the study is voluntary and I am free to withdraw from the project at any time
6. I will retain a copy of the consent form once it has been signed
7. Should I wish to discuss my participation with someone not directly involved in the follow up study, particularly in regards to matters concerning policies, information about the conduct of the study, or my rights as a participant, or if I wish to make a confidential complaint, I may contact the Secretary of the University Human Research and Ethics Committee, telephone 03 9688 4710, Victoria University of Technology, PO Box 14428, Melbourne City MC. 8001.
8. Should I decide to withdraw from the study for any reason, I will return the questionnaire to the researcher in the envelope provided
9. I have had an opportunity to have any questions answered.

Signed **Date**

12b. Who delivered the baby?

Doctor	<input type="checkbox"/>	1
Midwife	<input type="checkbox"/>	2
Support person	<input type="checkbox"/>	3

12c. What was the length of labour?hours

13a. Did you have any medications during labour/ birth/ cesarean?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

13b. *If you did*, what type of medication was it? (you can tick more than one)

Pain relief injection	<input type="checkbox"/>	1
Gas	<input type="checkbox"/>	2
Epidural/ spinal	<input type="checkbox"/>	3
General anaesthetic	<input type="checkbox"/>	4
Prostin	<input type="checkbox"/>	5
Syntometrine	<input type="checkbox"/>	6
Antibiotics	<input type="checkbox"/>	7

13c. Did you use any other techniques to help you with the labour and birth?
for example: water, massage, acupuncture)

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

14a. Did you experience any complications during labour?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

14b. *If you experienced complications during labour*, what were the complications?
If an emergency caesarean, why was this performed?.....
.....
.....

14c. Did you experience any complications after the birth?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

14d. *If you experienced complications after the birth*, what were the complications?
.....
.....
.....

15a. How soon after the birth did you hold your baby?

15b. Who did the initial examination of your baby after birth?

Doctor	<input type="checkbox"/>	1
Midwife	<input type="checkbox"/>	2

15c. Did your baby stay with you during the examination?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

15d. If your baby was examined or given any medical care away from you, how long was this for?
..... minutes/ hours approximately (circle which one applies)

16. If you decided to breastfeed. when did you first put the baby to the breast?
.....

17a. Did you receive help in getting your baby onto the breast for the first feed?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

17b. Please describe how you felt about the baby's first breastfeed
.....
.....

Section 3

18a. Has your baby been well since the birth?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

18b. *If no*, what has been the problem/s?.....
.....

19a. How are you feeding your baby at the moment?

Breast	<input type="checkbox"/>	1
Bottle	<input type="checkbox"/>	2
Both	<input type="checkbox"/>	3
Cup	<input type="checkbox"/>	4

19b. Is this how you planned to feed?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

19c. *If still breastfeeding*, how long do you plan to continue? (baby's age at weaning)

19d. *If no*,
1. what was your original plan?.....
2. how old was the baby when your original plan changed?
3. Why did your original plan change?.....
.....

20. Where does your baby sleep at night?

- Same bed 1
- Cot beside bed 2
- Another room 3
- Combination 4

21a. Has your baby received any bottlefeeds?
(You can tick more than one)

- No 1
- Unknown 2
- Boiled water 3
- Glucose water 4
- Formula 5
- Expressed b/milk 6

21b. Was this given with your consent?

- Yes 1
- No 2

21c. Has the baby been given a dummy/ pacifier?

- Yes 1
- No 2

22a. Do you feel confident about breastfeeding this baby?

Not confident	Fairly confident	Confident	Very confident
1	2	3	4

22b. *If above answer other than Very confident, what could be done to help improve your confidence?*

.....

.....

23. Are you experiencing any of the following (You can tick more than one):

- Had no problems 1
- Feeling very tired - more than usual 2
- Breast pain 3
- Nipple pain/ trauma 4
- The baby is fussy / unsettled 5
- Too much milk 6
- Milk not in yet/ low supply 7
- Difficulties getting baby onto breast 8
- Mastitis 9
- Other (please explain)..... 10

24. What do you consider to be the most helpful (eg. seeing the Lactation Consultant in hospital) and

the least helpful (eg. stay in hospital not long enough) experiences you have encountered with breastfeeding since the baby was born?

a. Most helpful.....

.....

.....

b. Least helpful.....

.....

.....

25a Have you had help and support at home?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2
Not really	<input type="checkbox"/>	3

25b. *If yes*, who has provided that help and support?.....

26a. Have you had any contact with the Nursing Mothers' Association since the birth of your first baby?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

26b. *If yes*, was this helpful?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

26c. *If yes*, in what ways was this helpful?

.....

26d. *If no*, in what ways was this not helpful?

.....

27. What day did you go home after the birth of this baby?

Day one	<input type="checkbox"/>	1
Day two	<input type="checkbox"/>	2
Day three	<input type="checkbox"/>	3
Day four	<input type="checkbox"/>	4
After day 5	<input type="checkbox"/>	5

28a. Did you feel ready to go home?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

28b. *If no*, please explain why not

.....

29a. Have you already or do you anticipate returning to work/ study in the next 3 months?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

29b. *If yes*, will it be

Full time?	<input type="checkbox"/>	1
Part time?	<input type="checkbox"/>	2

29c. *If yes*, will it be

From home?	<input type="checkbox"/>	1
Away from home?	<input type="checkbox"/>	2

29d. *If yes*, who will be caring for the baby?

Family	<input type="checkbox"/>	1
Friend	<input type="checkbox"/>	2
Family Day Care	<input type="checkbox"/>	3
Child Care Centre	<input type="checkbox"/>	4
Take baby to work	<input type="checkbox"/>	5

29e. *If yes*, do you intend to continue breastfeeding when you return to work?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

Section 4.

30. Overall, how would you describe your experience of breastfeeding this baby?

Just as expected	<input type="checkbox"/>	1
Harder than expected	<input type="checkbox"/>	2
Easier than expected	<input type="checkbox"/>	3
Managed any problems	<input type="checkbox"/>	4

31a. Would you say breastfeeding this baby was easier, harder or the same as your experience with your first baby?

Harder	<input type="checkbox"/>	1
Easier	<input type="checkbox"/>	2
Same	<input type="checkbox"/>	3

31b. *If harder*, why do you think that is? (You can tick more than one)

Thought I knew what to expect	<input type="checkbox"/>	1
Advice from Midwives confused me	<input type="checkbox"/>	2
Baby was harder to feed	<input type="checkbox"/>	3
I had a <u>lot</u> of problems feeding this baby	<input type="checkbox"/>	4
I had no support	<input type="checkbox"/>	5
Other child made it harder	<input type="checkbox"/>	6
I have not been well	<input type="checkbox"/>	7
Baby has not been well	<input type="checkbox"/>	8

31c. *If easier, why do you think that is? (You can tick more than one)*

- Knew what to expect 1
- Sought help early 2
- Better support from Midwives 3
- I was more determined 4
- Baby was easier to feed 5
- I was more confident 6
- I was more relaxed 7
- Partner was more supportive 8

32. Is there anything you would like to add about your experience of breastfeeding that has not been addressed in the questionnaire?

.....

.....

.....

.....

.....

.....

Thank you once again for your participation in the study

Pilot Study

Notes:

40 questionnaires were distributed in total
23 were completed and returned by mothers
(7 were not given out to mothers)

4. Mother Age

Under 21	21-25	26-30	31-35	36-40	Over 40	Total
1	4	5	7	5	1	23

5a. Baby's fathers' age

Under 21	21-25	26-30	31-35	36-40	Over 40	Total
-	2	7	3	6	5	23

5b. Mothers birthplace

Australia	Europe/ USSR	Middle East	America/ Canada	Asia/ Pacific	Other	Not stated	Total
21	1		1				23

5c. Fathers birthplace

Australia	Europe/ USSR	Middle East	America/ Canada	Asia/ Pacific	Other	Not stated	Total
12	4	-	3	1	1	1	23

6. Main support person

Partner	Other	None	Total
22		1	23

7. Mother's Education

Primary School	High School	TAFE	Colege/ University	Total
	7	3	13	

8. Mother's Occupation

Prof	Prop/Mgr	Off/Sale	SkWork	SemiSk	Unsk	Farm	Other	Total
14	1	4		3			1	23

8b. Main source of income

Yes	No	Total
15	8	23

9a. Were you working

Yes	No	Total
18	5	23

9b. How many hours

<10	11-20	21-30	31-40	>40	N/A	Total
2	4	2	8	1	6	23

10. When did you stop work

0-16 weeks	17-28 weeks	29-40 weeks	N/A	Total
1	4	13	5	23

11. Going back

Yes	No	Total
9	14	23

11b. If yes, when

<3mths	4-6 mths	7-12	>13 mths	N/A	Total
1	5	1	2	14	23

11c. Father's occupation

Prof	Prop/Mgr	Off/Sale	SkWork	SemiSk	Unsk	Farm	Other	Total
12		1	2	4	2	1	1	23

12a. Have you been well

Yes	No	Total
20	23	23

12c. Weight gain

<6kg	6-10 kg	>10kg	total
3	6	14	23

13b. Baby's birth weight

<3000gm	3001-3500gm	3501-4000gm	>4000gm	total
5	9	5	4	23

13c. Baby's age

<14 days	15-25 days	>26 days	total
16	4	3	23

14. Is this your first baby

Yes	No	total
10	13	23

1 child	2 children	3 children	4 children
5	3	1	1

16 & 17 How were other babies fed in first 3 months

	Baby 1	Baby 2	Baby3	Baby4
Breast	7	4	2	1
Breast/ EBM	1			
Both	1	1		
Formula	1			

18. How were you fed as a baby

Breastfed	Bottlefed	Both	Unknown	Total
12	5	4	2	23

18b. Did you family/ friends breastfeed

Yes	No	total
22	1	23

19a. Did you attend antenatal education

Yes	No	total
13	10	23

15 December, 1995

Ms J James
3/665 Whitehorse Road
Mitcham 3132

Dear Jenny

**Re: Review of Application to the Faculty Human Research
Ethics Sub-Committee**

At its recent meeting your application was reviewed and approved.

However, several issues were discussed and are noted here for your consideration:

- * the large sample was noted in terms of the subsequent workload for a Masters project. Your supervisor, Assoc Prof Schnieder, did indicate that you were aware of the workload' issue but that you wished to employ the specified sample.
- * the excusion of NES participants.
- * the use of NUDIST for the 'analysis', rather than the 'management' of data.
- * the inclusion of supervisors' names on the Participant Statement. Their inclusion was noted as perhaps coercive and as having the potential to generate participant inquires unrelated to the study. The notion in the Statement, that confidentiality would be 'ensured' through the secure location of data was also queried.
- * Section 6.4: Process by which confidentiality and anonymity will be achieved should be stated. The section should included reference to security of data, destruction of data and publications.
- * the need for independent support/referral mechanism/s for participants was raised. Such mechanism/s should be noted in Section 6.4 and in the Participant Statement.

The project was classified as 'Minimal Risk' since the participants will be exposed to a slight psychological and social risk above the everyday norm.

The study was approved for the period: 12/12/95 to 12/12/98. You should note that you are required to submit an annual progress report to the Faculty Sub-Committee. A form is enclosed.

*
The Committee requests that you submit the amended Participant Statement and a statement from supervisors indicating that required amendements have been made to their satisfaction.

Following endorsement by the Faculty Committee of the changes, the reworked Application can be forwarded to the RMIT Human Research Ethics Committee for approval. The application and a completed Application form should be forwarded to Dr N Bruni. An Application form is enclosed.

You should note that the next meeting of the Faculty Human Research Ethics Sub-Committee will be held on Wednesday 20 December, 1995; the RMIT Committee will meet on February 28, 1996.

Please contact me if you have any queries or concerns.

Yours sincerely



Dr N Bruni
Chair
Faculty Human Research Ethics Sub-Committee

cc Assoc Prof D Cutts
Assoc Prof Z Schneider

3517144

13 August 1999

Ms Jennifer James
Unit 3/665 Whitehorse Road
Mitcham Vic 3132



Dear Ms James,

I am pleased to inform you that at the 11 August 1999 meeting of the Committee for Postgraduate Studies your application for a transfer from your original Master of Health Science degree, to the degree of Doctor of Philosophy was approved. You have been admitted to candidature for the degree of Doctor of Philosophy with the thesis topic and supervisor as detailed below:

Thesis Title: An Analysis of the Breastfeeding Practices of a Group of Victorian Mothers

Principal Supervisor: Professor Carol Morse, Dean, Faculty of Human Development, Footscray Park Campus

I would like to take this opportunity to wish you the best in your studies.

If you have any queries about your candidature please do not hesitate to contact me on 9688 4522.

Yours sincerely,


Ms Mayette Mendoza
Secretary to Committee for Postgraduate Studies

Cc Professor Carol Morse, Dean, Faculty of Human Development, Footscray Park Campus

May 10th 1999

Mr J Whitelaw
Secretary,
University Higher Degrees Committee

Dear Mr Whitelaw,

re: Ms Jenni James, Master of Nursing by Research Student

I wish to recommend to the Committee that Ms Jenni James' application for transfer from her Master's programme to doctoral candidacy be supported.

I have been Jenni's principal supervisor for over the last two years since her transfer from previous supervision. During that time, Jenni has impressed me with her intellectual rigour and tenacity to her study; she has overcome many small and large obstacles with unwavering perseverance; she has sought and obtained small grants and scholarships to assist her study; and she has presented conference presentations on her study and these reports are now under consideration for publication in two widely recognised and regarded professional peer-reviewed journals. She is also progressing well in her thesis writing and I have every expectation that Jenni will complete within the allocated time frame.

Her quantitative study was originally conceived as a State-wide longitudinal survey of Victorian breast-feeding new mothers. The size of this study I believe warranted a doctoral programme from the outset. However, Jenni has persevered within a Master's programme to the point where clearly, her work, in terms of its intellectual calibre and application, should now be considered to be meeting the requirements for a doctoral programme.

To this end, as all four of her data collection targets have now been achieved, Jenni has accepted my recommendation that an additional followup of a randomly selected 10% of respondents could be interviewed to examine and illustrate the longer term outcomes of their prior breast-feeding practices and attitudes. This last addition, would, I believe, provide a very thorough and comprehensive finale to this quite unique study as well as meet the requirements for additional work from that proposed at Master's level.

I trust the Committee will consider Jenni's application very favourably and I look forward to your decision in due course.

Yours sincerely,

Professor Carol A. Morse
Professor of Women's Health

COMMITTEE FOR POSTGRADUATE STUDIES
FACULTY COMMITTEE FOR POSTGRADUATE STUDIES

**Application for Conversion from the Degree of Masters (by Research) to Doctor of
Philosophy**

Proposal submission by: **Jennifer P James**
Unit 3/ 665 Whitehorse Road
Mitcham Vic 3132
9873 0238 or 0411 409 375
email: jenjam@hotmail.net.au

Title of Thesis:

“An Analysis of the Breastfeeding Practices of a Group of Victorian Mothers”

Contribution to Knowledge:

Findings from the proposed work will offer health professionals a greater understanding of the experience of breastfeeding women and will highlight areas that require further or improved strategies in education, support and health promotion. This is particularly true when developing early interventions and strategies to assist mothers having subsequent children and who have experienced significant problems with their previous lactation.

Statement of Significance:

Previous studies have addressed specific topics, such as the effect of antenatal education on the duration of breastfeeding (Jamieson 1990); the influence of early discharge (Carty 1991); social and personal factors (Isabella 1994); the effect of labour and early neonatal period (Minchin 1991). However, few have addressed the broad issues related to why babies are weaned early. Therefore, this research is essential to identify why early weaning occurs, what influences the decisions mothers make and what strategies are needed to protect the breastfeeding relationship.

Introduction:

The original study was designed to determine participants' experience of breastfeeding in order to identify potential indicators of early weaning behaviours. By extending the nature of the study it is envisaged that not only will the mother's initial experience be described but the extended study will determine whether the experience influences subsequent breastfeeding experiences and if so, in what way.

Aims (both general and specific):

The aims of the original study were to establish the breastfeeding patterns and practices of a group of Victorian mothers and will be achieved by:

- Identifying the factors that influence the initiations, experience and the duration of breastfeeding
- Exploring the nature of support which influences the patterns and practices of breastfeeding mothers

The proposed study extension recognises that health behaviours change over time and are influenced by past experience, knowledge, support and the current experience itself.

Therefore, the aims will now be to identify whether the past breastfeeding experience has influenced the current experience and if so, identify those previous experiences that have such influence and their effect.

Literature Review:

A substantial review of the literature on the topic of the research already conducted is presented in the attached paper(s).

Current literature suggests that significant numbers of mothers are experiencing problems with breastfeeding (Scott, Binns and Aroni 1997). Although a number of studies have addressed specific areas of the breastfeeding experience, little has been written on the effect of a poor initial lactation experience on subsequent experiences. An extensive literature review was carried out for the original study, but further examination reveals that little researcher attention has focussed on whether the first breastfeeding experience (good or bad) has any influence on the decisions a mother may make in terms of feeding practices with subsequent babies, the experience of feeding those babies and the outcomes in terms of successful or unsuccessful breastfeeding (DaVanzo, Starbird and Leibowitz 1990).

Researcher contact with mothers who exited the original study (due to breastfeeding problems) during the first six months of the study period suggests that there is a significant influence on how they will feed their next baby. Most of the participants strongly agreed that they will attempt breastfeeding again, but would not allow problems to continue for weeks as they did with their first baby and would in fact introduce infant formula and probably wean earlier if problems occurred again.

In contrast, women who enjoyed positive breastfeeding experiences with their first baby, who were having second babies at the time of the study and who experienced problems with breastfeeding this time identified a range of issues regarding inadequate postnatal care, feeling totally unprepared for a difficult breastfeeding experience and similar low levels of confidence as those expressed by the first time mothers.

Methodology and Techniques

The Research Question: The challenge for this follow-up study is to identify whether the initial breastfeeding experience influences subsequent experiences and if so, in what way and to determine what, if any, interventions may play a role in improving ensuing outcomes.

Proposed Methodology:

It is proposed that the researcher re-contact the 295 first time mothers from the original study population by telephone. This will be done to, firstly, determine if they have given birth to a second baby and if so, to invite them to participate in the follow-up study. Those mothers who are contactable and who meet the study criteria will then be sent a covering letter, with a consent form and a questionnaire containing both qualitative and quantitative style questions. It is anticipated that allowing for loss of participants due to relocation, those who have not had subsequent babies and those who do not wish to participate again, the approximate number of final participants is expected to be 175 - 200.

The questionnaire will be designed to determine the new breastfeeding experience. Information gained from this interview will address the following issues: the most recent pregnancy, labour, birth and early postnatal experience; the mother's assessment of past breastfeeding experience; level of commitment to breastfeed the new baby: current levels, sources and nature of support for mothering and breastfeeding; mother's attitude to current breastfeeding experience compared to the first experience; mother's levels of knowledge about breastfeeding with the first baby compared to current baby.

Facilities and Equipment and Proposed Budget:

<u>Item</u>	<u>Source</u>	<u>Est. Cost</u>
Computer hardware	Researchers own	\$000.00
Computer software including: Word 6.0, STATISTICA, EMAIL/ Internet access, Papyrus, Excel	Researchers own	\$000.00
Telephone calls (local & STD)		\$200.00
Printing of questionnaires & envelopes	KWIK KOPY	\$140.00
Stamps		<u>\$225.00</u>
		<u>\$565.00 total</u>

Timescale:**Retrospective:**

- Enrolment: March 1995
- Proposal accepted: February 1996
- Questionnaire preparation & Agency Ethics committees approvals finalised: April 1997
- Thesis writing commenced
- Recruitment completed: March 1999
- Data entry

Elapsed time - 25 months**Prospective:**

- Completion of data entry (original study) August 1999
- Continuing thesis writing
- Develop questionnaires, consent form & cover letter February 2000
- Submission of follow-up study details for Ethics approval March 2000
- Identify and contact participants for study extension April 2000
- Distribute completed questionnaires April 2000
- Data entry June 2000
- Statistical analysis July 2000
- Completion of thesis September 2000
- Submission of final thesis November 2000

Estimated latest time of completion**November 2000**



Cabrini Hospital

183 Wattletree Road
Malvern Victoria 3144
Australia
Telephone (03) 9508 1222
Facsimile (03) 9500 9627

22 August 1996

Ms Jennifer James
3/665 Whitehorse Road
MITCHAM VIC 3132

Dear Ms James

Re: An Analysis of The Breastfeeding Practices of A Group of Victorian Mothers

The project was accepted by the Cabrini Hospital Ethics Committee. The Hospital does not allow Researchers to contact patients directly and the Midwifery staff have undertaken to present information about your study to the patients and if patients then agree to participate their names will be passed on to you. It would be appropriate for you to arrange a time talk to the Midwifery staff about this programme and about refining the mechanism for that contact.

Ethics Committee gives approval for ~~two years~~ and requires a six monthly report to be furnished.

Yours sincerely



Douglas W Lording
MEDICAL DIRECTOR



MERCY
HOSPITAL
FOR WOMEN

21 January 1997

Ms Jennifer P. James
3/655 Whitehorse Road
Mitcham Vic 3132

25

YEARS

*of caring for
Victoria's
women and
babies*

Dear Ms James,

Re: Research Project: "An Analysis Of The Breastfeeding Practices Of A Group Of Victorian Mothers"

Following review of the above proposed research I am pleased to inform you that the Senior Medical Staff Association Executive has voted to support the project.

Yours sincerely,


Prof. J.H. Drew MD, FRACP
Honorary Secretary
SENIOR MEDICAL STAFF ASSOCIATION

cc: Secretary
Research Ethics Committee



The Royal
Melbourne
Hospital
Research
Foundation

21st April, 1997

Ms. Jennifer James
3/665 Whitehorse Road
MITCHAM VIC 3132

Dear Ms. James

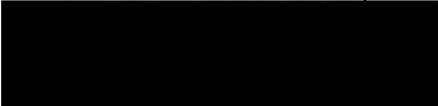
**Re: CREC Project 026/97 - An analysis of the
Breastfeeding Practices of a Group of Victorian Mothers**

Thank you for your letter dated 20th March, 1997 in response to queries raised by the Clinical Research and Ethics Committee.

I am pleased to advise that at its meeting on 16th April, 1997 the Clinical Research and Ethics Committee approved your response. Your project may now proceed.

Please advise as to the date of commencement of your project as Clinical Research and Ethics Committee approval is valid for up to three years from this time.

Yours sincerely


Angela Watt
Secretary - Clinical Research and Ethics Committee



Ms Jennifer James
3/665 Whitehorse Road
MITCHAM 3132.

Dear Ms James,

Thank you for submitting your research proposal "the Breastfeeding Practices Of a Group of Victorian Mothers" to the Angliss Health Service.

Your proposal was discussed at the recent meeting of the Angliss Ethics Committee and the following was agreed.

- That the proposal be accepted and that Angliss clients be included in the study.
- That the above Committee be provided with a copy of the final questionnaire
- That one of your supervisors be named as the Principle Investigator.

Congratulations, I am sure that the finding of this study will be of benefit to both midwifery clients and clinical practice. If you wish to discuss any aspect of the above, please do not hesitate to contact me.

Yours sincerely,



Maggie Breckon
DIRECTOR OF NURSING SERVICES

Caring for the Outer East

The Angliss Hospital,
Albert Street,
Ferntree Gully,
Victoria, 3156 Australia
Telephone (03) 9764 6111
Facsimile (03) 9758 0536
ISD prefix 61 3

Incorporating:
Acute Medical & Surgical Services
Albert Street Dental Clinic
Edward Street Residence
Allied Health
Obstetric & Paediatric Services

Tuesday, 28 March 2000

Jenni James
3/665 Whitehorse Rd
Mitcham, Victoria, 3132

Re: Project Title: An Analysis of the breastfeed practices of a group of Victorian mothers.

HREC Reference Number: 0005/2000

Dear Jenni,

I am pleased to advise you that the Human Research Ethics Committee of the Bendigo Health Care Group has approved the above project

The project has been approved for the period 28/3/2000 to 31/12/2000.

Would you please note that the following standard conditions apply:

- a. Limit of Approval: approval is limited strictly to the research proposal as submitted in your application.
- b. Variation to Project: any subsequent variations or modifications you might wish to make to your project must be notified formally to the committee for further consideration and approval. If the committee considers that the proposed changes are significant, you may be required to submit a new application for approval of the revised project,
- c. Incidents of Adverse Effects: researchers must report immediately to the committee anything which might affect the ethical acceptance of the protocol including adverse effects on subjects or unforeseen events that might affect continued ethical acceptability of the project.
- d. Annual Report: please be aware that the Human Research Ethics Committee requires all researchers to submit an annual report on each of their projects at the end of the year, or at the conclusion of your project if it continues for less than a year. Failure to submit a progress report at the end of the year may mean approval for this project will lapse.
- e. Auditing: all projects may be subject to audit by members of the committee.

If you have any further queries on these matters, or require additional information, please contact me on 5444 - 6237, or e-mail: moerlema@bendigohealth.org.au.

Human Research Ethics Committee

Anne Caudle Campus
100-104 Barnard Street
Bendigo Victoria

P O Box 126
Bendigo
Victoria 3552

Telephone: (03) 5444 6266
Facsimile: (03) 5444 6112

CONFIDENTIAL

Please quote the HREC reference number and the title of the project in any future correspondence.

On behalf of the committee, I wish you well in your research.

Yours Sincerely

[Redacted signature]

Per,
Michael Oerlemans
Executive Secretary
Human Research Ethics Committee

MUNASH MEDICAL CENTRE

A hospital of the Southern Health Care Network.



HUMAN RESEARCH & ETHICS COMMITTEE B

DATE 26th March, 1997

PROJECT NO. 96058B

PROJECT TITLE An analysis of the breastfeeding practices of a group of Victorian mothers

INVESTIGATOR(S) Ms. J. James

I.E.C. MEETING DATE 15.08.96

APPROVAL 26.03.1997 - 26.03.2000

The Principal Investigator is required to notify the Secretary of the Human Research and Ethics Committee of:

1. Any change in protocol and the reason for that change together with an indication of ethical implications (if any)
2. Adverse effects of project on subjects and steps taken to deal with them
3. Any unforeseen events

At the conclusion of the project or every twelve months if the project continues, the Principal Investigator is required to complete and forward an annual report to the Committee.

Annual report forms will be forwarded to the researcher.

SPECIAL CONDITIONS

SIGNED

Committee Representative

DATE 26th March, 1997

Please quote Project No. and Title for all correspondence

22 August, 1996

Ms Jennifer James
3/665 Whitehorse Road
MITCHAM 3132

Dear Jennifer,

Your Project "*An Analysis of the Breastfeeding Practices of a Group of Victorian Mothers*" was considered by the Box Hill Hospital Ethics Committee on 22 August, 1996 and the Project was approved subject to your outlining the arrangements for support services for reference by the participants, and for assistance in the event that any become distressed. In future correspondence could you please quote the Protocol Number **33/96**.

Yours sincerely,



Dr Peter Sloan
Secretary to the Box Hill Hospital Ethics Committee



13th August 1996

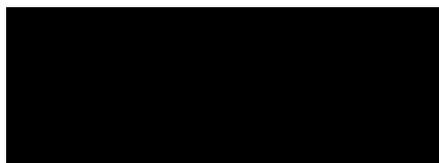
Ms Jennifer P. James,
3/665 Whitehorse Road
MITCHAM VIC 3132

Dear Jennifer,

I acknowledge receipt of your letter of 10th June 1996, requesting permission to recruit mothers for the study "An Analysis of The Breastfeeding Practices of a Group of Victorian Mothers".

We are happy to facilitate your study and are interested in seeing your questionnaire once developed and ultimately the findings of the study.

Yours sincerely,



DENISE I. BOLMAT (Mrs)
DIRECTOR OF NURSING

Jill Day
NMAA Board
PO Box 231
Nunawading Vic 3131

Jenni James
3/ 665 Whitehorse Road
Mitcham Vic 3132

July 27, 1996

Dear Jill

Further to our telephone conversation recently, I am writing to formally ask that the Board consider my request for assistance, in my attempts to obtain funding for my research project.

I enclose for your information, a copy of the research proposal which details the purpose, scope and aims of the study. Also enclosed are copies of the current draft of the first questionnaire and an outline of the project costs.

As you are aware, I have been awarded a small grant from ACMI Vic Branch. While I am very grateful for this grant, I am very concerned that the costs of conducting this study far out weigh my personal financial resources. I am therefor attempting to gain funding from other sources. It has been suggested to me that there are a number of privately run Trusts that may well be interested in providing funds to a registered charity such as NMAA. As I understand it, I would apply under the NMAA banner, the funding would then be granted to NMAA who would then make it available for this research. I also understand that this is not an unusual way of attracting funding for research. For example, doctors undertaking research in hospitals are funded from trusts via their hospital. I strongly believe that the study is going to provide us with an enormous amount of valuable information about the current breastfeeding experience. The benefits of such findings will be considerable to all who work with new mothers, together with those who make the decisions about health services.

It is my hope that the findings of the study will be published - preferably in Breastfeeding Review, together with dissemination to relevant government departments.

I would be very grateful for the Boards consideration of this request and look forward to a positive reply.

Yours sincerely

Jenni James

Mr Barrie Dermondy
Manager - Charitable Trust
Trust Company of Australia Ltd
151 Rathdowne St
Carlton Vic 3053

January 9 1997

Dear Mr Dermondy

I wish to make an application to the Trust Company Ltd to fund in whole or part an innovative research study to establish the breastfeeding patterns and practices of Victorian mothers.

It is very important to undertake this study because little is known about why breastfeeding mothers are weaning their babies early.

Unfortunately, this practice is wide spread despite major evidence to suggest that babies breastfed exclusively for the first six months of life are far more healthy than babies either formula fed or those weaned prematurely (prior to three months).

The title of the study is **“An Analysis of the Breastfeeding Practices of a Group Of Victorian Mothers”**

Breastfeeding is learned art; it takes time to accomplish the knowledge and skills necessary to breastfeed successfully. With education and support in the early months after birth, the new mother will learn to overcome most breastfeeding problems. Maternal motivation, prenatal attitudes, discharge timing and quality and consistency of care may all impact on the breastfeeding experience and thus outcomes.

Prior to 1970, breastfeeding rates were low, in the 1970's and 1980's there was significant improvements in those rates. However, since then rates have remained relatively static (in some cases decreasing). This is despite improved promotional activities that stress the benefits of exclusive breastfeeding. Of particular concern, is the group of babies who are weaned prior to three months of age. Unfortunately, in this group, there continues to be a significant decrease in breastfeeding rates of almost 50%.

Because of the value of extended breastfeeding and the significant decrease in breastfeeding rates, particularly in the early postnatal period, it is very important to identify why women wean early.

Once identified, effective promotional and educational strategies together with appropriate community support can be planned and implemented.

Aims of the Study

This research will explore, identify and analyze the breastfeeding practices and experiences of 600 Victorian mothers. The mothers will be accessed through various hospitals and midwives in private practice. Both English and Vietnamese speaking mothers will be approached to provide information about their experiences.

This will be achieved by:

- Identifying the factors that influence the initiation, experience and the duration of breastfeeding
- Exploring the nature of support which influence the patterns and practices of breastfeeding mothers.

Benefits of the Study

There are a number of published studies which describe the known benefits of exclusive breastfeeding. These benefits include:

- Protection from illness, allergy and infections ie. gastroenteritis, otitis media, respiratory tract infections
- Enhancement of maternal/ infant bonding and attachment (the secretion of certain endorphins are necessary for the release of lactation hormones and may also play a part in the bonding between mother and infant)
- There is a strong link between breastmilk and enhancement of infant growth and development
- There are strong socioeconomic benefits of breastfeeding, both to the family and to society. For example, it has been shown that breastfed infants require fewer doctors visits, less hospitalization and thus offers significant savings to the health budget.

Research Methods, Sample and Data Collection details, please see Attachment 1.
Questionnaires available on request

About the Nursing Mothers' Association of Australia

The Nursing Mothers' Association of Australia, established in 1964 met an unfilled need for ready access to breastfeeding information and support for breastfeeding women. In the intervening years, NMAA has continued to address this need, and has provided the impetus for change within the health care system and the community at large.

Information is now more readily available, and health services and the community are more accepting of breastfeeding. Many more women choose to breastfeed.

In the past 30 years over 120,000 Australians have become members of the Association. NMAA is also tackling the new challenges facing women who wish to breastfeed.

Women in non-traditional families, mothers returning to work soon after the birth of their babies, young mothers, aboriginal mothers and women from a non English speaking background all require specific services to meet their needs.

NMAA's unique mother - to - mother approach and specialized programs underscore its relevance today and in the future.

NMAA is incorporated and is controlled by an elected Board of Directors. It has an extensive network of 460 Groups across Australia currently with 12,500 members and 1,500 trained volunteer Counsellors. A small paid staff work with Counsellors and other volunteers to provide many services to both members and non-members.

Over 630,000 volunteer hours are given by Counsellors alone each year which represents more than \$10,000,000 investment annually into the community. Counsellors operate a telephone roster system throughout Australia and receive over 275,000 calls from mothers requiring assistance.

The Association's Purpose is to "Empower Women To Breastfeed"

Proposed Budget For The Study

Personnel:

Research assistant - RA2 (NHMRC Rating \$30,765 per annum. Pro rata on hours worked - \$14.70 / hour. Principle Investigator - unpaid

Contact with Agencies	\$ 541.00
Operating costs	\$2062.00
Distribution of questionnaires	\$3000.00
Translation costs	\$1000.00

Stationary

Production of questionnaires	\$ 1800.00
Production of envelopes (to mothers and reply paid)	\$ 580.00

Postage

\$ 3170.00

Travel expenses

Petrol	\$ 180.00
Parking	\$ 50.00
<u>Total</u>	<u>\$12383.00</u>
Less MAVI Trust Grant	<u>\$ 1250.00</u>

\$11,133.00 total grant sought

From the moment we are born, we are given choices, although for the first few years our parents make them for us, particularly about the food we eat.

Breastfeeding our babies not only provides them with a healthy start in life but also enables them to grow strong and resilient in a world they will have to face for the rest of their lives. Breastfeeding is a community responsibility. It should not and must not be ignored.

I would be most grateful if you could give this research project your favorable consideration when funding allocations are made during the current year.

For further information or clarification, please do not hesitate to contact: Ms Jenni James
- Principle Investigator on 03 9873 8900

Royal Melbourne
Institute of Technology

Bundoora campus

PO Box 71
Bundoora Victoria 3083
Australia

Telephone (03) 9468 2453
Facsimile (03) 9467 1629

March 24, 1997

Att: Jeannie Zimmerman
M&CH Team Leader
Nilumbik Shire Council
917 Main Road
Eltham Vic 3095

Jenni James
3/ 665 Whitehorse Road
Mitcham Vic 3132

Re: The Study Entitled: 'An Analysis of The Breastfeeding Practices of a Group of Victorian Mothers'

Dear Jeannie

Thankyou for your support and interest in the above study. I believe the findings of the study will be significant to our current understanding of the experiences breastfeeding women.

I have enclosed 10 sets of 3 questionnaires (number 1) for you to distribute as we discussed recently. Unfortunately, or fortunately, depending on your point of view, I have had to change the number of questionnaires for each centre (or nurse) from 5 to 3 in order to avoid a complete blow out in the number of participants in the study. As it is I am looking at nearly eight hundred! So, I guess it is good news for the nurses involved.

Also included in each set is a form for the nurses to complete and return to me once they have given out their three. This sheet is for the names and telephone numbers of the participating mothers. I have also asked the nurses if they would include the name of their centre and shire. It is my hope that I can offer you some useful feedback once the study is complete.

If you have any concerns or queries, please do not hesitate to contact me. My telephone numbers are: home 9873 0238, work 9873 8900 or 0411 409 375.

Once again I thankyou for your participation
Warm regards



Jenni James
Principle Investigator

November 8, 1997

Betty Palmer
 Unit Manager - Midwifery
 Knox Private Hospital
 262 Mountain Highway
 Wantirna Vic 3152

Dear Bettye

Last year I applied to Knox for permission to recruit mothers as part of a research study on breastfeeding which I am currently undertaking. Unfortunately the timing was bad, as I understand you were preparing for accreditation as a baby friendly hospital. I have spoken to Irenor recently and understand that it may be worthwhile for me to reapply now. The study is part of my Masters degree in Nursing at RMIT, Bundoora campus. My supervisors for the study are Associate Professors' Diane Cutts and Zevia Schneider. The study is entitled **An Analysis of The Breastfeeding Practices Of A Group Of Victorian Mothers.**

So I am now writing to you to firstly inform you of my research, and secondly, to request permission to recruit mothers for the study. We believe the findings of the study have the potential to make a significant contribution to breastfeeding knowledge and to the quality of care of breastfeeding mothers. Each participating agency will get feedback separately on their breastfeeding stats, which should be useful for Knox as part of the baby friendly process. At present the following agencies are participating (* passed by ethics committee):

- Mercy Hospital for Women*
- Monash Medical Centre*
- The Angliss Hospital*
- Diamond Valley Private Hospital
- The Valley Private Hospital
- Cabrini Private Hospital*
- Bendigo Base Hospital*
- Box Hill Hospital*
- Hawthorn Birth Centre
- Western Hospital * (Sunshine Campus)
- 10 currently practicing Midwives In Private Practice
- The following Shires - M&CH service**
- Hume
- Yarra Ranges
- Brimbank
- Mornington Peninsula
- Banyule
- Knox
- Nillumbick

Mothers are recruited from both public and private maternity units together with mothers who are accompanied by their own midwife (in private practice) and those mothers who give birth outside the hospital environment, either by choice or unintentionally. Also included are mothers who attend M&CH Centres in

several metropolitan shires of Melbourne. The study will consist of five contacts with the mothers via questionnaire over a twelve month period. The first contact will be made prior to discharge from hospital (or before day 4 for mothers who have given birth at home) or at the first visit to the M&CH Centre. Follow up questionnaires will be sent by mail to participants at three, six, nine and 12 months after the birth of their babies (unless they drop out of the study prior to that time).

As an additional resource, I take note of the name and telephone number of the mothers who have agreed to participate in the study. I do this in an attempt to identify those mothers who decide to drop out of the study for whatever reason. I will then attempt to follow them up by phone to determine their experience by completing an exit interview, if they are happy to share that with me. As part of the initial consent, participants are advised that I will follow them up by telephone if I don't receive their first questionnaire. This is done to improve the return rate, which as you probably know is particularly low for questionnaires.

I enclose for your information copies of the questionnaires, letters to participants & consents together with a copy of the study proposal which was passed by RMIT Higher Degrees committee plus RMIT Ethics committees.

Should you have any queries regarding the study, please do not hesitate to contact me on 9873 0238 at home or 0411 409 375.

I appreciate your consideration of this study and look forward to hearing from you in the near future.

Yours sincerely

Jennifer P. James
Principle Investigator
3/ 665 Whitehorse Road
Mitcham 3132

Dr Angela Watt
 Manager
 The Royal Melbourne Hospital Research Foundation
 PO The Royal Melbourne Hospital
 Parkville Vic 3050

August 26, 1999

Re: 1997.026 An analysis of the breastfeeding practices of a group of Victorian mothers

Dear Angela

Further to our telephone discussion, I wish to notify the Committee of the following:

1. I have transferred from RMIT (Bundoora) and am now studying at Victoria University, Footscray Campus
2. The study is now part of a PhD
3. All data has been collected from phase one of the study, with analysis now commencing. Information regarding phase two is detailed below.
4. Work has commenced on the final questionnaire, consent form and covering letter

Contribution to Knowledge:

Findings from the proposed work (phase two) will offer health professionals a greater understanding of the experience of breastfeeding women and will highlight areas that require further or improved strategies in education, support and health promotion. This is particularly true when developing early interventions and strategies to assist mothers having subsequent children and who have experienced significant problems with their previous lactation.

Statement of Significance: Previous studies have addressed specific topics, such as the effect of antenatal education on the duration of breastfeeding (Jamieson 1990); the influence of early discharge (Carty 1991); social and personal factors (Isabella 1994); the effect of labour and early neonatal period (Minchin 1991). However, few have addressed the broad issues related to why babies are weaned early. Therefore, this research is essential to identify why early weaning occurs, what influences the decisions mothers make and what strategies are needed to protect the breastfeeding relationship.

Introduction: The original study was designed to determine participants' experience of breastfeeding in order to identify potential indicators of early weaning behaviours. By extending the nature of the study it is envisaged that not only will the mother's initial experience be described but the extended study will determine whether the experience influences subsequent breastfeeding experiences and if so, in what way.

Aims (both general and specific): The aims of the original study were to establish the breastfeeding patterns and practices of a group of Victorian mothers and will be achieved by:

- Identifying the factors that influence the initiations, experience and the duration of breastfeeding
- Exploring the nature of support which influences the patterns and practices of breastfeeding mothers

The proposed study extension recognises that health behaviours change over time and are influenced by past experience, knowledge, support and the current experience itself. Therefore, the aims will now be to identify whether the past breastfeeding experience has influenced the current experience and if so, identify those previous experiences that have such influence and their effect.

Literature Review: Current literature suggests that significant numbers of mothers are experiencing problems with breastfeeding (Scott, Binns and Aroni 1997). Although a number of studies have addressed specific areas of the breastfeeding experience, little has been written on the effect of a poor initial lactation experience on subsequent experiences. An extensive literature review was carried out for the original study, but further examination reveals that little researcher attention has focussed on whether the first breastfeeding experience (good or bad) has any influence on the decisions a mother may make in terms of

feeding practices with subsequent babies, the experience of feeding those babies and the outcomes in terms of successful or unsuccessful breastfeeding (DaVanzo, Starbird and Leibowitz 1990) .

Researcher contact with mothers who exited the original study (due to breastfeeding problems) during the first six months of the study period suggests that there is a significant influence on how they will feed their next baby. Most of the participants strongly agreed that they will attempt breastfeeding again, but would not allow problems to continue for weeks as they did with their first baby and would in fact introduce infant formula and probably wean earlier if problems occurred again.

In contrast, women who enjoyed positive breastfeeding experiences with their first baby, who were having second babies at the time of the study and who experienced problems with breastfeeding this time identified a range of issues regarding inadequate postnatal care, feeling totally unprepared for a difficult breastfeeding experience and similar low levels of confidence as those expressed by the first time mothers.

Methodology and Techniques

The Research Question: The challenge for this follow-up study is to identify whether the initial breastfeeding experience influences subsequent experiences and if so, in what way and to determine what, if any, interventions may play a role in improving ensuing outcomes.

Proposed Methodology: It is proposed that the researcher re-contact the 295 first time mothers from the original study population by telephone. This will be done to, firstly, determine if they have given birth to a second baby and if so, to invite them to participate in the follow-up study. Those mothers who are contactable and who meet the study criteria will then be sent a covering letter, with a consent form and a questionnaire containing both qualitative and quantitative style questions. It is anticipated that allowing for loss of participants due to relocation, those who have not had subsequent babies and those who do not wish to participate again, the approximate number of final participants is expected to be 175.

The questionnaire will be designed to determine the new breastfeeding experience. Information gained from this interview will address the following issues: the most recent pregnancy, labour, birth and early postnatal experience; the mother's assessment of past breastfeeding experience; level of commitment to breastfeed the new baby: current levels, sources and nature of support for mothering and breastfeeding; mother's attitude to current breastfeeding experience compared to the first experience; mother's levels of knowledge about breastfeeding with the first baby compared to current baby.

Yours sincerely

Jenni James

