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MESSAGES INFLUENCING INFANT FEEDING DECISIONS MADE BY MOTHERS UTILISING PRIVATE HEALTH CARE FACILITIES IN JOHANNESBURG, SOUTH AFRICA



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A research report

submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of

Master of Public Health

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Declaration

I Angela Stewart-Buchanan declare that this Research Report is my own, unaided work. It is being submitted for the Degree of Master of Public Health at the University of the Witwatersrand, Johannesburg. It has not been submitted before, in part or substance, for any degree or examination at any other University.

_____

Student Number 88-04323W

10th day of March 2020 in Johannesburg

Dedication

For Brent and Caelen.

Thank you for your love and your support. Your belief and constant cheering comforted me and kept me going even when the juggling became near impossible.
Thank you for your encouragement, for allowing me to do this for me, for having to make sacrifices and for taking on and shouldering more responsibility for the duration of my studies. It is gratefully appreciated and I was aware of this every day along this journey.

and

To all those mothers, each and every day, doing their best for their babies.

Abstract

Background

Exclusive breastfeeding (EBF) has been shown to have better overall health outcomes for both mother and infant. However, South Africa has one of the lowest EBF rates in sub-Saharan Africa with high levels of mixed feeding, formula feeding and the early introduction of solids being practiced (1-3). There are complex reasons for this low uptake and policy has been developed to ensure that mothers get correct and consistent messaging, are supported to initiate and continue breastfeeding, and that factors that impact on the continuation of breastfeeding are improved (4). There are significant disparities in health care resources between the private and public sector and this study was designed to address critical gaps in our understanding of the dynamics that may be playing out in the private sector, in order to identify interventions that support optimal feeding.

Methodology

A grounded qualitative study design comprising in-depth interviews and a group discussion was used. The study population comprised women whose infant was under one-year of age at the time of the study in Johannesburg, South Africa, who had accessed private health care facilities. Participants were solicited voluntarily, purposely sampled for diversity, and data were collected between July 2016 and November 2018. Electronic recordings of interviews were professionally transcribed and analysed using NVivo 11. Initial thematic analysis was undertaken with deductive and inductive analysis in the coding. Key themes were aligned and using a framework linked to the objectives during the final analysis stage. Trustworthiness of the data and positionality of the PI were considered.

Results

A total of 19 mothers, with a mean age of 35, from various racial groups participated. Infant feeding practices varied, with mixed feeding most commonly practiced. Intention to breastfeed was high, with most women initiating breastfeeding immediately. However, pre-lacteal formula were commonly offered and given in some health facilities. Mothers reported varying and limited ante-natal support in hospital and scant support once they returned home. Where lactation management was strong and knowledge of benefits of breast milk was good, women were more likely to successfully EBF. Public spaces and workplaces were barriers to breastfeeding; women would rather feed in their cars and stopped breastfeeding shortly after

returning to work. Women were exposed to many conflicting messages from different sources, with key influencers being health care personnel, family and friends, and the media. In an effort to be a good mother and make sure that their babies did not go hungry, new mothers made decisions based on messages received and a number of contextual factors. As a result, feeding practices changed over time and most women did not breastfeed for the full six months; complementary foods were generally introduced from four months.

Discussion and Conclusion

Feeding practices in the private sector are similar to those seen in the public sector with mixed feeding most prevalent. EBF is more likely amongst those mothers attending a MBFI accredited facility. Breastfeeding intention and initiation is good but contextual factors at key points can influence feeding trajectories. Interactions in health settings (offices, antenatal classes, and neonatal wards), lactation support at home and a supportive environment identified as key intervention points. In order to improve EBF rates and duration, a multi-level intervention is recommended which includes: (1) targeting key influencers with consistent messaging (2) improving the knowledge and skills of health care personnel to support mothers (3) heightening knowledge of the benefits of BF amongst mothers, partners and the wider support network (4) creating enabling and supportive environments that assist women to continue breastfeeding – lactation support at home, supportive workplaces and public facilities and (5) initiating mass media campaigns to shift public perception of BF. Without these interventions EBF rates aren't likely to improve as mothers will continue to make decisions based on a multitude of factors and continued mixed messaging.

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Acronyms and Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ARV	Antiretroviral
BFHI	Baby Friendly Health Initiative
BF	Breastfeeding
BM	Breast milk
BMS	Breast milk substitute
EBF	Exclusive Breastfeeding
EBM	Exclusive Breast Milk
EFF	Exclusive Formula Feeding
FF	Formula feeding
GD	Group discussion
Gynae	Gynaecologist
HCP	Health care personnel
HIV	Human Immunodeficiency Virus
HR	Human Resources
HREC	Human Research Ethics Committee
ICYF	Infant and young child feeding
IDI	In-depth interview
LMIC	Low-and middle-income countries
MBFI	Mother and Baby Friendly Initiative
NDOH	National Department of Health
NHI	National Health Insurance
NICU	Neonatal Intensive Care Unit
OBYGYN	Obstetrician-gynaecologist
ORS	Oral rehydration therapy
Ped	Paediatrician
PI	Principal Investigator
PND	Post-natal depression
SES	Socio-economic Status
UHC	Universal Health Coverage
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Definitions

Table 1.1: Infant feeding definitions*

Practice	Definition
Exclusive breastfeeding (EBF)	"defined as no other food or drink, not even water, except breast milk (including milk expressed or from a wet nurse) for 6 months of life, but allows the infant to receive ORS, drops and syrups (vitamins, minerals and medicines)." (5)
Complementary feeding	"is defined as the process starting when breast milk is no longer sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids are needed, along with breast milk. The target range for complementary feeding is generally taken to be 6 to 23 months of age, even though breastfeeding may continue beyond two years." (6)
Predominant breastfeeding	"means that the infant's predominant source of nourishment has been breast milk (including milk expressed or from a wet nurse as the predominant source of nourishment). However, the infant may also have received liquids (water and water-based drinks, fruit juice) ritual fluids and ORS, drops or syrups (vitamins, minerals and medicines)." (5)
Bottle-feeding	"the infant feeds from a bottle, regardless of its contents, including expressed breast milk." (7)
Mixed feeding	"infant receives both breastmilk and any other food or liquid including water, non-human milk and formula before 6 months of age." (8)
Formula	"artificial milks for babies made out of a variety of products, including sugar, animal milks, soybean, and vegetable oils. They are usually in powder form, to mix with water." (8)
Breastmilk substitutes	"any food being marketed or otherwise represented as a partial or total replacement for breast milk, whether or not it is suitable for that purpose." (8)
Artificial feeding	"infant is fed only on a breast-milk substitute." (8)

*WHO and UNICEF ICYF Definitions

"Global Infant Feeding Recommendations (7)

1. early initiation of breastfeeding within 1 hour of birth
2. exclusive breastfeeding for 6 months (180 days)
3. nutritionally adequate and safe complementary feeding starting from the age of 6 months with continued breastfeeding up to 2 years of age or beyond."

Chapter 1: Introduction

1.1 Introduction

South Africa has one of the lowest exclusive breastfeeding (EBF) rates in sub-Saharan Africa with high levels of mixed feeding, formula feeding and the early introduction of solids being practiced (1). Complex reasons for this low uptake include historical and traditional infant feeding practices, and mixed messaging, especially in light of the high HIV prevalence rates in the country and where infant formula was provided gratis for HIV-positive mothers (9).

The World Health Organization (WHO) has recommended a one-message approach of EBF, with three recommendations to encourage and support EBF practices (1) early initiation of BF (2) EBF under six months and (3) continued BF at one year (10, 11). The South African government adopted this international recommendation and developed policy guidelines in 2013 that promote EBF for six-months (12) following on the 2011 Tshwane Declaration (13).

In light of these changes and the social context to which mothers are exposed, it is important to understand what communication is taking place, and how messages are received by pregnant women and mothers across the health system, including within private health care facilities. Messages are defined in this context in the broadest terms to include types, content and delivery modes.

This research looked at what messages are being communicated, who is most influential in disseminating this information, how women act on this and, ultimately, what are women practising when it comes to infant feeding methods.

1.2 Background

The advantages of breastfeeding apply to under resourced developing countries and middle-income countries, as well as to resource-rich countries, with benefits to health, psychological and economic outcomes (14). Breast milk provides immediate benefits for babies in the form of optimal nutrition, as well as through the creation of antibodies that protect against diseases such as diarrhoea, pneumonia, gastrointestinal tract infections and atopic eczema (15, 16). The longer-term benefits include better learning outcomes with increased intelligence and reduced risk of diabetes and obesity (3, 17). In addition, breastfeeding has benefits for the mother, such as reduced prevalence of type 2 diabetes and reduced future risk of breast cancer

and possibly ovarian cancer. The more immediate impact of breastfeeding is improved bonding between mother and child and weight management (3, 15, 18).

The South African government has policy, guidelines and regulations to ensure that mothers are given the correct information around infant feeding practices, that messages are consistent, and that systems are in place so that women are supported to initiate and continue breastfeeding (19). In addition to developing policy and adopting legislation that deals with the other factors that impact on the continuation of breastfeeding, recommendations have been made by researchers and included in the Tshwane Declaration to – extend maternity leave to six months (paid) and the introduction of supportive places of work (4, 19). Since 2011, the provision of infant formula to HIV positive mothers at public health facilities has ceased, except when specifically prescribed (4). The Regulations Relating to Foodstuffs for Infants and Young Children, Resolution 911, passed in 2012, has extended restrictions on the promotion and provision of formula to the private sector; although formula can be supplied and sold within private health facilities, it cannot be promoted (20). Its continued use within these settings, by health care personnel (HCP), may have been influenced by producers of the breast milk substitute (BMS), commonly referred to as formula (21). Formula is, however, reported still to be freely available and used as top-ups in some facilities: in two studies in Mpumalanga, 35% and 12% of infants were given formulas as a first feed (22).

1.3 Statement of the Problem

South Africa has high infant mortality and morbidity, with diarrhoea and pneumonia being the leading cause of death amongst under-fives (23). This may be related to infant feeding practices, with mortality higher amongst those who are formula fed as opposed to breastfed (24). Evidence from recent studies indicates that there may be a link between an increase in lifestyle diseases and infant feeding practices (3). Breastfeeding plays a protective role for both mother and child, regardless of socio-economic status (SES), in limiting future incidences of diabetes, obesity, hypertension, heart disease and various cancers (3, 18, 25, 26). Findings over the past decade indicate that 20,000 deaths in women from breast cancer and 823,000 deaths in under-fives could be prevented annually through the universal scaling up of breastfeeding (3).

However, EBF rates are poor both globally and locally. Globally, EBF rates average at 37% amongst low-income and middle-income countries (LMICs) and even lower in high-income

countries (3). Intention to breastfeed is a good predicator for the initiation of breastfeeding; however, in South Africa, initiation of breastfeeding declined in the early 2000s to 82% from 88% in the 1990s with only 8% of women exclusively breastfeeding for the first six months (1). With a change in messaging and policy this has now increased to an average of 32% of infants below six months being exclusively breastfed (27, 28).

This low commitment to breastfeeding has many health consequences: it adds to the high risk of mortality and morbidity of under-fives and to future demands on the health system, as well as having more negative health outcomes in babies, children, women and adults across a variety of health issues (29). The uptake of breastfeeding and optimal feeding through EBF must be promoted and increased if we are to reduce infant mortality and morbidity, and if we are to improve longer-term health outcomes (3).

1.4 Study Justification

Breastfeeding has been shown to have better overall health outcomes even in settings where resources are abundant, where water and sanitation are of a high quality, and where access to health care is good, such as in the private health care sector (2, 3). However, there is a decline in EBF levels, as well as in duration of breastfeeding amongst richer women in LMICs, with only the initiation of breastfeeding being high (3). South Africa's wealthiest families, being those most likely to utilise private facilities, are likely to mimic these findings. As the overall wealth of the population increases, there is a concern that the already low EBF levels may decline further.

There is also an imperative for private health care systems, run on a made-for-profit-model and cost-benefit studies, to understand the practices of their clients. Studies conducted in Southeast Asia have shown that there is a substantial economic benefit to the health sector associated with an increase in EBF and the subsequent reduction of mortality and morbidity (30, 31). With the introduction of the NHI and aligning the private sector with the public health system, reducing the overall health burden, and identifying complementary models where they can continue to offer a profitable private service becomes even more relevant (32). The government has recommended that all private facilities be Mother and Baby Friendly Initiative (MBFI) partnered and accredited in order to promote EBF. As of early 2018, seven private hospitals in South Africa, with two in Gauteng, had been MBFI accredited (4, 19).

A review of the literature for South Africa reveals a dearth of information on infant feeding practices of people who access the private sector, as most studies focusing on the public sector as well as on breastfeeding in relation to high HIV prevalence amongst pregnant women (33). This is in spite of recommendations for the monitoring and evaluation of infant feeding practices across all health facilities, including private facilities, especially in light of the changes in messaging around infant feeding (4, 19).

More information is needed about common practices among those accessing the private sector and if high levels of mixed feeding and the early introduction of solids is commonly practised in this demographic as well. Since this study sample targets urban working mothers in the higher socio-demographic profile, it would be useful to see if similar trends are common in the private sector. Furthermore how supportive is the working environment to lactating women, especially since there is a likelihood that this sample includes women who work in larger corporations where human resource (HR) polices are more likely to adhere to broader guidelines (19).

Reviewing how the national policy and protocol shifts on breastfeeding are applied in both the public and private health facilities will be beneficial to understanding if there is confusion with this shift, especially since health providers cross between the public and private sector and also "moonlight", which may influence transference of messaging (34). Furthermore, more in-depth knowledge is required of both sectors to assist with Government's aim for universal health coverage (UHC) through the National Health Insurance (NHI) with a more equitable distribution of resources (32). The re-engineering of primary health care encourages engagement between the currently fragmented health sector, where a more integrated working relationship is intended (13, 32). It is therefore important to understand the infant feeding practices that are being communicated, and how these messages are being received by mothers who access private health facilities.

The overall pool of resources available for health care is limited, and it is important that optimal health measures and practices are adopted, such as EBF, to maximise the future benefits and to reduce the overall burden on the health care system (32). This study was designed to address critical gaps in our understanding of the dynamics that may be playing out in the private sector.

1.5 Research Question

How did messages influence infant feeding decisions made by mothers with young infants, who used private health care in Johannesburg, South Africa, between 2015 and 2018?

1.6 Study Aim

To explore how messages influenced infant feeding decisions made by mothers with infants under one year, who used private health care, in Johannesburg, South Africa, between 2015 and 2018.

1.7 Study Objectives

1. To describe the infant feeding practices reported by mothers with infants under one year, who used private health care in Johannesburg, South Africa, between 2015 and 2018.
2. To describe the sources and types of infant feeding messages recalled by women with infants under one year, who accessed private health care in Johannesburg, South Africa, in between 2015 and 2018.
3. To explore how messages influenced the infant feeding decisions of women with young infants under one year, who used private health care in Johannesburg, South Africa, between 2015 and 2018.
4. To explore how key socio-demographic characteristics influenced the different infant feeding messages received, practiced and described by women with young infants under one year, who used private health care in Johannesburg, South Africa, between 2015 and 2018.

1.8 Literature Review

1.8.1 Introduction

This review consulted both international and South African literature. It is presented according to the study's four objectives and related themes. Specifically, the review covers what is already known about infant feeding– practices, sources, messages and influencers (including socio-demographic characteristics).

1.8.2 Infant feeding practices in the first six months

Most of what we know about infant feeding practices in South Africa is from studies and reports conducted within the public sector; we unfortunately do not know for certain what

happens in particular populations and segments, more specifically those who access private health facilities (35). The literature revealed diverse practices with mixed feeding continuing to be the norm (36).

Studies in public health settings report that the most common form of infant feeding practiced in Africa is mixed feeding with solids being introduced before six months (37). However, when comparing South Africa with other African countries, EBF is poor, with many women already having decided not to breastfeed or, for a number of reasons, planning to mix or exclusively formula feed once they leave the clinic or hospital setting after delivering their babies (1).

Reasons for introducing formula include perceived inadequate milk supplies, unsatisfied baby, baby is still hungry, returning to work or school, or the ability for someone else to assist with feeding the infant (29, 36, 38). Common reasons cited for using substitutes are that it promotes better night-time sleep, is recommended by family members or HCP, their milk has not come in yet, their HIV-status, and as noted previously, the free formula offered at public facilities (39). Aggressive marketing of formula by the industry, as well as the "spill-over" effect of providing free formula within public health facilities to HIV-positive mothers has been widely acknowledged to have contributed to low EBF practises and the high levels of mixed feeding (40, 41).

A positive attitude towards breastfeeding, a motivated intention to breastfeed, and the desired plan to initiate breastfeeding within an hour of birth, associated with the Theory of Planned Behaviour, have been shown to have positive longer term breastfeeding outcomes (42). A study of formula feeding amongst higher SES women in the Cape metropole, indicated that 21.8% of mothers did not initiate breastfeeding (43). Reasons given in public sector studies for not initiating breastfeeding early on include: Caesarean-section (C-section) was performed, premature birth or infant was taken to a neonatal intensive care unit (NICU) ward, milk not yet come in, or HCP delayed giving them their infant (33). A study conducted in the private sector, published in 2009, found that there was a delay in initiating breastfeeding after a C-section and 69% of women had not initiated breastfeeding within two to four hours of birth; where infants were in NICU, there was a delay in initiating of a week on average (44). Other research shows that C-sections are particularly high in the private sector: 74% of Discovery medical scheme members opt for a C-section, a substantial difference to the

already high 24% of public sector C-sections that are performed (45). This was identified as an important experience to explore in the private sector context.

Mixed feeding practices are common in South Africa. A study of peri-urban lactating mothers found that herbal preparations (muthi) were introduced in 56% of cases to infants before they were one month old, as were weaning foods (32%), such as infant cereal, pap, and soft porridge, and 90% of infants received water daily (38). Other solid foods introduced early on include potatoes, bananas, butternut and yoghurt (38). Seventy percent of mothers accessing public services introduce solids before six months (36). The practice and content of mixed feeding has not been documented amongst mothers accessing the private sector.

Urban settings are associated with a change in the practice of traditional breastfeeding methods resulting in decreased breastfeeding duration and an increase in the early introduction of solids and substitutes (38). This may be related to the need to go back to work: another study showed that women were twice as likely to cease breastfeeding by 12-weeks if they had a financial income (1). Globally, trends show that unemployed women are more likely to EBF as the cost of formula is prohibitive (46).

1.8.3 Sources and types of infant feeding messages

Formal messages from HCP and interpersonal messages from friends and family and the media are all potential sources of information on infant feeding. While all are important, they play different roles during the prenatal and postnatal periods.

Health care settings and the various HCP with whom women interact in these facilities are critical sources of both information and support, and are at the forefront of counselling expectant and new mothers (33). HCP play a crucial role in providing details on correct and appropriate infant feeding practices; staff promotion and initiation of breastfeeding within health facilities is a predictor of breastfeeding uptake and continued future practices (29). Likewise they can have a negative influence by providing inaccurate information, inconsistent advice or not following policies or procedures for adequate support (47).

Pre-lacteal feeds were common in one private clinic with 85% of women in a support group mentioning that they were encouraged, whilst they were in hospital, to supplement due to their milk supply being reportedly insufficient (44). Once again, less is known about sources

within the private health facilities and which, if any, HCP is the primary source. Although there are reports about formula and bottles being handed out to mothers, the early introduction of complimentary foods is advised and there is a tendency to recommend top-ups until milk comes in; this was from only one relatively small study (48) but what is recommended elsewhere is not clear. Supplementing breastmilk with top-ups, especially in bottles, is known to create confusion and latching issues and international guidelines for facilities have been developed (49).

Family, especially a woman's partner, has been shown to have a positive influence on intent to initiate and the duration of breastfeeding, as well as on the introduction of complementary foods (33, 47). In addition peers, such as friends, work colleagues and informal social networks, have been shown to be important sources of both information and support (47, 50) They play a role in increasing intention and subsequent success of optimal or positive breastfeeding practices; where this support is poor, early cessation is higher (47, 50).

Content analysis of media internationally shows that bottle-feeding, as opposed to breastfeeding, is portrayed more frequently and also more positively in the mass media (51). A reader survey conducted amongst Johannesburg parents, that appeared in a popular free parenting publication, revealed that 10% felt that breastfeeding should be done at home or in private, 2% thought it was disgusting, 27% said they were for it, and 61% felt it was okay to do in public but it should be discreet (52).

Lessons published recently on the randomized controlled trials (RCT) of the global nutrition campaign Alive & Thrive show that behaviour change interventions around breastfeeding that use multiple platforms, including media can have a significant impact on breastfeeding practices but that design is context and audience specific and must be adjusted accordingly (53). A USA study showed that print media proved to be a useful source of advice and women who had been exposed to this information source were far more likely to continue breastfeeding at 12-weeks (54) Breastfeeding is promoted in South Africa through national media campaigns, three of which launched in 2018: Side-by-Side, by the NDOH, has breastfeeding as one of five key components (55), Grow Great focuses on zero stunting with breastfeeding as a core building block (56), and the 100% Breastfed Initiative consists of a series of promotional videos on breastfeeding (57). There is not much evidence-based

research in this area and the results of current evaluations on these campaigns will provide useful insights for the design of future campaigns.

Beyond popular mass media, social mobilisation and positive promotion of breastfeeding using media platforms can potentially influence women's decisions to breastfeed, and play an important role in changing social norms (9). Mobile technology has expanded substantially in South Africa with more people using mobiles to access media and the internet; smart and feature phones are becoming more prevalent: 81.72% of South Africa's phones are able to access data from a smartphone with penetration doubling over the past two years (58). In 2014 the NDOH launched MomConnect, a mobile platform that sends stage-based messages to pregnant women in the public sector who are subscribed to this service (59). The internet provides a wealth of information on infant feeding and access to online support groups for pregnant and new mothers and can provide encouragement to initiate and continue EBF (51).

1.8.4 Messages that influence infant feeding decisions

Women are exposed to a variety of messaging and opinions, and mothers do not make decisions in isolation but instead a multitude of factors influence their decision-making process impacting on their ability to breastfeed (33, 46, 60, 61).

In order to improve universal EBF rates the Baby-friendly Hospital Initiative (BFHI) was launched by the WHO and UNICEF to promote the implementation of the ten steps to successful breastfeeding (see Figure 1.1) (62). This was rebranded as the Mother-Baby Friendly Initiative (MBFI) in South Africa. According to a systematic review, when these steps are followed initiation, EBF and duration of breastfeeding are all improved (63).

To be an accredited MBFI facility adherence to these steps is required but implementation has not yet been rolled out across all facilities (36). A study conducted in private health care facilities showed that adherence to these ten steps was low both in terms of information and support given to mothers. (44) Several other studies have shown that compliance also waivers in public facilities (33, 64). One message that mothers received from HCPs in hospital that didn't comply with the ten steps was that they had an "insufficient milk supply" and as a result formula was given (44). Interventions in health facilities that emphasise support and special care for mothers by HCP to initiate breastfeeding have been successful for increasing EBF for short periods, around two-months, but not for longer durations (47).

Ten steps to successful breastfeeding

Critical management procedures

1a. Comply fully with the *International Code of Marketing of Breast-milk Substitutes* and relevant World Health Assembly resolutions.

1b. Have a written infant feeding policy that is routinely communicated to staff and parents.

1c. Establish ongoing monitoring and data-management systems.

2. Ensure that staff have sufficient knowledge, competence and skills to support breastfeeding.

Key clinical practices

3. Discuss the importance and management of breastfeeding with pregnant women and their families.

4. Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.

5. Support mothers to initiate and maintain breastfeeding and manage common difficulties.

6. Do not provide breastfed newborns any food or fluids other than breast milk, unless medically indicated.

7. Enable mothers and their infants to remain together and to practise rooming-in 24 hours a day.

8. Support mothers to recognize and respond to their infants' cues for feeding.

9. Counsel mothers on the use and risks of feeding bottles, teats and pacifiers.

10. Coordinate discharge so that parents and their infants have timely access to ongoing support and care.

FIGURE 1.1: TEN STEPS FOR SUCCESSFUL BREASTFEEDING: WHO AND UNICEF (62)

HCP play an important role in communicating information on feeding (36): a study conducted prior to the Tshwane Declaration in Mpumalanga showed that decisions in 80% of cases depended on what women had heard from HCP (36, 65). Another study, amongst low-income households in the Western Cape conducted in 2011, found that health care workers and grandmothers are the main influencers (66). Health care workers may also be influenced by their own family members and heed their advice rather than what they know from their profession, as was found in the Western Cape study (66). However, studies also revealed how confusing messaging from HCP, due to their own uncertainties and a lack of understanding, can undermine correct infant feeding practices by new mothers (14, 64, 67). This is especially relevant when it comes to infant feeding communication in relation to HIV-status, where the message has changed over time, and the desire of mothers to protect their infants (68). In contexts where health messages are inconsistent, women rely on familial knowledge or past experiences (64). The clarity and trustworthiness of messages therefore influences practices.

Nothing has been published about how much trust South African mothers place in private sector HCPs or other sources.

Global literature has highlighted that EBF recommendations are not being promoted by paediatricians in the private sector (21). For instance, a study in America reported that only 65% of paediatricians recommended EBF for the first month (44). Another study conducted in the private sector noted that paediatricians and gynaecologists seem to be neutral on the benefits of breast milk and formula and didn't offer advice unless prompted (44). A recent study found that 60% of Paediatric Associations, with an online presence, received some form of financial support from BMS manufacturers or distributors (21). Where a commercial interest exists it is likely to influence HCP behaviour and the WHO's guidelines recommend that health professional associations do not accept support from companies involved in BMS (21).

Family is considered one of the most influential factors when it comes to how infants are fed, what they are feed and duration of practices; partners and a woman's mother have a particularly strong impact (33, 36, 60). The type of support that they receive from their family, once they leave hospital, often determines how successful their breastfeeding experience is (47). Moreover, a mother's knowledge of how she was fed as an infant and having a supportive and involved partner are all influencers for breastfeeding or bottle feeding; encouragement of breastfeeding by partners has a positive impact on breastfeeding duration (43).

Peer support has been shown to have a positive impact on the continuation of breastfeeding (47). The duration of breastfeeding is negatively influenced by the lack of supportive facilities in public spaces and workplaces (43, 47). As a result, feeding in public with the chance of being seen, was viewed as embarrassing for women in a Cape metropole study and a strong influencer to formula feed (43).

The prevalence of 'breast is best' messaging may contribute to heightened levels of anxiety as mothers aim to match this image of the perceived, so-called 'best' mother (33, 69).

1.8.5 Socio-demographic characteristics: message targeting and patterns of practices

Johannesburg is a cosmopolitan city comprising a diversity of racial groups, differing socio-demographic characteristics and economic statuses, and various cultures and educational levels that could influence infant feeding practices. The global and local literature was reviewed to look for patterns of how messages are targeted at specific populations and the infant feeding practices that occurred across a variety of socio-demographic characteristics.

A literature review of initiation and duration of breastfeeding found that women who have a higher income, are supported and have flexible working hours or remain at home are more likely to breastfeed (47). Women who also have positive attitudes towards breastfeeding having made the decision to breastfeed earlier on in their pregnancy, are also more likely to breastfeed (47). A California study that looked specifically at breastfeeding and socio-economic status (SES) found that women with higher maternal and paternal education and from a specific cultural group were more likely to breastfeed; family income and occupation are also possible contributors (70).

A study of women in a high socio-economic bracket in the Cape Metropole who formula fed cited reasons for selecting this practice including work convenience, social support, family matters and different cultural opinions about feeding in public (43). There is conflicting evidence around how socio-economic status influences breastfeeding practices. Some studies show that mothers in high-income countries, with higher educational attainment and SES, follow guidelines of what is best for their infants and are more likely to exclusively breastfeed (70, 71). Whilst studies from LMIC show that high SES and employed mothers were less likely to EBF (33). LMIC populations are also more likely to initiate feeding but also mix feed and introduce solids earlier (71).

A literature review also found that women who were more likely to breastfeed are older (47). The age of mothers appears to influence feeding practices, with little evidence of messages being targeted at specific age groups. Teenage mothers report that breastfeeding restricts them and negatively impacts on their appearance, while formula allows them freedom and the opportunity to return to their studies while grandmothers can care for their infants (9).

A Cape Town study showed that women who lived in formal housing, had running water and had been given breastfeeding information were more likely to breastfeed (68). A lack of

knowledge about the benefits of breastfeeding posed a barrier to breastfeeding being practiced (33). Previous infant feeding experiences and work constraints also impacted on decision-making, as did the social support network available to women (68). Supportive partners were identified as key in the continuation of breastfeeding (44). Understanding what characteristics support or hinder EBF amongst this group of women will help with developing messaging and future programmes that can positively influence higher SES women to EBF.

Though race itself is a social construct (72), due to South Africa's history of apartheid and unequal access to health care and information it is likely that feeding practices differ across race and ethnic groups. However, there is a gap in the literature on feeding practices amongst certain race groups in South Africa, most notably white and Indian (33). Comparisons of practices across racial or ethnic groups are therefore difficult to make. In line with the observation that race is a construct, infant feeding patterns between racial groups vary by context. A study in the USA found that black women were more likely to halt EBF sooner than other race groups (54). Other studies have confirmed that breastfeeding rates in the USA are lowest amongst this group (73), whereas in the United Kingdom breastfeeding rates are highest amongst black and Asian women with white women more likely to stop breastfeeding earlier (73).

1.8.6 Conclusion

Infant feeding decisions are complex in the South African context, with much more known about families accessing the public sector than the private sector. The study setting of Johannesburg is a melting pot of the diverse cultures and demographics found in South Africa, making it an ideal location for exploring message diversity, influence and breastfeeding practices. There are also a number of key message influencers including the health system and its personnel, family and friends, previous experience and social and cultural norms (68).

Chapter 2: Methodology

This chapter explains the methodological approach that was used in the study. It describes the study design, setting, population and sampling, how the data was collected, the scope of the study and how the data were processed and analysed. It concludes with the ethical considerations, as well as a comment on the PI's own positionality.

2.1 Study Design

A grounded qualitative study design was adopted utilizing both in-depth interviews (IDIs) and a group discussion (GD) for primary data collection and analysis. This design allowed for greater understanding of the complex influences and messages that women receive around infant feeding, and the impact that each of these has on their decisions and behaviour when it comes to selecting and maintaining infant feeding practices. The qualitative study format allowed participants to explain their behaviour and actions in relation to their experiences, or underlying reasons, and provided deeper understanding of the context of their lives which helped to achieve the aims and objectives of this particular study (74). The design also allowed for additional themes to emerge that were not included in the initial literature review.

2.2 Study Setting

Johannesburg is South Africa's largest city and the economic and financial hub with a diverse population of 4.43 million people (76,4% black; 12,3% white, 5,6% coloured; 4.9% Indian). isiZulu and English are the most spoken languages. 19,2% of Johannesburg's population has obtained a higher level of education (75). Approximately 11.5 million people live in what is termed the greater Johannesburg metropolitan area (76).Women utilizing private health facilities for ante-natal and infant delivery in this area are likely to be from the affluent higher LSMs (living standards measure) (77).



FIGURE 1.2: MAP OF JOHANNESBURG (78)

Approximately 16 - 32% of the South African population accesses private health facilities; 16% for both hospital and primary care and a further 16% for just primary care (79). There are 9,38 million (80) medical aid member beneficiaries; approximately 27,1% (13.6 million) people access private health care (80, 81). There are 170 private hospitals in Gauteng; another 48 have approval to be built, most being in close proximity to the economic hubs, specifically Johannesburg and Pretoria, with closer proximity to the affluent areas (81). The city of Johannesburg's website lists details for 32 private facilities in Johannesburg and notes that private health care is amongst the best in the world, especially in its northern suburbs (82). For this study, women were recruited who accessed private facilities in the northern and western suburbs of Johannesburg.

2.3 Study Population and Sample

The study population consisted of women in Johannesburg, South Africa, aged 18 or above who accessed private health care facilities at some point during their pregnancy and/or post-partum during the period 2015-2018. To be eligible, they needed to have an infant under one-year of age at the time of the study. Participants were volunteers solicited through paediatrician's consulting rooms (Annexure A), churches, pre-schools and by respondent-driven sampling (word-of-mouth) through the network of women who had, or knew of, women who had recently given birth (83). In order to get a sample that reflected the diversity

of interest and characteristics required for objective four, the final participants were purposively sampled (84).

For maximum variation, I, the principal investigator (PI), purposefully sought women from different racial groups, ages, employment status, and parity. These factors were considered when settling on the number of participants for the IDIs. The GD consisted of women selected for similarity of race, parity, educational level, employment status and age. A screening questionnaire assessed if volunteers accessed private sector facilities prior to their being recruited as participants in the study (Annexure B). The actual screening was done verbally when making contact.

2.4 Data Collection

Both the IDIs and GD were utilized to explore all four research objectives. IDIs, by their very nature, provided responses that had greater detail and explanation, which was required in order to answer this particular research question. Conventionally, GDs support the exploration of social norms, attitudes and opinions (74). The intention of conducting the GD was to see if this format and its related peer pressure revealed anything more than the IDIs, and to elicit information specifically on the key socio-demographic characteristic influencers, such as parity, race, educational level and economic status on infant feeding messages and practices. The GD format also allowed participants either to validate or refute each other's shared experiences, enabling triangulation.

Initial data collection took place in late 2016 commencing with IDIs; the GD in 2017 and a further four IDIs in 2018. This was not the initial intention but provided an useful opportunity to see if there had been any change in practice relating to government's national breastfeeding campaign and the shift in messaging.

All recruited participants were initially invited to IDIs, candidates being identified from the recruited participants, who in turn recruited a group of women for the GD based on their shared characteristics. A semi-structured interview guide for the IDIs (Annexure C) and a more informal guide for the GD (Annexure D) were utilised. The IDI interview guide was pre-tested and was adjusted as required as the IDIs took place.

I personally conducted both the IDIs and the GD, in order to assure quality and consistency. These were done in English. A brief questionnaire was also completed by each participant which captured participant's socio-demographic and economic characteristics, for example: race, age, employment status, number of children and type of private health facility accessed (Annexure E). Participants were asked to complete the questionnaire at the beginning of the IDI or GD and were assisted where necessary.

The IDIs were held at a location jointly agreed to be most convenient for the interviewee (their house, office, coffee shop, etc.) and took place face-to-face. They ranged from 50 minutes to 1.5 hours, including the time to complete the consent process and questionnaire. The GD was held at my house which was agreed up-front, by the participants, to be the most suitable location to the participants. This lasted approximately 1.5 hours. All participants were able to bring their infants with them and provision was made for baby changing, access to water and feeding. Participants brought their other children to the GD and activities were also arranged for them.

A female student, new to research methodology, served as the GD research assistant to note participant's order of responses, inflections and body language as well as to take extra notes. She also served as support to a mother who had twins. IDIs and the GD were digitally audio recorded; supportive notes and observations were recorded by the interviewer in the IDIs, and by a research assistant in the GD. The notes included inflections, actions and body language.

2.5 Scope of Study

Study participants were prompted by utilizing the interview guide where necessary. Although the scope was similar, it was semi-structured for the IDIs and more loosely structured for the GD, guided by the flow of the discussion, which made sure that answers were obtained and aligned to the four research study objectives: firstly, self-reported infant feeding practices (whether breastfeeding, formula feeding or mixed feeding was practised and whether solids are introduced early), secondly, sources and types of infant feeding messages recalled (the specific people such as family, friends and health workers, the places where messages are received and media if any that one is exposed to about infant feeding methods), thirdly, how messages influenced decisions (those messages that carry the most weight when making decisions) and finally, socio-demographic influences that reveal trends related to race, employment status, parity, culture and age.

2.6 Data Processing Methods and Data Analysis

The questionnaires and other documentation, including the consent forms, were filed in a hard copy file. The questionnaire data were input into a spreadsheet using Excel and a matrix was developed. Audio recordings were saved on a laptop and transcribed verbatim by me and a professional transcription service – Top Transcriptions. I proofed each transcript, making sure that all sounds were duly reflected, and a short summary detailing where the interview took place and describing the situation was added. Transcripts were de-identified to maintain participant anonymity and given a code; names were deleted and substituted with a description and for case studies, a pseudonym. Transcripts were filed in a separate folder to the audio recordings but utilised the same code name.

I manually coded two transcripts (one IDI and the GD) utilising inductive analysis using NVivo 11 software; these were shared with my supervisor. Intense reading of the transcripts utilizing thematic analysis was initially conducted allowing for observational notes to be compiled (85). Analysis followed Crabtree and Miller's continuum coding that included both deductive (pre-codes) and inductive analysis (85). Deductive analysis was subsequently incorporated into the analysis to identify issues found in the literature that were not raised in the data. I developed a coding template and shared this with my supervisor. After discussion, I completed the coding with an updated template. Through comparative analysis of the themes, utilizing key attributes and characteristics listed on the demographic form, an adapted conceptual framework, presented in Chapter 3 (see Figure 3.1) was adopted and developed. I then ran queries on keywords and themes in NVivo to assist with this higher-level analysis.

Themes were aligned and linked back to the objectives during the final stage of the analysis process (86). As a result of the two year gap between initial data collection and subsequent data collection, and the shift in messaging publicly promoted through Government's National Breastfeeding Campaign, I conducted additional analysis to compare a possible change in messaging (87).

At the data analysis stage a decision was made to incorporate two case studies into the results section. This was not the initial plan but was considered a useful method to illustrate the complexity of messages and influences that women experience and the impact that this has on breastfeeding practices. The lack of any clear patterns by sociodemographic characteristics also informed this decision.

2.7 Ethical Considerations

Ethical approval was received from the Human Research Ethics Committee (HREC (Medical) Clearance Certificate No. M150922 – Annexure F) at the University of the Witwatersrand. Participants were provided with full details of the research study and its intention and received a study information sheet with my contact details (Annexure G-H). Participants were required to sign a written informed consent participation form and a separate audio digital recording consent form (Annexure I).

Trustworthiness: This research was conducted following a number of processes described in the data analysis section such as coding and systematic analysis, to increase the trustworthiness and credibility of the findings that emerged from the study and also to minimise bias (88). Triangulation in the credibility of the research was conducted by comparing the completed questionnaire and the participants responses for alignment. Transferability was considered by comparing the messaging across the different contexts and points of contact within the health care setting (89). I was cognisant of my own bias and confirmed findings through the use of intensive cross-checking means during the data analysis stage and again during the writing of the report and to be transparent have described my own positionality below (88).

Dependability: The time lag between the initial data collection (2016) and the final collection (2018) served to explore dependability of the findings and to ascertain if there had been any noticeable shift in messaging during this period (90).

Confidentiality: While participants were free to withdraw from the study, no one did. All participants were above the age of 18. To ensure anonymity, I assigned unique identity codes to all study participants and any reference to personal names was removed. Confidentiality was maintained for the IDIs. GD participants were requested to keep details confidential but confidentiality could not be guaranteed and participants were informed of this verbally; this was also noted on the consent form. Participant details were separated from the analysis data and locked in a cabinet. Electronic files and audio recordings have all been password protected. Data have been safely stored and will be retained for two years after publication or six years if not published, after which it will be destroyed. All data collected and presented are anonymously reported.

Participant Support: Participants received a travel stipend and were offered refreshments during the session. The amounts were in accordance with the standards stipulated in the South African Good Clinical Practice guidelines (91). Two participants refused to take the stipend. Participants who asked for information on infant feeding practices or mother support groups were provided with an information leaflet based on government infant feeding policy guidelines and were referred to various websites with this information (Annexure J). The final report will also be shared with the participants.

Positionality: I was cognisant of my own positionality and a process of self-reflection was conducted throughout the research process from conceptualisation of the topic to the writing of the research findings (92). Having worked in social behaviour change communication for over 20-years, I had written and talked about the importance of breastfeeding, and although I myself had been formula fed, am a strong proponent of 'breastfeeding" messaging.

My personal experience of feeding my daughter, along with the mixed messaging I received from a variety of sources and the colloquial talk with mothers subsequently was the impetus for the topic and the research. Words such as "pressure', 'guilt" and "inadequate" were often cited by mothers and associated with infant feeding practices irrespective of what feeding method they practised. As a result I was sensitive to and aware of these specific references and of making the participants feel affirmed in their role as a new mother.

Some of the participants were known to me prior to their participation, whilst others I had not previously met. The participants were keen to learn more about the research, what other participants were practising, what I had done myself and what the literature said. These discussions were conducted informally after the interviews.

Chapter 3: Results

"you try and read all of these things, or get the experience, but a lot of it is hands on as it comes along." (Indian, 30, 1st child, 0-3 months)

This chapter presents the main study results in relation to the four key study objectives: infant feeding practices, sources and types of messages, how these messages impacted on decisions, and the key socio-demographic characteristics influencing feeding choices.

The findings will be presented according to four key themes that emerged inductively:

- Diversity of infant feeding practices
- Support matters
- Messages matter, and
- Being a mother

The link between the objectives and these themes is outlined in Table 3.1.

Table 3.1: Linking Objectives and Themes

Diversity of infant feeding practices	Objective 1, describing how mothers fed their infants over time
Support matters	Objectives 2 and 3, with emphasis on sources of information and how they influenced mothers
Messages matter	Objectives 2 and 3, with emphasis on message content and its influences
Being a mother	Objective 3 and 4, in terms of how identity (socio-demographic as well as socio-cultural) influenced how messages were interpreted and acted upon

The conceptual framework illustrated in Figure 3.1 was used in the analysis of the findings that indicated the complexity of influencers surrounding infant feeding and the subsequent practices.

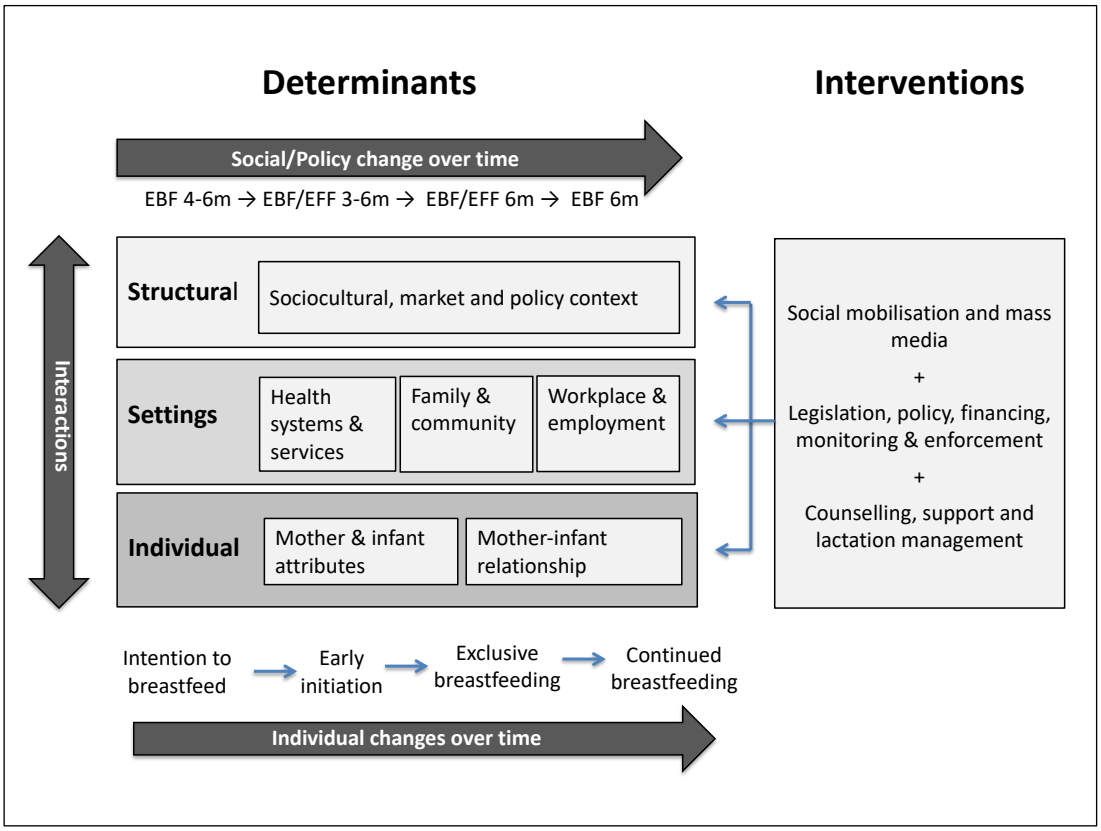


FIGURE 3.1: CONCEPTUAL FRAMEWORK FOR EBF, ADAPTED FROM ROLLINS ET AL, 2016 (35, 46)

3.1 The Sample

The sample comprised 19 women: 15 women in the IDIs and four women in the GD. All participants completed a socio-demographic questionnaire. The racial breakdown was one coloured, five Indian, six black and seven white. The age of the group ranged from 28 to 42 years, with a mean age of 35-years. The infants aged from seven weeks to 12-months. Eleven women were first time mothers, five second time and two third time. Two women had twins and both were first time mothers. Apart from three, most resided in the northern suburbs of Johannesburg but all had accessed private health care at some stage in either northern and eastern Johannesburg. Fourteen were married, four were in relationships and one was single. All but two were employed and three were self-employed. Of the two unemployed one was a post-graduate student and the other a stay-at-home mother. Four were on maternity leave at the time of the interview whilst the others had returned to work. Ten of the women had a post-graduate qualification, five had degrees, three had a diploma and one a matric certificate.

Monthly household incomes differed considerably with one below R25,000, six below R50,000, six below R100,000 and six earned more than R100,000 per month. Two of the women were the sole income earners.

3.2 Diversity of Infant Feeding Practices

No two women I interviewed shared the same experiences, resulting in a diverse range of practices. The women, all of whom had utilised private health care facilities, reported wide and varied feeding practices with breastfeeding, expressed milk, formula, tube feeding and donor milk all offered within the first two days. Feeding practises changed over time, with the duration of practices altering as babies grew older and the introduction and type of complementary foods offered also varied. Table 3.2 is a summary of the feeding practices that the 19 women who participated in the study adopted.

Table 3.2: Feeding practices of study group participants

Age Band	Profile *	Infant Age	Initiate BF	Current Feeding	Summary of Feeding history and intentions
0-3 months	30I1	1m	Yes	Formula & Water	BF initiated. Latching weak and expressed colostrum fed. Baby got jaundice. Formula given from day three. BF and expressed bottle tried unsuccessfully. Formula preferred by baby. Water given.
	35W2T	7w	No	Mixed	Donor milk initially, then formula and BF (breast and expressed)
	38B2	2m	Yes	EBF	Formula tops ups in hospital for two days, thereafter EBF (breast and expressed). Intended introducing solids at five months and continuing to breastfeed.
4-5 months	28C1	4m	Yes	EBF	Tried giving expressed milk unsuccessfully. Intends EBF for five to six months, then introducing solids and continuing to breastfeed.
	29W1	4m	Yes	Formula	EBF for three months. Introduced formula at three months. Mixed then fully formula. Planned to introduce solids at four months.
	30W2	4m	Yes	Formula	EBF initially. Formula introduced at six weeks. At nine weeks BF stopped. Intended introduction of solids between five and six months.
	40B3	4m	Yes	Mixed	BF initially then mixed feeding.
	33W1	5m	Yes	Mixed & Solids	EBF until six weeks. Expressed milk introduced. BF stopped at 10 weeks. Formula for night feed at four months. Solids introduced at five months.
6-8 months	36I1	6m	No	Mixed & solids	Baby received a mix of expressed and formula whilst in NICU for one week. Tried to BF but main feed was expressed milk and topped up with formula. EFF from six weeks. Cereal, veggies, cheese, water and juice before six months with solids being introduced at four months.
	37I1	6m	No	Formula & solids	Baby fed through a tube in NICU then a bottle with formula and expressed milk. Latching wasn't successful but continued to try with expressed breast milk and formula main practice. Cereal and veggies introduced at four months.
	41W3	7m	Yes	Mixed & solids	Tops ups in hospital, then EBF for four months when porridge introduced in bottle. Water and porridge before six months. Formula top ups at seven months.
	35I2	8m	Yes	Formula & solids	BF started. Complications with mother bleeding, medication given so baby on formula. Mother later hospitalised, and pumped/dumped and formula given for two days. EBF resumed for three months. Formula introduced and mixed feeding took place until weaned at five months EFF. Solids introduced at six months.
9-12 months	31I1	9m	Yes	Mixed & Solids	Top-ups in hospital. BF with formula for the night feed. Solids (cereal) introduced at four months.
	39B2	9m	Yes	Mixed & solids	Expressing and tops ups while in NICU then BF. Solids and water given before six months.
	29B1	10m	No	Formula & Solids	FF immediately and milk dried up. At 10-days tried to breastfeed for a week, unsuccessfully. Purity and cheese curls introduced at four months. Water and juice given before six months.
	42W1	10m	Yes	Formula & solids	Tried BF three times on day one with bottle top-ups at each feed. EFF from first night and solids introduced at four months. Tried water before six months but was rejected.
	35W1	11m	Yes	Formula	BF started for a day. Baby in NICU for two weeks and fed though tube initially formula then breastmilk added. Moved to bottle and once discharged EBF until six months when formula introduced. Solids introduced at six months.
	37B2	11m	Yes	Formula & solids	Mix of bottle-feeding and breastfeeding with breastfeeding just 10% of the time. EFF from two months. Cereal introduced at five months.
	38B2T	12m	Yes	Mixed & solids	BF, expressing and formula mixed with the breast milk. Water and solids introduced before six months

*Codes signify Age, race (B = black, C = coloured, I = Indian, W = white), parity (1 = first child, 2 = second child, 3 = third child, T = twins): e.g. 30I1 = 30 years-old, Indian, first child.

Mixed feeding in the first six-months was the most common feeding practise reported amongst women who access private health care facilities. EBF was particularly low, reducing as infants grew older. At the time of the interview only two mothers reported EBF and both intended continuing to around five to six months. A number of different feeding practices were reported, a combination of formula feeding/breastfeeding or breastfeeding/ expressing and the introduction of solids within the first six months being common.

Multiple factors influenced and determined the feeding practice women initiated and adopted: messaging, support, a woman's sense of identity and most notably the circumstances that individual women encountered influenced the duration of particular practices. Two case studies presented below reveal the complexities that surround feeding and the challenges that working women faced to continue breastfeeding. Case study 1 is a woman who mixed fed and continued breastfeeding until nine months, the longest of all participants, with formula supplements having been introduced on day one. The second case study is of a woman who at four months was continuing to EBF and, intended to carry on until five to six months having extended her maternity leave to unpaid leave in order to do so.

Mother # 1: Kamscilla [pseudonym], 31 years-old
She is Indian and is married. Her son is nine-months-old (9-12 months) and is her first child.

Practice: Kamscilla initiated mixed feeding from day one: breast milk was the predominant food either through breastfeeding or expressed bottle, a formula feed continuing at night. She was still breastfeeding at nine months and intended to continue until her son was one year-old. Kamscilla initially followed a three hourly feeding routine. Her son began on solids (cereal) at four-months which was combined with expressed milk.

Intention: Kamscilla was keen to have a natural birth and to breastfeed.

I was open to anything, …I got one of those Gina Ford books, and so in there they suggested that you breastfeed and bottle feed and express, and all of these things, and I also knew that I was coming back to work. So I did want to breastfeed.

Duration of breastfeeding: *…I honestly thought I would only go to 6 months but I think once I hit three months I am so comfortable with the process that we have actually gotten to 9 months and I didn't even realise it happened.*

Messaging: Kamscilla attended antenatal classes at a private clinic, known to promote and support natural birth; it is pro-breastfeeding. The multiple benefits of breast milk were explained by clinic staff, including using it as a remedy to heal spots and clogged noses.

Clinic A are so pro everything natural that you feel guilty about some of your choices. But they just drummed down the breastfeeding thing and I think that was what convinced me that I needed to do this for him, even if the birth did not go as a natural. And they uhm, had a lactation expert come in for the antenatal classes, and the lady there said whoever struggled with in the beginning needed to call and it's not that bad. So I actually did that when I came home, I called and I had a consult. So I think it was probably the Clinic A thing that helped me as they really went in depth with what were the benefits and I had done some reading but I think face-to-face helped.

Support Matters: Kamscilla's baby was overdue (40½ weeks) and at her request a Caesarean-section was performed at a private hospital (not where she attended antenatal classes) as she was on a fixed four-months maternity leave. She initiated breastfeeding within minutes of coming out of theatre, with the OBGYN placing her son to feed. This feed wasn't too successful, lasting less than a minute, with subsequent attempts to latch also proving difficult.

I think the one thing that irritated me is, Hospital B maybe is, I don't know how it is everywhere else, so the breastfeeding, they are not really skilled lactation experts. So you ask for help and it's more like they have pinch on you and hurt you, actually, like when you are feeling so sensitive already, it's already so difficult. Uhm… being in the hospital I think it's a lot of mind games of breastfeeding.

These mind games extended to what to feed and the nurse at the hospital recommended that Kamscilla give top-ups and later on that first day formula feeds were introduced.
So the nurse suggested that we get him to suckle on each side for 5 minutes, so we did that and then post 5 minutes, if there was still screaming then we offered him a 30ml bottle. So at every feed we did that.

Although the care given was good Kamscilla raised a concern around the actual help she received with breastfeeding.

They took good care of me in terms of like changing and getting me into the bath and like looking after the baby. But they were awful when it came to the actual breastfeeding because they would like come there and they would like squeeze on the boob and in all honesty it wasn't because it was becoming engorged or anything like that, it was pressure like someone pinches you that kind of feeling. So I felt the way they handled him I don't know maybe because he was my little boy, I felt like they're just so brutal with him like neck and head and all of that.

Kamscilla's milk came in whilst she was in hospital and she was able to identify this from what she had learnt*: I was in hospital for, I think, 3 nights and the night before I could come out, then obviously I noticed his poop changed colour and I was like, "ah, my milk's come in!"*

Kamscilla's social support group, which included her husband, mother, in-laws, gynaecologist and friends were all pro-breastfeeding and the support she received, particularly from her mother and husband were seen as instrumental.
I think the big thing for me for breastfeeding, I mean this was something I should have mentioned in the beginning, was my mom coming home for five days changed my world. I literally only worried about feeding him. That was the only thing I had to worry about for five days. She did everything else and along with my husband. They took care of him, they bathed him, they changed him, they changed his nappy, they put him down to sleep. They cooked, they cleaned. They did literally everything. The only thing I had to do was feed him…

The support she received, particularly from her mother and the lactation consultant, helped her to persevere with breastfeeding.
…my mom encouraged me a lot because I think she had had a difficult time breastfeeding, so she would sit with me at every feed, there was a lot of feeds that were like in tears because I just hated it. And she would come with like a heat bag and sit with me while I was holding him and talk to me and yah, I think that made the world of difference, if it wasn't for her and the lactation expert and all of that happened in the first five days when she was there. I think

if she hadn't been there for those five days, I don't know if I would have… She was very supportive and I think it helped me when feeding is the only thing you have to worry about.

Kamscilla was on maternity leave for four months and continued breastfeeding during the day. Her husband gave a formula feed at night in a bottle, while she expressed. She also received assistance from her nanny who, when needed, fed a bottle of expressed milk. Kamscilla describes these first two months as difficult, only getting easier in the third month, which was also when she started preparing to return to work.

[predominant feeding] was breastfeeding and then I expressed at night, so 10 o'clock I wouldn't feed him, my husband would feed him, so that was a bottle feed with formula and at about three months I used to express the feeds into a bottle and the dad used to feed him.

Kamscilla felt strongly that her work provided a supportive environment with a dedicated area for expressing. Once a day she expressed using a breast pump brought from home.

The [work] place is very pro-family, they really take good care of people and their families, so they've got a lovely mothers room set up in the annexure, it's not fancy but it's a designated room with plug points, it's got a table, it's got little curtains, and two little cubicles, umm.. there's fridges all over the office so you, so you go do your thing, you bring your bottle back, pop it in the fridge and no-one bats an eyelid. It's quite nice. So it helped a lot.

At nine months Kamscilla was still breastfeeding and intended continuing to do so for as long as she could.

…I am still breastfeeding so every morning I express, uhm... and leave that for him and then when I go home at six o'clock I breastfeed him and he doesn't really wake up at night so if he does then I have to offer him a feed, but now that he is bigger he doesn't, he sleeps through.

<u>They should have told me:</u> Kamscilla noted that it would have been useful to have been advised of a few things and pre-warned so that when things happen it's not a shock which can result in you being unsure of yourself and also so you can plan effectively.

So I think there is a few things people should have told me. Number one: Breastfeeding is damn sore ! Number two is: He will get hungry. And Number three: The best thing you can do is to express and put it into a bottle from very early on.

Being a mother: The nurses told Kamscilla that her son needed top-ups because "he was hungry" and when she realised that top-ups were being given often they decided to bring in their own bottles. She was in a private room and would hear other babies crying with the explanation given to her that they were also hungry making her think that the hospital was pro-tops.

I used to hear the other children crying and then I used to ask them what's up with these children? They said, no they are hungry and the mother does not want to give them top-ups. She only wants to breastfeed.

Kamscilla referred to herself as a "working mother" to differentiate herself from those who do not have to work. A key theme here related to guilt about whether a bottle will be accepted, whether milk supplies will sustain, and not having expressed enough.

I just think in this day and age, like 90% of us are working mothers and there is nothing more heart breaking knowing that you are coming back to work and you are not sure if he is even going to feed at all… You know and that is like the worst feeling ever, cos it makes you feel so guilty. What you've done and even though it was for the better, it just feels horrible.

Mother # 2 Sheri-Lee [pseudonym], 28 years-old.
She is married, is a nurse and describes herself as Coloured. Her son, who is four-months-old (4-5 months)**, is her first child.**

Practice: Sheri-Lee was able to EBF her son for four months. Her pregnancy wasn't easy; she was on bedrest from 35 weeks and at 39 weeks went into labour. After 12-hours of labour a C-section was performed and she was still able to start breastfeeding following the birth.

I was still in theatre, I was laying on the theatre bed. So they put him on me and they let him try and latch. So it was immediately, which was nice, and he latched immediately.
Sheri-Lee knows all about the benefits of breastfeeding but after four months of breastfeeding she still found it hard. Feeding in public was also fraught with challenges and "highly stressful," not just for her but for her husband too. He would try to make sure that no part of her breast was exposed and cover her up.

It's very uncomfortable. There is nothing natural about breastfeeding. I don't believe it's a natural thing. Maybe for some women, it's not natural for me… Because he is also very active, so I can't cover him, if I cover him he throws everything off. It's really difficult, so I usually, I don't even know, we just get through it.

Intention: Sheri-Lee engaged a midwife when she was five-months pregnant having had a strong desire and intent to breastfeed for as long as possible. She selected a private clinic based on its reputation and various recommendations for supporting mothers to breastfeed.

Duration: Sheri-Lee had already EBF for four months and planned to introduce complementary foods between five and six months. She did offer an expressed bottle weekly, hoping that this would help with baby-sitting, but her son refused the bottle each time it was offered. In order to continue EBF Sheri-Lee extended her four months paid maternity leave for a further four months, which would be treated as unpaid leave.

Messaging:
Her antenatal classes, at a private MBFI accredited clinic, strongly advocated for breastfeeding, even emphasising the importance of the colostrum.

The midwives at the Clinic, they really advocate for breastfeeding, they're very strong on that and I was happy with that because obviously I believe in that, because I am a nurse myself, so I know breast milk is the best. And they … really advocate, they really try and get you to breastfeed. …What I liked about it was that they assist you with latching uhm… so that you don't just give up. …they were even quite pedantic, the nurses about the colostrum, you mustn't even waste it, they called it liquid gold. If you were even going to express any, you express it into a teaspoon and you give it to the baby, you don't waste. Which is very different to other institutions.

Sheri-Lee received mixed messages from friends and family around the adequacy of breast milk.

…friends and family have very different ideas. I've been told many times to feed him porridge, because he is a big baby, so he can't be getting enough from just breast milk. Uhm, he strains a lot to make a poo, …so I've also been told to give him water…. I've been told to give him gripe water and those things.

Her paediatrician recommended that she cut out diary from her diet, whilst others recommended she move to formula.

…the paediatrician uhm suspected that he had an allergy, a cow's milk allergy and advised me to cut out dairy from my diet, …so I had to cut out dairy… I lost a lot of weight, and it was miserable … that was another point I would have just given up breastfeeding, and people told me to do that, they said I should rather put him on Isomil, or some formula.

Sheri-Lee received information from a variety of sources, including social media.

I think most of my information came afterwards, with reading myself, I'd read, I'd Google questions that I had and I read what to expect and I also joined the Facebook page of La Leche.

She expressed concern that health sector personnel weren't giving the right information as they did not have it provided to them when studying.

I think in my nursing background, sadly I didn't get all that information. And, I think that's also why nurses are not giving the right information in hospitals. In midwifery you do a lot of looking after the mom, and then obviously some postnatal care, but I don't think enough on breastfeeding and [its] importance.

Support Matters: When she got engorged breasts Sheri-Lee called in a lactation consultant who helped her to continue breastfeeding. She believes that post-natal support and information are key for successfully being able to breastfeed and although you receive the information at antenatal classes it doesn't have context until you experience it.

I told my friend that's a lactation consultant they should have like a hotline; somewhere where you can phone and ask questions, because I think, I think only after you start breastfeeding do you have all the questions. …I don't think you get enough support when you actually do start breastfeeding. Before you can get the information, it really doesn't really count, but the support afterwards, is where I think it's weak, it's weak all over - in the private and the public sector. …I think that's what's lacking.

Sheri-Lee's experience of finding places to breastfeed in public wasn't always easy, noting that people stare, you feel uncomfortable and men feel uncomfortable and do not know where they should look when you are feeding.

But with the broader family, and like if you go to church or events, it's very difficult, cause, even in the shopping centres, people almost, they look at you, they stare, they stare, and they make you feel like you are doing something wrong. It's terrible, so it's nice to breastfeed at home. But in my family, it's quite accepted.

They should have told me: Even though Sheri-Lee's desire was to breastfeed she felt that receiving information around expressing would have helped to ease her load. Being given practical and supportive messaging on the type of complications that could arise, such as engorgement, and being provided with options so that you can make the right decision for yourself and your baby would have helped her.

I do wish though that I got more information about expressing…, and I was discharged without much information with how to deal with breast engorgement. When you experience all that pain and engorgement and cracked nipples, all those things. That's when you are likely to give up, and I had no idea what to do or think. ... even when I went for my appointment with the gynae, he was so negative, … he just said, 'well, I mean maybe we must just dry up your milk'.

Being a mother: For Sheri-Lee breastfeeding is the best that she can do for her son and she is well aware of the short-term and long term benefits. This is why she has continued to breastfeed even though it means an ongoing struggle and extending her maternity leave to unpaid leave.

I know it's best for him, I know the facts, I know that breast milk is the best and that it will help him in future, they have less childhood illnesses, it's the only thing that improves IQ, so that's why I just press on, and I love breastfeeding, even though its hard and complicated.

3.2.1 Breastfeeding Practices

Most mothers tried to initiate breastfeeding soon after the birth, the time period between birth and initiating feeding varying from in the delivery room to later that day. The main reasons for not breastfeeding immediately were due to the mother's ill health, usually as a result of an emergency C-section or complications with the baby who was taken to the NICU. This often meant delays rather than not initiating breastfeeding at all:

> *Immediately after the Caesarean he was crying like crazy so they finished whatever they had to do, went up, and when I was in recovery room, I started trying to breastfeed*. (Black, 38, 2nd child, 0-3 months)

In one case the doctor instructed the nurses not to allow breastfeeding due to a chronic illness.

Some participants only fed their babies breast milk, with many using expressed milk in addition to breastfeeding. The expressed milk enabled additional caregivers (partner, mother,

nanny, etc.) to support feeding, for example at night or while they were out. This strategy was often initiated in preparation for returning to work:

> *So, I started expressing, I think, it was at the six-week mark… I thought, let me try the expressing thing and get him used to a bottle early on knowing that I'm going back to work. And then also, just so I could monitor how much he's eating. And then, yes, we did it from six weeks and the little monster started getting lazy and preferred the bottle. And, I think, from about ten weeks onwards it was bottle only.* (White, 33, 1st child, 4-5 months)

Some women also expressed for their own use whilst out in public due to discomfort about breastfeeding in public. Other women felt uncomfortable even in front of family members, especially in-laws, male friends and male relatives, and instead opted to feed before going out or used expressed milk (or formula) when out. Even women who had breastfeed in public expressed in preparation for certain situations or places they were visiting.

> *I expressed for the aeroplane to give him a bottle… We went out for dinner, I gave him the bottle, and then he looked at me and I was walking around the restaurant and then I had the [feeding] cape and then I just thought, I can't do this again, I can't sit in another restaurant [and breastfeed again]* (White, 29, 1st child, 4-5 months)

The success or failure of expressing was often described in relation to infant responses, which differed. One baby preferred the bottled BM, resulting in his mother stopping breastfeeding shortly afterwards. Another infant only allowed other caregivers to feed the expressed milk whilst the mother continued breastfeeding.

One participant reported that she had expressed milk and had given to her sister's newborn baby while her sister was battling to initiate feeding believing that her milk would be better than her sister accepting a top-up in hospital.

For those who initiated breastfeeding, the duration of breastfeeding or expressing milk varied ranging from one day to over six months. Two mothers stopped within the first days, a few more before nine-weeks, whilst others continued to breastfeed and express in some from for

between four and six months. Two continued with mixed feeding (BF and expressing) for over six months.

Work was described as a barrier to continuing to breastfeed, linked to challenges in expressing and dwindling milk supplies. Most women had resumed work after three- or four-months of maternity leave. One mother, who had started at a new job just before falling pregnant returned after just two-months – she was formula feeding. Only one participant reported that her work had provided a supportive environment for her to express, which assisted her in being able to extend breastmilk feeding. Normally, weaning coincided with returning to work and if expressed milk supplies were inadequate, the introduction or increase of formula feeds was the result. The option to give both breast milk and formula was the common practice for women who went back to work earlier who were still breastfeeding. Two mothers planned to continue with breastfeeding until two-years and qualified this by saying "as long as they could".

It was also common for women to try a variety of ways to increase their production from 'jungle juice' to medication, with Eglonyl and Prolac. Some mothers mentioned that Eglonyl, one of the milk enhancers, was an anti-psychotic which one mother felt was a reason to stop breastfeeding if that's what she had to take in order to keep up her milk supply.

> *(paediatrician) encouraged me to do more breastmilk, well as much as I can and he was fine with the combination and just said that I should consider going on Eglonyl but I went and got some Prolac*. (White, 35, twins, 0-3 months)

3.2.2 Mixed Feeding

The idea of milk insufficiency and the need to "top-up" with formula was often introduced in the private health setting. Top-ups in hospital were common, initiated or recommended by health personnel. Some mothers continued to top-up after going home whilst others moved fully onto formula. Formula was also introduced as a means to assist babies to sleep longer, not being able to keep up with the demand for breast milk or being able to go out.

So they are pro top-up. I have to be honest, they have bottles, they have like Nan and whatever, cause, I didn't take any of that in the beginning and then on the day you realise this top-up thing is happening quite often, then we brought bottles and stuff from home that we had purchased for him (Indian, 31, 1st child, 9-12 months)

Some mothers practised mixed feeding, alternating between formula and breastfeeding. A few mothers noted that they were able to breastfeed successfully and feed a formula bottle. Others practiced mixed feeding out of circumstances and necessity, such as in the case of premature twins, when a baby was not well, or when mothers were ill and on medication.

when they went to neo natal they put them on breastmilk and formula. So now I am doing the same, because I just don't have enough milk. So they feed six times, three of those meals are milk and then three are formula. And then with the milk, one of them will be expressed in a bottle, and the other one I will breastfeed… Sort of like juggle. (35, White, twins, 0-3 months)

Feeding only formula was the least practised feeding method in the first month, but as babies aged it became more common. Of the three mothers who did formula feed exclusively, two had tried to breastfeed in the hospital without success; for one her baby's health and inability to latch were reasons to start and continue with formula, and for another mother formula was the preferred practice:

I had like "bite marks" after just three feeds on that first day… I wasn't enjoying it; the baby was screaming. By that night, (husband) said to me, you know what, if you don't want to do it - don't force yourself. Let the nurses come, do a bottle feed, because every time we were trying, they were topping up on the bottle anyway. …If you want to give it up, totally your choice. And that night, I was like great, I don't want to do it. (42, White, 1st child, 9-12 months)

3.2.3 Complementary Feeding

Slightly less than half the participants gave water and a few gave juice before six months. The introduction of solids varied. Most participants whose babies were older than six months, reported that they had given solids before six months but not before four months. Porridge

and cereal were generally the introductory solid with breast milk or formula mixed into these. A few mothers introduced vegetables and ready prepared foods as the first solids.

> *I strictly put him on the bottle until he was about, I think four months, four and a half months, that's when I started introducing solids like purity, bottled purities and things like juice and so forth. ...and even now, he still, that's all he has, so it's the bottle and that. And then now, and then I'll throw in like cheese curl snacks, because at least they are like soft but I don't give him adult solids, like rice and porridge and yah, I think he's still too young.* (Black, 29, 1st child, 9-12 months)

Some reasons given by participants for having introduced solids earlier than six months were:
(1) behavioural - wanted the baby to sleep for longer, niggly, baby was reaching for solids
(2) health concerns – low weight, perceived hunger due to constant feeding, health advice
(3) social pressure – friends and family had suggested it, baby was viewed as big.

> *she kept on waking up in the night even with the bottle and what have you and not so I thought she just needed something just a bit more substantial to keep her, to help her go through the night and so we started her on rice cereal from about four months. So we would give her in the morning and then we would also give her in the evenings, give her rice cereal, um not in her bottle though, mix her cereal with a spoon and we fed her with a spoon. And then she started sleeping through so we carried on with the rice cereal.* (Indian, 36, 1st child, 6-8 months)

3.3 Support Matters

Support that was relevant and aligned with the 'breastfeeding is best' messages that mothers received was an important factor for women when feeding became "hard" in order for them to persevere. The types of support provided (information, emotional and physical), the different sources, as in who provided the support, the consistency of messaging and support, and when that support was provided at the various stages in an infant's life influenced infant feeding decisions and practices. Different sources of support became conduits of messages. Where support was conflicting and the messages confusing, the type and source of support and the relationships and bonds established with individuals, impacted feeding practices.

it's good to say that one must breastfeed, but then when you actually have to do it and if you're alone, or...if you don't have a lot of family support, then it's very kind of... struggle a lot, it's hard, yes. So, having that support really kind of made all of the difference for me. (Black, 40, 3rd child, 4-5 months)

3.3.1 Types of Support

Mothers needed informational, emotional and physical support, and referred to these types of support as either helpful or not. When support was needed and wasn't given, or didn't meet their expectations, some cut the relationship with that source or called in additional help.

To be honest, at her six-month check-up, the lack of attention that was given on transitioning her to solids has a lot to do with why I decided to change the paediatrician. He spent no time on it, at all, which I thought was quite poor considering how important a stage it is. (White, 35, 1st child, 9-12 months)

Emotional support: Emotional support was valued by women, regardless of their feeding choices. Some participant's mothers had themselves struggled with breastfeeding, or had felt pressured to switch to formula. They then provided encouraging support to their daughters and aided them to either "persevere" in breastfeeding or to come to terms with their decision to switch to formula. Such support was found to be most helpful, especially from an emotional perspective.

I couldn't feed her and yah I was very upset about that. And so I just wanted her to be fed. And my mum was here and she said as long as she is fed she's okay but my mum encouraged me and tried to let me breastfeed etcetera and I was getting so frustrated and she said, "it's okay if she is formula fed," and I don't know if that subconsciously influenced it. Uhm and then when she was bottle fed she was fine and happy. (Indian, 30, 1st child, 0-3 months)

Other frequently cited sources of emotional support were around latching from HCP. Being reassured that latching is fine, that baby is getting enough were cited by some mothers. Some participants recalled how useful these reassurances in-hospital were but also afterwards with a few mothers calling in the help of a lactation consultant for this reassurance often related to milk supply.

the midwives would kind of be very hands on for the first few days and...I guess they really encouraged me in a sense that they...they tried to make you relax, you know, that...you should, I mean, your body is designed to produce breast milk, you know, don't stress, just let your body kind of ...take control. (Black, 40, 3rd child, 4-5 months)

Physical support: Caring for young babies was described as labour-intensive. Helping with meals, washing, cleaning and generally taking care of the baby were all described as helping to create a supportive environment for mothers. One mother mentioned that her partner was really supportive in helping her with positioning her baby and getting him to latch as she initially struggled:

(My partner) was happy I did the breastfeeding and he supported me. Like, he was amazing at the latch, getting him to latch. Because, in the beginning I don't know what I was doing. I just wasn't getting it right, but he was really getting it right. So, I relied on him a lot to come and help me with the latching and all of that. (White, 33, 1st child, 4-5 months)

Immediately after delivery, the sources of support were often described as HCP, specifically nurses and midwives or immediate family, whereas sources of support shifted primarily to family, a lactation consultant if utilised and the HCP at the regular check-us at the paediatrician's office once women left the clinic or hospital.

having that support (from the midwife) really kind of made all of the difference for me because it wasn't just somebody saying do it, do it, do it, but then they were actually like demonstrating and they were available if I needed to call and express. Uhm...and...issues of supply, like, if you don't have a lot of milk, then maybe drink this, drink that, try this try that. So, that then by the end of it then I felt okay, I can make an informed choice now because I know what my options are. (Black, 40, 3rd child, 4-5 months)

Informational support: Some mothers mentioned that they would receive information from across different sources (HCP, family, media).

> *Everyone gives you advice, whoever has kids or so it was a combination of friends, it was a combination of what you are reading, parenting books, antenatal classes that we had gone to and also family. Also at work as I said there were a lot of women who were pregnant, there were five of us, um, and in that period, you know, you would have chats, and you would say okay are you breastfeeding, are you planning on breastfeeding,…* (Indian, 36, 1st child, 6-8 months)

Sometimes the content in the messages would conflict with what participants had heard or learnt elsewhere, and mothers would then make decisions based on who gave them the information and their own instinct.

> *(breastfeeding) it's about information that I read online, people's personal feedback and all the rest of it. Like you get advice there and you take it as you wish and then make your own decision on that base* (White, 41, 3rd child, 6-8 months)

Information on what to expect, what to do and if complications arise how to handle these was valued by women. New mothers described needing something, like a parenting site or a book, or someone who they feel okay to call and get the information when they faced challenges. Information also served to reassure them about their responses.

> *every time you have like a slight ailment or you are concerned, like I am a Google queen, absolutely everything, always using it to research and find out. If I am absolutely not sure or think there might be an issue I will always go and uhm… I'll phone the paediatricians' office or something to find out just to get varying opinions, or ask a family friend, somebody who has had babies.* (White, 41, 3rd child, 6-8 months)

3.3.2 Sources of Support

As alluded to in section 3.3.1, a number of sources of support were cited. These were categorized into three main groups as depicted in Table 3.3: Health care sector, family, friends and acquaintances and the media. Initially sources provided information, and later physical and emotional support with additional information and on-going support to new mothers continuing especially when things got 'difficult'. Sources don't necessarily all give positive support, and negative support can also alienate anxious new mothers who feel a sense of pressure, guilt, or lack of support depending on the information received from these sources.

Table 3.3: Sources of Support

Groups	Individuals	Type of Support
1. Health Care Sector	Gynaecologists, Midwives, Nurses, Lactation consultants, Homeopath, Paediatrician, Staff at paediatrician's office	Informational support Physical support Emotional support
2. Family, Friends and Acquaintances	Partners, Mothers, Mothers-in-law Aunts, Sisters/sister-in-law, Female friends, Work colleagues, "Baby" group members	Informational support Physical support Emotional support
3. Media	Books, Magazines, Internet Applications, Facebook, Chat groups, Peer reviewed articles, Social media, Google	Informational support

Health Care Sector

The health sector provided informational, physical and emotional support to different degrees and by different individuals at certain facilities and places. The primary source of information was from midwives and nurses at antenatal classes. Gynaecologists referred participants to antenatal classes and gave an overview of benefits of breastfeeding. Again information was received in the hospital, primarily from nurses, midwives and lactation consultants in the first few days as mothers initiate and try to feed. At regular check-ups and weigh-ins at paediatrician's office, the nursing staff are an important source of informational support, especially when it comes to introducing complementary food. Physical support was given by nurses, midwives and lactation consultants in maternity wards. Emotional support was mainly provided by nurses, midwives and lactation consultants in maternity wards when counselling new mothers; lactation consultants provided extended support once mothers had been discharged.

There was a hierarchy in terms of health sector message sources, in which gynaecologists and paediatricians feature prominently. The gynaecologist was often the first health care practitioner with whom participants interacted after conceiving, followed by the nurses and midwives at antenatal classes, each of whom promoted a particular feeding practice. However, a gynaecologist's first concern is the health of the foetus and the mother, and the safe delivery of the baby, and often the discussion around feeding is no more than a passing a comment.

> *..the homeopath was very much just breastfeeding and she really encouraged me and yah tried to refer me to these groups and… and to learn as much as I could. The gynae he said if you were supposed to breastfeed twins you'd have four boobs, so okay, so he was just, I don't think he really cared too much of which way we went and then the paediatrician yes he did encourage, to try and get… to do more breastfeeding.* (White, 35, twins, 0-3 months)

Other health professionals also featured in the stories of the women interviewed. Nurses, midwives and lactation consultants provided informational, emotional and physical support. They were important influencers, especially in terms of introducing top-ups in hospital or helping mothers to persevere with breastfeeding. The main points of contact with these professionals were at antenatal classes, immediately after the birth, in the days in hospital and at follow-up visits at the paediatrician's offices.

> *But mostly the nurse, we get a lot of guidance from her. We haven't been back to the Ped since she was a small baby, it was just for an injection, so it's really just the nurse* (White, 42, 1st child, 9-12 months)

Very few mothers utilised lactation consultants after returning home was the cost of their services was seen as a hindrance. Some mothers who continued to breastfeed for longer described the support of lactation consultants as invaluable.

> *I also called the lactation consultant to come and, and...and like then she was like no, look, you can see that this baby is getting enough milk. Like, she's like chubby and that. It also encourages you to just carry on. So, you do need, you do need to have some support. Just someone saying yes, you're doing a good job, or ...you do change*

like…feed better, feed like this, hold the baby like this. (Black, 39, 2nd child, 9-12 months)

The advice of individual health practitioners appeared linked to their health facilities, particularly for those who supported breastfeeding. Participants who accessed a certain clinic were more likely to exclusively breastfeed and for longer. They cited notable support to initiate breastfeeding immediately, were offered ongoing support and encouragement with latching, and were not offered top-ups. In contrast, staff at other facilities were described as offering top-ups. Whether this was related to individual staff member beliefs or the specific difficulties the mothers faced in feeding or an institutional culture was unclear.

One mother relayed a story of how her cousin, who had given birth that week had a very different experience to her, in another MBFI accredited clinic. She had to fight to EBF and prove that she had enough milk in order not to top-up.

you actually have to fight to exclusively breastfeed, because she's saying the nurses keep coming to ask if they can give a top-up formula and they make her express, so that they can see that there is something coming out otherwise the baby is not going to have enough to drink and if there is nothing coming out, the baby's sugar levels are going to drop so rather give the top-up formula. And the other mothers just agree because they, I suppose don't know any better. (Coloured, 28, 1st child, 4-5 months)

Mothers who already had children noted that conversations with HCP were shorter and more question were asked the second time. One mother mentioned that the nurses asked her what she wanted to do and they "never tried to push anything" on her the second time. They all said that they were given more space the second time describing it as "left to be" or "left to my own devices".

So (gynaecologist) was are we going the same route… are we going to do a similar kind of thing, are you going to breastfeed again and so more questions than anything else, as opposed to advocating one or the other (Black, 38, 2nd child, 0-3 months)

Messaging and advice from HCP on breastfeeding techniques (holds, positioning, time on each breast) wasn't always consistent and one participant mentioned that nurses openly contradicted the paediatrician's advice. Nurses were often described by participants as helpful, although some described the nurses as 'rough'.

> *(nurses) were really helpful. Yes so all of them very knowledgeable, sometimes it was a bit confusing because one would say one thing and the other another, you know to hold the baby this way and the other would say this way and that so but I suppose everyone has their way of doing. They were very pro breastfeeding.* (White, 35, twins, 0-3 months)

Family, Friends and Acquaintances

Mothers, mothers-in-law, aunts, sisters, husbands and partners, friends, work colleagues and mother groups formed socially during pregnancy were all cited as important sources of information. They shared information of what had worked for them, learnt or found useful, and became the front-line support for the questions that followed as and when participants needed this. They also stepped in and physically supported mothers in the house and were a shoulder to cry on by providing emotional support. Mothers and partners were the dominant informational, emotional and physical support base. Mothers were also able to share their own experiences. Close family members and friends also provided support, sisters being the most cited sources across all types of support. Female family members, friends and colleagues were more likely to provide information than males, on their choice and decision around a particular feeding method. Information from females who had children was more likely to carry weight. Being able to share and not feel alone when it was difficult to feed was identified as helpful.

When it came to parental sources, it was unlikely that women would mention their fathers but rather "parents" as a group, it being more common to refer to their mother and/or mother-in laws.

> *I mean you get advice from your parents and your, my mother-in-law as well gave me you know, breastfeeding is the best, that's what everybody says to you. So that's what I had in mind.* (Indian, 37, 1st child, 6-8 months)

Mothers provided informational, physical and emotional support although the level of engagement differed. Not all interviewees talked about their mothers' involvement, but most did and found their information and support very useful. The level of support varied, with some mothers far more "passive" than others. A few mother's lived in other cities but travelled to support their daughters for the period immediately following the birth.

> *I'm of the opinion that if you do still have a mom, she's the best person to give you that knowledge.* (Black, 29, 1st child, 9-12 months)

From the group of women interviewed all, apart from three, were married in heterosexual relationships, with two in mixed race relationships. All but three of the pregnancies were planned, a few of the pregnancies having resulted from either artificial insemination (AI) or in-vitro fertilisation (IVF). All but one partner were described as being actively involved, including a partner who was not the baby's biological father. Partners provided emotional and physical support, which is evident in many of the comments relayed.

> *My husband was like, whatever you know is easiest for you, whatever makes you happy. As long as you are calm and happy and the baby is calm and happy I'll do whatever you need...* (Indian, 35, 2nd child, 6-8 months)

Most, but not all, first time mothers went to antenatal classes and were accompanied by their partner; one mother described this as a bonding opportunity for her and her husband. Some mothers mentioned that their partners shared information that they had learnt and that they had discussed feeding options with their partners. Most partners left the decision about breastfeeding to the woman. Partners who knew that they had been breastfed were more likely to express an opinion and encourage breastfeeding.

> *One of the arguments (my husband) had used to me with breastfeeding was the bonding. And I told him that he can't use that argument because my Mom never breastfed me and my Mom and I are very, very close. His Mom breastfeed him for quite a while and they are not close at all.* (White, 42, 1st child, 9-12 months)

Messages from sources, especially partners, also alienated mothers, adding to their distress especially when they were feeling overwhelmed. One mother said her husband was surprised

and concerned when she introduced formula at three months whilst another said her husband tried to convince her to persevere with breastfeeding although she had post-natal depression and was struggling to cope with two small children and this message made her feel even worse. Her midwife recommended introducing formula and for her to take care of herself first.

> *[My husband] was a bit upset with me stopping with her so early. He said why, and you need to persevere…, it's not easy for me with the two kids… I said I am struggling…And don't make me feel bad because that's what you're doing I was okay with it but now you're making… me feel bad, now I do feel…that I'm not doing my best and I should actually try harder and I'm being an awful mom. And it's probably what triggered my depression.* (White, 30, 2nd child, 4-5 months)

Female relatives provided both information and emotional support; knowing how an aunt or sister fed played a positive role in influencing some participant's decision to feed. Observing other family members' feeding practices also provided a conducive environment for breastfeeding. Furthermore, some women reported knowing that they could call on a family member for advice created a supportive environment; those who did mentioned their sister or sister-in-law.

> *my sister-in-law's got two girls as well, she's like one of those. She's like a sage when it comes to… like very wise and good advice and things* (White, 41, 3rd child, 6-8 months)

Friends and colleagues shared information of what worked for them or didn't, or what they found useful. These messages were more relevant if groups of friends were pregnant at the same time or their babies were of a similar age. Friends continued to share information and handy tips with one another, and even formed "mommies clubs" and "groups" with friends and colleagues where they could share information and socialise together with their babies.

> *It was actually two or three colleagues and friends of mine that were pregnant at the same time, so we started sharing information. So, my friend, she is breastfeeding, and she, both of us discussed it, because we were pregnant at the same time and we said yeah breastfeeding and this and that.* (Indian, 30, 1st child, 0-3 months)

Friends and colleagues sometimes made comments which mothers said made them feel as if they were being judged which can also affect one emotionally.

> *…it was very interesting to see the reaction in people that did discuss it with me, either before the birth or after the birth. There are some people who are very judgmental about it. Someone I work with here, who breastfeed for a long time, couldn't understand why I decided not to. Whereas the other people that are here also never breastfeed their kids*. (White, 42, 1st child, 9-12 months)

Media

Media provided informational support and specific media were mentioned more, used frequently and for ongoing reference - google, certain baby reference books and baby apps, with La Leche mentioned for breastfeeding guidance. Some mothers joined specific groups or formed WhatsApp groups. The quantity of information available often became overwhelming and some participants selected or were directed to focus on a specific media source.

These platforms extended across static one way communication (traditional media) and interactive forms of media (new media). Static media (books and magazine, etc) were used to gather information and as a reference, whilst new media (internet and apps) provided a question and answer capability which proved useful to participants when they had specific queries. One frequently referred source, *What to Expect when you are expecting*, was available across both platforms as both a book and a downloadable app and some of the participants utilised both. Due to the volume of content available, the main sources frequented were often recommended to participants by the HCP or family and friends. Some women found limiting sources made it easier than trying to sift through different messaging across a number of platforms.

> *The book that I was reading - "What to Expect when you are Expecting", I just, the gynaecologist when we first went to him he said to rather just, read that because it can be overwhelming with all that other stuff, so I did really just stuck to that book.*
> (White, 35, twins, 0-3 months)

A few sources were mentioned frequently by the different mothers. *"What to Expect when you are Expecting*" and *"Baby Sense"* were two books often mentioned. A weekly pregnancy

app was another popular source of information with different ones being utilised but *What to Expect* was mentioned specifically. Googling content was the most utilised strategy to get information on specific questions. One mother mentioned journals as content was tested and proven.

> *I joined, so, I download the what to expect when you're expecting app. And I also got those books. So, I was reading that. I was going off that app with the weekly updates. And, then obviously, you join like a forum from that. If there was an article about (breastfeeding) I would obviously read it and then, once he was born, I did do quite a bit of Googling to find out.* (White, 33, 1st child, 4-5 months)

One mother referred to the peer reviewed journals when there was conflicting information or if she wanted to check facts on the advice that was given to her:

> *I like documented journals, I like to see that studies and tests have been done, you know, that proves what the theory behind it is. What friends and family say I hold very little value to me, especially when it comes to the health and wellbeing of the kids. If somebody says something to me that I think I might be interested in I go research it first.* (Indian, 35, 2nd child, 6-8 months)

3.4 Messages Matter

Decision-making and practices were influenced by the content of the messages that mothers received; participants identifying that they preferred a "voice of authority" for content. The level of influence was based on the strength of the relationship that they had established with an individual. Mothers also made decisions based on their own instinct and, for those mothers who had more than one child, their previous experience. Messaging that mothers predominantly recalled centred around the following: how hard breastfeeding was, that "breast is best" and the benefits of breastfeeding, formula is fine and tops ups were needed until milk supplies were adequate, feeding in public is not acceptable, the workplace is generally not a conducive environment for continuing to breastfeed. The type of complementary food and its introduction varied: most mothers introduced solids from four months and that there were so many people and institutions providing messages with varying content and differing opinions causing much stress and uncertainty.

3.4.1 Hard

Many of the women interviewed commented on how "hard" infant feeding was, whether they were first time mothers or second time mothers, young mothers or older mothers. The aspects of feeding that were described as "hard" were directed at breastfeeding, ranging from latching to expressing and maintaining a milk supply.

> *I really wanted to breastfeed her but when she came home it was hard, so she would latch but then she wouldn't want to drink and so I tried and tried but I would still express, so I would express and still bottle feed because she wasn't getting enough milk when she was latching* (Indian, 36, 1st child, 6-8 months). [This mother continued to express but stopped trying to breastfeed]

Expressing was also described by mothers as 'hard'. Expressing whilst a baby was in NICU was physically draining with three mothers recalling how they battled to keep up with the quantity of milk needed. Not having a fast electronic pump that strapped on meant that one mother tried to work whilst expressing and eventually the 'stress' of that wore her down.

> *I expressed like a crazy woman, to try and reduce the formula that they gave her… and I and they feed them like crazy in ICU so it was hard work catching up and then sustaining because obviously they would increase her feeds every day.* (White, 35, 1st child, 9-12 months)

Keeping up milk supplies, especially when returning to work, was described as 'hard', specifically the stress related to this. Mothers with twins found this particularly arduous too and the physical demands required to keep up milk supplies.

> *"It's quite hard, well I'm finding it having to drink so much. Like the [paediatrician] said I must drink four litres a day."* (White, 35, twins, 0-3 months)

Even when participants had been told that breastfeeding was difficult, the advice only became a reality for them when they were experiencing just how challenging it is. Second time mothers also referred to how hard breastfeeding was and continuing to do so even though they knew it would be from the first experience with one saying she wanted to 'get back to life".

So they would show these videos of nurses all talking about the benefits and how you have to persevere and it's hard but it is something you must do. The pain associated with breastfeeding was also an issue that women felt unprepared for. (White, 42,1st child, 9-12 months)

Some women felt they were not explicitly told about how onerous breastfeeding was going to be, imagining that becoming a mother and breastfeeding was natural and that it would all somehow happen. When women found breastfeeding difficult, the support that they received and the message content influenced their decisions and practises.

even the second time, I'm not going to lie, it was hard, there were days when I thought this is so hard I just want to give up, but I thought just push through, just push through and you know you want to give him the best. It was hard, and I had support. I had the support, the facilities, I had the comfort. And it was still hard so I can imagine people who don't have any support how easy it is to give up if they have the means to buy formula. (Indian, 35, 2nd child, 6-8 months)

3.4.2 "Breast is best"

"Breast is best" was the most prominent message recalled by participants, with breastfeeding actively promoted across most sources. Even mothers who formula fed or accepted top-ups mentioned this.

you get advice from your parents and your, my mother-in-law as well gave me you know, breastfeeding is the best, that's what everybody says to you. (Indian, 37, 1st child, 6-8 months)

Several reasons were cited as to why breastfeeding is best, with bonding and baby's health most frequently mentioned but only a few mothers mentioned the benefits to the mother's health. Additional reasons cited were convenience, fewer childhood illnesses, higher IQ, best nutrition and the idea that breastmilk was "what nature intended, has more things in it than formula and it cannot be replicated." A few mothers also mentioned the benefits of colostrum.

The pervasive messages that breast milk is preferable. Yah, it was presented that way in anything that I did read or heard about …the message that breastfeeding is best,

uhm from an economical perspective, from a bonding perspective, for immunity. (White, 35, 1st child, 9-12 months)

Antenatal classes promoted breastfeeding and focused nearly exclusively on this as well as the benefits of colostrum. They also made recommendations, for example calling for help from lactation consultants and the cost benefit of doing so, which one participant remembered and did, and managed to breastfeed successfully. Some mothers commented on how there was a lot of pressure placed on them to breastfeed, and said very little to nothing, to very little, about formula feeding. On the whole mothers reported that antenatal classes were important promoters of breastfeeding and that they provided a positive influence on their decision to breastfeed. A few mothers said that when things got hard it was these messages and remembering the benefits that made them persevere.

from going to antenatal classes … I felt that breastfeeding would be the best option. Not necessarily for the convenience or the cost or anything of that, but really I just felt that, that would be the best. So she touched on it in the first class just about the breastfeeding and the colostrum, how good that is for the baby when they are born, just for the anti-bodies. That is not something that any formula would be able to give your child, so if they can get some of that even in the early days, that would be really good and that kind of stuck with me. So even when I was in hospital and I said to the nurse, please, you need to come and help me to do this. (Indian, 36, 1st child, 6-8 months)

Not being able to breastfeed led to feelings of disappointment. The fact that breastfeeding is promoted as "the best" meant that women felt "pressured" to feed. If they struggled, and found it "hard" especially with latching, tops-ups with formula were seen as a solution but often accompanied and described feelings of mothers being, "sad" "inadequate" or "guilty" in their role as a mother.

At times I would just sit and cry because I knew baby needed breast milk and I just…it's so much of pressure because you feel like you need to give them the breast milk because everybody tells you how important it is for baby. And when you can't actually do it. It's very disappointing. (Indian, 37, 1st child, 6-8 months)

The message that breastfeeding assists with bonding was recalled by six of the participants, some mentioning they gleaned this from their research, they had read about it or heard about it. It was one of the reasons that some mothers chose to continue breastfeeding, one participant mentioning that "you don't get the benefits of bonding" with formula. Mothers who formula fed mentioned that they felt that they had their own way of bonding and that "it is working"; however, one mother mentioned that not being able to breastfeed affected her emotionally:

> *...from my previous research it seems like it's a better option to actually breastfeed over bottle-feeding. And also because it helps with, besides the health element side of it, it helps with you and the child bonding. So honestly speaking I think I really was quite sad that I couldn't do it.* (Black, 29, 1st child, 9-12 months)

Another mother wondered if the bonding experience might have been delayed due to her decision not to breastfeed:

> *I do sometimes wonder about the bonding thing though. I have not told a lot of people about this but I really did find that my first few weeks, I wouldn't say a detachment but...I had a bit of a breakdown with (husband) and I said, I don't feel like this is my baby. But I mean, after, I got over it and I absolutely adore her and she, I will do anything and I love her to bits. But I did wonder if I had breastfed from day one, if that bonding would have kicked in quicker. I mean I did research quite a bit about it at the time, it seems that, like it is fairly common, the bonding thing, but it's not really spoken about whether if it's a breastfeeding/bottle feeding thing. There are moms who take a bit of time to bond. But I did wonder if the breastfeeding had been a part of that.* (White, 42, 1st child, 9-12 months)

3.4.3 Formula is Fine

Formula was presented, by HCP as a 'fine' alternative to breastfeeding if mothers weren't able to breastfeed which reassured mothers who were struggling with latching.

> *…[the gynaecologist] said it's up to you and what's comfortable for you. Breast is best as they always say, [the gynaecologist] told us that as well, but he said if it*

doesn't happen and you are struggling, formula feeding is fine. (Indian, 30, 1st child, 0-3 months)

Formula was also mentioned positively in aiding with sleeping, as a top-up, for its convenience and when weaning in preparation for returning to work. All mothers had friends who had chosen to formula feed for reasons that expressed in the following ways: '*she didn't want saggy boobs'*, breastfeeding is very tiring, '*formula has a better makeup of vitamins and proteins'*, it has good nutritional value, formula is easier, you don't have issues with expressing and you can still socialise. With demanding careers and a desire to allocate duties, not being able to have their partners "share" or "help me" with the feeding load is also a reason to formula feed. Having twins was also seen as a strong motivator to use formula and although these mothers were encouraged to breastfeed, they also heeded the advice that they had received to mixed feed. Some mothers had strong opinions against formula, that it is manufactured and cannot produce certain things that the body is able to; however, even holding these views they mixed fed or full formula fed.

Similac or Nan were the most common formulas used, with Similac mentioned as 'easier to digest', which is what a few mothers were told.

(The Paediatrician) said, you know what, if you are going to give formula, give Nan 1 HA (Indian, 31, 1st child, 9-12 months)

If top-ups were given by nurses, mothers continued using the formula that they had received in the hospital, changing brands later due to cost, an issue that the baby was experiencing such as gas or reflux, or due to information that they received from family members. Paediatricians recommended certain brands to participants who then, as the following two quotes below show, continued to use those brands.

So my paediatrician put her onto Similac. Other paediatricians at Park Lane had the babies on Nan. So my brother has, he has two girls and he… had said before that his daughters were on Similac so when the paediatrician said to me she would put her on Similac I was okay with that because my brother had explained how Similac is a different type of formula because it is not as heavy as other formulas and it helps with the reflux and the gas and what have you and that so when she said Similac, I was happy with Similac. My husband's brother, they also had a baby and she was on

Similac so everyone, you know, that I spoke to, said Similac is a good milk, it is very expensive, and so, because the paediatrician had recommended it, I didn't want to change. (Indian, 31, 1st child, 9-12 months)

One mother mentioned that her family convinced her to change formulas but on consulting with the HCP at the hospital reverted back to what she had initially been recommended:

They gave me Nan and then they suggested I just continue giving the child that. And then when I got home after being discharged, I was advised by the elders that, I don't know, somehow there isn't enough, I don't know how to explain it, like it doesn't hold much weight in the child's tummy, so then they told me I need to change to Pellagan [sic]. So then I switched for a bit and then when I took the child for the first six days that's when they told me no, I can't use that formula and I need to switch him back to Nan. So that's when I had to switch back again. (Black, 29, 1st child, 9-12 months)

The same mother introduced water because of what she had been told about formula, whilst others gave water because it had been recommended for colic or on hot days.

it was someone in the family because they explained to me that because of the preservatives in formula, it's a bit difficult for that to digest in the child so I should just give him a bit of water to help with the digestion as well. (Black, 29, 1st child, 9-12 months)

3.4.4 When to introduce solids

Messages that advised about timing for complementary feeding were often mentioned by the mothers. In most cases mothers introduced complementary foods, such as porridge, cereal or vegetables, between four and six months. The recommendation generally came from at the paediatrician's office, from the paediatrician or often from the nurse, or was influenced by family and friends. There were many mixed messages when it came to when to introduce solids, and even from within the health sector mothers heard both four or six months, with four months still being favoured. Midwives often provided information on specific complementary foods. It was recommended that complementary foods should be introduced at between four and six months, when the infant started showing an interest and that

breastfeeding should continue. If lactation consultants or midwives were consulted, the support they offered extended to more than just information, often providing emotional support and motivating mothers to believe that they were doing a good job. When it came to advice from media, six months was the more common recommendation that participants had read.

> *we actually started at four months umm, (nurse) came through and she said it was fine to actually start him off so we started him off with dry cereal and then gradually it became veggies. So we've done the butternut, the pumpkin, avos, sweet potatoes, uhm, baby marrows. We've done fruits as well with him so he's basically gone through most of the veggies as well. And then now when we saw the Ped at six months, she said to us, we can start with the protein and that was important because he is still underweight.* (Indian, 31, 1st child, 9-12 months)

The reasons for introducing solids early and why this was recommended included that the child hadn't picked up "enough" weight, the child showed signs of readiness by reaching out for other food, child was perceived to be a big baby and to get the child to sleep longer.

> *I don't know if all kids do this, but at about four months our ped suggested that we start cereal in the mornings and progress to the afternoons and also I think WHO also recommends six months, I think to introduce solids. But I mean he was a big boy…* (Indian, 31, 1st child, 9-12 months)

Although many knew about the general guideline of six months, four months seemed to be accepted across a number of sources. This was reinforced by social and cultural norms, where it was common for solids to be introduced at four months or even earlier. The food that was introduced varied according to what mothers heard from HCP, specifically the midwife or from their families and friends, some introducing porridge or cereal first whilst others started with vegetables. Once again for first time mothers this was based on recommendations; with second time mothers on what they had done previously.

> *I did hear that it is legislated that … even though everyone puts their children generally from four months onto cereal, government has said that they can't have*

anything less than six months on the cereal packages and things like that because they do want breastfeeding exclusive for six months. (Indian, 36, 1st child, 6-8 months)

A few mothers also considered content and messaging that they had heard about allergens, such as eggs and honey, and what they can and cannot give first or until a certain time.

the lady was chatting about at work. So her little one only started now at six months as well, uhm, because she says she was fine so she's seeing another sister and, they recommended that baby only start at six months old. And I know with me and with my mom, and my mom-in-law, both of them said four months is fine. They started us off at that point and we were fine. And the earlier you start the easier it gets because it is challenging initially as well. (Indian, 37, 1st child, 6-8 months)

3.4.5 When complications arose

A critical time when mothers were more likely to take advice was when their infants faced complications or when babies were sick; sometimes decisions were made without the mother's consultation or consent. When babies were in NICU or continued to stay in hospital due to complications that arose from being premature, or illnesses of either the mother or baby, different feeding practices were often applied. Sometimes this would be advised in consultation with the mother, or in one case the partner, and other times the HCPs would make unilateral decisions. Two mothers reported that their baby had been given formula, noting that they hadn't actually been consulted but accepted that it was due to circumstances. Infants were generally fed a combination of expressed milk and formula by HCPs, sometimes administered in a tube and other times in a bottle.

I certainly wasn't asked if they could give her formula. But I suppose I mean look at that stage it would have been a mute sort of question because my milk hadn't come in and I had to feed her something, but they didn't, they didn't discuss – uhm, you know, it's not like I was taken there to kind of squeeze out a little bit of colostrum or anything like that. It just kind of happened that she was put on formula (White, 35, 1st child, 9-12 months)

Once mothers were discharged from hospital, they continued to express and bring their milk in and place it in the relevant fridge for their baby. Some participants tried to breastfeed later, some with limited success, while others managed to express and kept it up. Only one mother managed to move from formula and expressed milk to introduce breastfeeding once her baby was able to go home.

In some facilities premature babies were offered and given donor milk from a milk bank. Only one mother was offered and accepted this option. She was not able to see her twin babies for the first two days, as she was heavily medicated after an emergency caesarean section. Another mother said she wasn't sure if she would have accepted with this option.

> *I didn't have any milk at first so they were using donor milk, to feed them through a tube, and then I started expressing and would take it down to the ward there, and give it to the nurses and stuff. So they were using my milk and donor milk because I wasn't getting enough as well.* (White, 35, twins, 0-3 months)

In one unusual situation, the gynaecologist briefed the nursing staff that the mother was not to breastfeed at all due to her condition and formula was initiated by the nurses immediately without either the gynaecologist or nurses consulting with the mother. This mother later discovered that she had received medication to dry up her milk, taking all decision-making away from her. The authority of the gynaecologist in the health facility meant that his instruction was acted upon by the HCP.

> *...what happened was, because I have, like, a chronic condition, this doctor that I was seeing in the last trimester gave strict instructions, uhm without my knowledge, not checking how good or bad my health is and if it's possible or not or if I even would consider that option. So he gave strict instructions to the nurses that I shouldn't breastfeed.* (Black, 29, 1st child, 9-12 months)

One mother started bleeding whilst in hospital and again a week after being discharged. Each time she was given medication to stop the bleeding, she was told to stop breastfeeding until the medication was out of her system.

The stuff they had given me they said was not safe for breastfeeding …they did a CT scan and everything, so they gave me iodine to drink and all of that and they said it was not safe to breastfeed. So, I didn't for two days until it was out of my system. Then I had to pump and dump. (Indian, 35, 2nd child, 6-8 months)

3.4.6 Observing feeding practices

Some participants commented on the feeding practices that they observed or what others had observed, and this may have had an influence in terms of perceptions. One women described herself as being seen as an "anomaly" as white women aren't seen to breastfeed, whilst another said her group of friends had gone with formula feeding.

A lot of my friends have gone the formula route, there's a friend of ours, mine, whose also into breastfeeding but we are in the minority. (Black, 38, 2nd child, 0-3 months)

Other participants mentioned that they hadn't see many women breastfeeding in the hospital, in fact only two women saw other women breastfeeding. The high incidence of C-sections meant most mothers were confined to their rooms for most of their hospital stay, which in most cases was a private or semi-private room in the ward. Mothers who were expressing and taking in milk would see other mothers doing similarly.

Many women, but not all, who were interviewed, knew how they had been fed when they were infants; this had an influence on their intended feeding practice. Where their mothers had exclusively breastfed intention to breastfeed also was high.

…my mom breastfed and she only breastfed… So, I never really thought about the formula route. (White, 33, 1st child, 4-5 months)

This was even more prevalent if mothers as well as other members of their family knew how they themselves had been fed. A strong family history of breastfeeding was more likely to have a positive influence in both intention to initiate and to continue to breastfeed.

My gran breastfed and my aunt breastfed and everybody breastfed, and I just think in general everyone knows you breastfeed. (White, 29, 1st child, 4-5 months)

Likewise, if participants knew they were formula fed and had no history of ill health, this did reinforce those who favoured formula feeding, especially if it also supported their social and

work life and the involvement of their partner in bottle feeding. If mothers knew that other family members, such as sister or sister-in-law, had practised formula feeding, this likewise strengthened their decision.

> *I always knew I was bottle fed and I also remember watching both my sisters-in law. My one sister-in-law, I think she tried to breastfeed very briefly, then never did and she didn't do it again. She has three kids and my other sister-in-law didn't even try. She has two kids. So that's kind of what I have seen around me. So it was just nothing I ever wanted that I ever really considered.* (White, 42, 1st child, 9-12 months)

Feeding in public was not something that most women felt comfortable doing. Having expressed milk available to feed at these times made things easier for them. Some women choose to feed or express just before going out to avoid the embarrassment of feeding in public whilst others felt confident to feed. Only a few women did feed in public and even they commented that it wasn't comfortable.

> *Personally I do it but it's just because I think such is life but I get the stares everyone's like what is wrong with you… I find it, it is a bit of a mission and there aren't enough places where you can do it. People are always surprised when you do, do it in public.* (Black, 38, 2nd child, 0-3 months)

There were places where women felt it was easier to feed in public. Cars were the most favoured of public spaces and even working women expressed in cars when their workplace didn't provide a space. Expressing and feeding in public toilets was not generally seen by participants as acceptable places to feed. Some felt that restaurants that cater for families, and malls that have separate feeding rooms and parks were more supportive places.

> *I don't feel comfortable. I did breastfeed in the car, a few times, that was okay. I would rather sit in a car then sit in a mall bathroom.* (Indian, 35, 2nd child, 6-8 months)

3.5 Being a Mother

Participants were selected across a wide range of socio-demographic characteristics in order to assess if there were differences in the messages they received and how their sense of identity impacted on their feeding practices. There were no marked differences in practices across age, race and economic status although a wide variety of feeding practices was reported. Participants were more likely to breastfeed successfully the second time, finding it easier to initiate and continue even when faced with difficulties in latching. Indian women, more so than other races, reported that it was difficult for them to feed in public as feeding in front of males was a cultural barrier. Women who knew that they were breastfed and had a long family association having observed those around them breastfeeding were more likely to breastfeed and for longer.

Breastfeeding was described as 'being natural, 'what nature intended and, "as a mother, that is what you do". When women described breastfeeding in these terms they were more likely to continue breastfeeding and EBF for longer. Mothers who formula fed described their practice as, 'this is my way' and, "it's more about the upbringing and how loving and a part of your child's life you are as opposed to whether you breastfeed or not".

"Breast is best" messaging was promoted and was prevalent. Some mothers who did not breastfeed expressed strong feelings of guilt, even in cases where they were expressing and feeding breast milk in a bottle. For some of the participants the decision to introduce formula was made by HCP and not themselves, yet they still felt guilty about not being able to do what is promoted as the best.

> *I did feel guilty, I spoke to another friend of mine and she said she also felt very guilty for not being able to breastfeed because as I said everyone asks if you are breastfeeding and the, the general message is that breastfeeding is best for your child I mean if you read any of the, even on the formula it says breastfeeding is best for your child but here it is on a formula tin, all of the cereals, breastfeeding, breast milk is best so that is the perception you are getting that breastmilk is best. Now I can't do it, now my child has to go onto formula. ... I think had there been a message to say that look there is a possibility you are not going to, if you can't breastfeed it is fine, do what you can but if your child has to go on formula it is not, it's not a terrible thing*

that is why formula was invented but you don't have to feel unnecessarily guilty. (Indian, 36, 1st child, 6-8 months)

Some mothers faced pressure from within the HCP to top-up with formula whilst they were still in the maternity ward. This was when their baby cried, would not settle or sleep and were told that their baby was hungry. Again, at check-ups if their baby's weight was on the lower spectrum, top-ups were recommended. They also experienced pressure from family, friends and acquaintances when their baby cried. This message was confusing to some mothers as it went against what they had been told.

They want you to breastfeed, but then they're like, the baby is hungry, like do you have milk? (Black, 40, 3rd child, 4-5 months)

Some mothers accepted that their baby was hungry and needed a top-up on day one whilst others resisted for longer. This mother EBF for three months, and fed on demand until her sister, who had changed over to formula intervened:

the one day we went away and… he was crying and I'd expressed and I fed him and then I expressed he was still hungry, and he wouldn't settle and she just put a bottle in my hand and she said "just give him 50mls", and then he fell asleep and he was so happy and so content, so we knew he was always hungry…. I would never have given him that formula – never! Had it not been for [sister] putting it in my hand and saying, "he is hungry". (White, 29, 1st child, 4-5 months)

Mothers reported that they faced pressure from a variety sources, including themselves to breastfeed.

I don't know if it's pressure to, on myself to try and keep breastfeeding him, but...it's just something that I...I don't know, like I feel like I can't give up, like I must do everything I can just to make sure that I have, you know, the milk still available to breastfeed. (Black, 40, 3rd child, 4-5 months)

Mothers who were particularly conversant with the benefits of breastfeeding, were more likely to breastfeed for longer and to EBF. They also actively sought out facilities and lactation consultants who would help them to breastfeed successfully.

A wide variety of feeding practices was noted across all age groups, the age of participants not necessarily influencing feeding practice. However, some of the younger mothers had decisions made for them when it came to introducing formula and top-ups. Two of the younger mothers did not attend ante-natal classes and commented that their knowledge was lacking regarding certain things. Second time mothers, who were naturally older the second time round wondered if the fact that they were younger the first time meant that they were more likely to feel anxious or nervous and be swayed in their decision-making and practices, such as agreeing to top-ups.

There were numerous work and social demands on mothers, even when on maternity leave where they may be called in to help out with an issue, or expected to keep households running. Mixed feeding meant having more flexibility and the opportunity to leave their young babies with others for short periods of time.

> *like most people promote uhm, uhm breast milk, because they say it's like the best way of feeding the child so, yah. But I think I've also, what I've also observed is like, the new type of woman from this era. I think people just find it to be too much admin and then they either mix feed because when they start off the baby they start off with breast milk and because they are working, career woman then they'll switch the baby maybe after a month or two and now they'll put them on the bottle* (Black, 29, 1st child, 9-12 months)

Second time mothers were more confident and less likely to feel pressured about their feeding choices. However, EBF was more prevalent amongst first-time mothers. Second time mothers were more confident in their decisions and practices using their past experience as a guide.

> *The second time around I was much more relaxed. I knew what I needed to do, and I didn't feel nervous about milk coming in and stuff like that. Uhm, the first time I was really nervous and I, uhm, every time she cried everybody said she's hungry and it*

was a lot of pressure. And I found the second time I was, because I knew better, I don't know whether it was because I was older or just wiser or just experienced it was, much more better. Much more comfortable. I knew what to do. I didn't have to listen to anybody telling me anything. (Indian, 35, 2nd child, 6-8 months)

Second time mothers did, however, concur that there was still pressure, mainly from themselves, to continue to feed until six months and they compared their experiences when interviewed.

I find that with, with my...this is my third, but with the other two I think I did better to try and push for the six months you know, like I'm with them and, or at work and I'll miss a few things. But I guess, I don't know if it's pressure to, on myself to try and keep breastfeeding him, but...it's just something that I...I don't know, like I feel like I can't give up, like I must do everything I can just to make sure that I have, you know, the milk still available. (Black, 40, 3rd child, 4-5 months)

Both of the participants with twins introduced formula early on and mixed fed. In another family, a mother with two children under the age of 18-months, felt pressured to introduce formula earlier on is an easier and more workable solution than EBF. Mothers who had wider gaps between children were more likely to continue breastfeeding.

The first time the gynae sent a midwife to see me, so it was better after she saw me. Then she taught me the different holds and things like that so then it got a bit more comfortable, but second time I literally was so much more relaxed. I wish I'd known what I'd know the second time for the first time. (Indian, 35, 2nd child, 6-8 months)

There were no noticeable feeding practices linked to any race group. Breastfeeding was practised across all races, and for a shorter period EBF. Exclusive formula feeding (EFF) was also practised across race groups along with the early introduction of solids and other liquids. Each race group had individuals who breastfed exclusively for extended periods, the coloured participant exclusively breastfeeding for the longest for four-months - she also happened to be the youngest participant and a nurse with a strong motivator to breastfeed exclusively and intended to continue until six-months.

> *In the Black community I just find it weird, like, when I was reading up they telling me to start the child with solids later but you find that they give kids solids way earlier than the recommended age. So they'd be like no you must breastfeed and start giving the child things like porridge and like as early as two months. But I never really did that to my child, because I thought no I read something different so he'll just have to wait*. (Black, 29, 1st child, 9-12 months)

While feeding choices were not always clearly patterned, some stated reasons did reflect patterned expectations. For instance, the Indian participants were less likely to breastfeed in public and in front of men. In contrast to white participants, black women were more likely to say that breastfeeding was "just something they did." Both Indian and black mothers reported more pressure in that their family members usually commented if the baby cried that the baby was hungry, so encouraging feeding and the introduction of solids. In this regard Indian mothers were similar.

The educational level of participants ranged from matric (1) to post-graduate qualifications (10), the others either having a diploma (3) or a degree (5). Other than the fact that the participant with a matric exclusively formula fed, there was no notable difference in feeding practices related to education. When it came to professions, the three participants who worked in the health sector all practised different methods: the nurse practiced EBF, the speech therapist, formula feeding, and the doctor started breastfeeding and introduced formula early on. Mothers who were academically inclined and referenced educational and academic sources were encouraged to exclusively breastfeed due to the benefits noted.

Income did not play a role in determining feeding practices: participants from both the lowest (below R25,000 p/m) and the highest (above R100,000 p/m) income groups exclusively formula fed exclusively from the first day. Higher income earners were more likely to have more than three months maternity leave, some having six months. Some of the higher income mothers were called back to work earlier for specific projects or they worked from home.

Breastfeeding and EBF was more prevalent amongst those still on maternity leave; formula was more likely to have been introduced when participants returned to work. Self-employed participants were more likely to be able to structure their working day around feeding times.

Expressing at work posed additional complications for some women. The office layout, the industry sector, male dominated offices, the location of offices, and access to a fridge with the ability to store expressed milk were all issues to be considered.

> *My milk dried up at the six months. And I got back to work at four months, and I was expressing, expressing. But I found the more they didn't drink from me, I mean, by December, the quantity I was expressing was just not enough. And by January when I tried to go back, and I was...it was like this small. And at least she was breastfeed, she was breastfeeding at night...but at some point it would take long for the milk to come. So, then she would end up crying, so I had to give formula. But...I always mixed the formula with the breastmilk, because I just felt it was not enough.* (Black, 38, 2nd child, 0-3 months)

Women who worked close enough to home, had flexibility in work hours, or their own private office were more likely to be able to continue expressing during the working day. Having available expressed milk supplies helped some women to continue feeding for longer. It was common for women to report that milk supply dwindled soon after starting work.

> *I am fortunate that I get six months maternity leave but other people go back to work earlier. Once you start going back to work the expressing becomes a bit of a thing and there is room for mishaps, which you don't want to happen at work. Also, a lot of my friends are in male dominated industries. I have engineers, lawyers as friends and it's not always friendly to expressing and what you need to do. ..in the middle of the day [you] still have to be aware that now I have to go and express and then keep the milk somewhere or if you are fortunate, with the one, I was in Secunda so it's close enough that you can go home in the middle of the day and take the milk with the cooler bag or whatever. So that's gonna be a bit of challenge once I do go back to work, a lot of my friends, where it's just easier to use the formula because then you don't have issues with what do you do with the milk and expressing. Some work in open plan offices or where do you go to express in the first place*? (Black, 38, 2nd child, 0-3 months)

Women across cultures said that more people in their culture were choosing formula.

> *More and more in my culture, people, are going for formula. So surprisingly I am one of the very few of the working mums who chose to breastfeed. African woman who I interact with and other people in my circle who I am interacting with just get the formula. And it's almost like an affordability issue, so why are you breastfeeding when you can afford to do formula. More people have said to me, I just prefer to breastfeed. A lot of them are just going for formula … well one of the things that I gather is that it is convenient, people think it's convenient because you don't have to necessarily be around your baby.* (Black, 38, 2nd child, 0-3 months)

Participants who were breastfeeding at the time of the interview described their goal to breastfeed for, "as long as I can", with "three months" and "six months" also set as targets. For those who didn't make their goal, as was the case with one mother who couldn't express at work, this was emotional.

> *There was absolutely nowhere to pump. And anyway, when I pumped I didn't get much. So, then I started combination feeding even more, and then just after five-months he weaned. He would just refuse and scream and scream and scream. And I was very upset, because my goal for him was six months and I was so close.* (Indian, 35, 2nd child, 6-8 months)

Reaching six months was viewed not only by mothers but by others, including the HCP as having achieved success.

> *I just made it to six months, and at about that stage I had taken her to the GP and he had said to me that, quite honestly, after six months the benefit of breast milk versus what she is missing out on getting formula is so negligible in his opinion, that rather than killing myself trying to maintain the breastfeeding, I could feel very satisfied in switching to formula, at that stage, which is what I did.* (White, 35, 1st child, 9-12 months)

There was one mother who, more than the others, was influenced by messaging and sources. She reported that she had been bullied by her gynaecologist into having a C-section, had no

choice in feeding that was initiated and that she was given medication to dry up her milk without her knowledge. She had also changed health facility on the advice of her mother, having moved from a facility in Gauteng to the Vaal for the birth of her child. This mother was in the youngest age band, and also fell into the lowest educational and socio-economic level amongst the group of women interviewed.

3.6 Results Summary

This study found that infant feeding practices of women who accessed private health care facilities were complex and varied: feeding practices changed over time and mixed feeding most commonly practiced. Messaging was received from a number of sources, with content and opinions differing. Antenatal classes, media such as books and online searches, and discussions with close family and friends such as mothers and partners were all important sources whilst pregnant. Who delivered the message, as well as when and where it was delivered, played a role in influencing decisions and practices, as did factors such as culture and parity. However, the circumstances, messaging and type of support (emotional, physical and informational) that was given and received immediately after the birth, and in the days following the birth in maternity wards influenced the feeding practice initiated, adopted and practised over time more significantly than the messaging received prior to birth. Lactation support played a big influencing role in successfully being able to breastfeed. Feeding practices changed over time with a complex set of factors determining what practice continued. The continuation of breastfeeding and the decision to wean were influenced by circumstances and messages, with work proving to be a major influencer in the decision to wean early. The timing of the introduction of complementary foods and the type of solids commenced was influenced by the messages mothers received from an “authority” figure, their own instinct and, for those mothers who had more than one child, their previous experience.

Chapter 4: Discussion

This chapter looks at the study's four objectives: (1) feeding practices reported, (2) sources and types of feeding messages recalled, (3) how messages influenced decisions, and, (4) the influence of key socio-demographic characteristics on both messages and practices. The objectives are presented according to the themes identified and in relation to the conceptual framework offered in Chapter 3 (Figure 3.1) and supported by the existing literature. Additional issues that were raised by the participants and presented in Chapter 3 are also discussed.

4.1 Overview

Lazarus et al (2013) noted that a complex set of factors (structural, social and contextual) are involved when making decisions about infant feeding (60). What this means is that in order to affect individual-level change, where more mothers EBF, their social context must also be considered as it is through the interactions with their partners, the health system and other people, that they will formulate their opinions on infant feeding and make decisions. This study was designed specifically to look at the complex messages that influence a mother's feeding practice and since background context is key, this may have been a limitation in the design. However, in the analysis of this study a conceptual framework, adapted from Rollins et al (2016), was used which helped to identify and focus on specific areas where greatest influence was seen and where future interventions can be made at the different levels to improve EBF rates (46). For example, lactation management differed across health facilities, some were weak and others strong; where lactation management was strong, mothers had greater success in initiating breastfeeding and the duration of EBF was longer. Where intention to breastfeed was high, EBF duration was even better. Each level, therefore, has the potential for an intervention to effect change, and in order to maximise success, a multi-level intervention would more likely achieve the greatest gains.

4.2 Feeding Practices Reported

Studies conducted within the public sector have historically found that high levels of mixed feeding and low EBF are practised (19, 33, 39, 60, 93). This study found a similar trend in the private sector, with mixed feeding dominating and the early introduction of complementary foods the norm. These historical practices are likely to continue unless concerted efforts are made to change prevailing norms through a multi-level intervention across South Africa that

includes private health care facilities. While the specific messages and sources will be discussed in detail in section 4.3, a number of additional factors that contributed to feeding practices are touched upon.

One explanation for the prevalent mixed feeding may be that the government feeding policy has not reached HCPs in the private sector. South Africa has experienced a number of policy shifts in infant feeding guidelines. Frequent changes in messaging have led to confusion for frontline public sector health workers, with studies showing that some HCP give unclear messages (94). This study suggests that HCP confusion over changing guidelines in the public sector may have spilled over into the private sector; since studies show that HCP moonlight across sectors and private sectors nurses are more likely to moonlight, this may be the case (34, 95). Mothers reported receiving messaging from HCPs that favoured EBF for four to six months as well as the introduction of complementary foods between four and six months. This was the message in the 1980 -1999 policy (33), with five policy changes made subsequently in relation to HIV and breastfeeding (19). Another explanation may be that HCPs in the private sector have been practising for many years and continue to give messages that they are comfortable with regardless of the policy shifts. When the WHO first made recommendations in 2001 to extend EBF from four to six months not many countries, according to a global study, initially adopted these recommendations and many HCP are still not convinced of the evidence of its benefit (96).

Different healthcare setting practices also influenced feeding, particularly the practice of pre-lacteal feeds and separating infants from mothers. Two of the health facilities that participants attended have been MBFI accredited (19)**;** one in particular was mentioned as being pro-breastfeeding, and having adequate HCP, and that there was no mention of pre-lacteal feeds. Pre-lacteal feeds were commonly practiced and recommended by nursing staff in-hospital at certain other private health facilities, the reasons given that baby was hungry or the mother's milk hadn't come in yet . Other studies too have reported this practice and in a private sector study, 85% of participants reported that top-ups were encouraged (44), albeit more is written about breastfeeding promotion in public facilities (22). A consequence of nurses moonlighting is an increase in tiredness, nurses also reporting that they take more sick days off, which has implications for the support given and the burden placed on other HCP (95). When faced with a baby who is crying and a new mother battling with latching offering pre-lacteal feeds may become an easy option for a tired nurse. This study observed that where

participants mentioned that there was adequate staff, support seemed to be better and they had more success in being able to feed. This has implications for HR and the number of HCP in neonatal wards, as well as for managing absenteeism. The strategic placement of trained HCP in health care settings and the community has been recommended in the literature (36).

A recent study by Grummer-Strawn et al, indicates that 60% of paediatric associations internationally still receive financial support of some kind from BMS companies; thus a commercial interest may influence HCP behaviour (21). If similar trends are happening in South Africa this would most likely be why top-ups continue to be recommended in private facilities where specific brands are also being promoted. A Cape Town study found that 58.2% of women continued to use the brand of formula that had been recommended at the health facility, showing that there is strong brand loyalty to what HCP recommend (43). Since pre-lacteal feeds are a barrier to EBF and are known to impact on latching, they should be discouraged (33). The continued role out of MBFI partnered and accredited private facilities and the promotion of the Ten-steps to breastfeed successfully should help to counteract these pre-lacteal feeds.

There was no evidence, apart from where babies were in NICU or mothers were unwell, that babies were separated from mothers thereby delaying initiation of breastfeeding which other studies in the public sector show is persistent (33). It must be noted that most mothers in this study were in private rooms or semi-private rooms/small wards with babies generally rooming-in. What was observed was babies being temporarily taken away for bathing, to allow mothers to have some sleep or for top-ups. In line with the known high C-sections performed in private facilities all but three (84%) of the women in this study had C-sections, but were able to still initiate early breastfeeding which was unlike the findings reported in other studies (33, 45).

4.3 Influential Sources and Types of Feeding Messages

There were three main sources of information: (1) health system, (2) friends, family and acquaintances and (3) the media, all of which are well documented throughout infant feeding literature as source, when and context play an influencing role.

4.3.1 Health System

Antenatal classes, check-ups during pregnancy, neonatal and post-natal check-ups are influential periods for HCP to provide support; as a result these times are important opportunities to influence initiation, duration of breastfeeding and the introduction of complementary foods. Beyond the structure of healthcare settings, HCPs played an important role in imparting information both during and after pregnancy. Messages and content that were received at crucial times from various HCP were considered by mothers as vital for decision-making, circumstances often dictating what feeding method was practised. Other studies in the public sector confirm this: HCP are seen as key sources of information (36, 39). HCP did not promote breastfeeding as the preferred method while mothers were pregnant and not much was discussed about formula until after the birth when messaging become mixed and inconsistent. Inconsistent messaging and unsupportive staff are barriers to EBF, as was noted in another private facility study (44).

Medical practitioners: This study found that gynaecologists and paediatricians played an informative role but more in terms of providing answers and directing mothers to other sources, such as antenatal classes and parenting books. This is consistent with another study done in the private sector where only 56.2% of medical practitioners asked expectant mothers at their first check-up if they intended breastfeeding and none discussed options (44). Mothers reported that medical practitioners had promoted breastfeeding but at the same time were 'fine' with formula and some amount of breastfeeding as being seen as adequate. Studies in the USA found that paediatricians lacked knowledge of the benefits of breastfeeding and were not equipped to deal with breastfeeding difficulties (44, 97, 98). Comments made by a few of the mothers in this study who experienced breastfeeding problems, such as mastitis and engorged nipples, revealed similar concerns about their paediatricians whose recourse was to switch to formula. On the other hand mothers reported paediatricians and gynaecologists who were supportive of breastfeeding and cautioned them against stopping. This neutral stance on feeding practice may be related to a concern for a mother's emotional wellbeing, her choice of practice, a belief that they are both suitable or not knowing the benefits that breastfeeding is now known to offer. Other studies have shown that paediatricians view breast milk and formula as acceptable (98). However, with training and the introduction of BFHI views, attitudes to the promotion of breastfeeding can be positively changed with paediatricians now playing a more supportive role (99).

Antenatal classes: HCPs at antenatal classes tended to promote the benefits and importance of breastfeeding, thus increasing intention, which is in line with public sector studies (33). The "breast is best" message came across strongly in these classes, some feeling that if you wanted to formula feed you would be alienated. This may have prevented mothers from asking questions about different brands of formula and proper formula measurements. Studies have shown that women do feel alienated and blame themselves when they choose to formula feed or struggle to breastfeed (100). Framing breastfeeding as 'the best' can result in formula being positioned as bad which means some women feel shamed and guilty about feeding formula as other studies have noted (101, 102). Giving information, support and counselling to mothers regardless of the feeding practice they choose should be standard in a country that values the rights and freedoms of individuals to choose. When the nutritional and developmental benefits of breastfeeding were highlighted in antenatal classes, along with the cost-benefit of utilising a lactation consultant to help with latching or other issues, this message and the knowledge gained really struck a chord with some mothers. Their intention was strengthened and when they battled with latching or were in pain due to mastitis, they remembered this advice and called in assistance (44).

Neonatal wards and MBFI accreditation: HCP in neonatal wards were instrumental in getting women to feed. Other studies have shown that where there are adequate staff who can assist with lactation support and advice, there is greater success and where lactation management is lacking mothers experience enhanced levels of stress (44). This was evident in this study as having an adequate number of HCP helped to alleviate this when HCP had more time to help women succeed with latching. A Western Cape of study found that when facilities were understaffed, HCP felt pressure and would themselves do the latch as opposed to teaching and counselling mothers to latch their babies, thereby limiting a mother's self-efficacy (103). A further possibility would be the implementation of a referral mechanism making lactation consultants or lay volunteers experienced in lactation available to mothers or their partners. Certain private hospitals were reported to be more supportive and influential in encouraging women to EBF. One that was mentioned as particularly supportive and that had good hands-on lactation support was one of the first private facilities in Gauteng to achieve MBFI accreditation (19). A study in Mpumalanga showed that EBF is higher in MBFI facilities where compliance is higher (22).

Health care personnel: HCP play a key role in determining intention and encouraging good feeding practices; the consistency of their advice across facilities is required (19). It is therefore a concern that this study highlighted gaps in the varying content and consistency of messaging across private health facilities. In this study, breastfeeding was encouraged by HCPs in all but one case, nurses and midwives generally playing a supportive role; this has been found to be instrumental in both initiating and persevering with breastfeeding (36, 104). However, messaging about latching, duration and numbers differed even within facilities amongst staff. This has also been found in the public sector: especially in relation to HIV and breastfeeding messaging often differing by rank (doctor versus nurse) and ward location (68). Top-up messaging was prevalent in some facilities and not observed at all in others, suggesting the presence of different organizational cultures or levels of adherence to MBFI principles. Similar to other studies, EBF was highest amongst those women who attended a MBFI accredited setting where EBF was promoted and encouraged (22).

Home-based support: Once mothers leave the hospital they don't have hands on lactation support and this is when self-doubt creeps in. Having support from someone who can reassure them that their baby is getting enough breast milk, who can reinforce latching and positions and help with breast pain and cracked nipples and related challenges, helped in cases where mothers did call lactation consultants to come to their homes. Being able to focus on feeding without any other stress was also important which is where support from mothers, partners or a close friend and or family member is a big help. Other studies confirm that this helps in being able to breastfeed optimally (44). Studies conducted in KwaZulu-Natal showed that home visits by lay counsellors trained in breastfeeding support were effective in supporting women to continue to EBF. Women in private healthcare don't receive home visits unless they call in a midwife or lactation consultant, thus at home support by family and friends is important for supporting mothers to EBF. When lactation consultants were called in for home visits the support went beyond information and physical support to providing emotional support. Other studies have shown the importance of home-based support in helping with correct feeding techniques and with motivating mothers to believe in their abilities (36, 104). This is especially important since 34% of women are reported to suffer from post-natal depression (PND) (105) . PND has also been linked to stress, issues with milk supply and the early cessation of breastfeeding (36). Similarly, some of the women in this study did suffer from PND and it resulted in the early cessation of EBF for one, and bonding issues for another. Studies have shown that even where there was the intention to EBF, PND resulted in

the early cessation (106). Additional lactation support in homes would most likely have a positive impact on EBF amongst private health care users. It has been recommended in an early childhood review that community health workers be trained in breastfeeding education and support to work with households in poor and rural communities (104).

Check-ups: Further interactions with HCP were initiated by mothers with information on ongoing feeding practices and changes provided at regular check-ups at the paediatricians offices. This is consistent with another study of the private sector where women often called in telephonically for help from their paediatrician but were not directed to lactation support resorting instead to consulting the educator from the antenatal class they had attended (44). Midwives and staff at the paediatrician's office often provided information on the introduction of specific complementary foods and timing of this which is consistent with other findings in the public sector (36).

4.3.2 Family, friends and acquaintances

Family: This study found that mothers receive messages and support from both family members and acquaintances, the primary source being partners and close female family members (mother and sister/s) and female friends who have had children being. Most partners in this study were actively involved and in many cases jointly attended antenatal classes, did their own fact finding and provided various forms of support. Studies have shown that fathers are important influencers impacting both on breastfeeding initiation and duration of EBF (46, 47, 107). This study found that some partners actively promoted breastfeeding, especially if they had themselves been breastfed but their main concern was to support the woman in her choice. Other studies confirm that father's provide emotional support which helps counteract PND (107). In some cases grandmothers played an influential role in the feeding practice adopted, having moved in to help support their daughters; this finding is supported by other studies where grandmothers have been shown to be key influencers (36, 47, 60). Another study found that when grandmothers stayed in or lived with mothers, especially those who experienced PND, that EBF was more likely (106). This highlights how important the emotional support given by grandmothers can be which was found to be the case in some of this studies participants.

Friends and acquaintances: Friends and work colleagues shared their experiences and in most cases mothers found this supportive but in other cases, and more likely in the case of colleagues, found comments that were passed judgemental. Messages from this group played more of an influencing role once the baby was born and was at home, which is what other studies have reported (19). Peer support has also been linked to an increase in breastfeeding practices as was the case in this study that looked and key influencers (47). Mothers also noted that in some cases they were considered anomalies and that their EBF feeding practices differed from their social group. Friends breastfeeding practices and prevailing social norms, which favour mixed feeding, have been shown in studies to be a hindrance to EBF (39). A strong belief in the benefits of breastmilk helped these mothers to persevere.

Knowing how you were fed: It was observed that there were similarities in practices between mothers knowing how they were fed in infancy, or how their sisters fed and what they then practiced, especially when it came to EBF. Infant feeding decisions were reported by participants in a study to have been influenced by knowing that they were formula fed either because their mothers couldn't breastfeed or chose to formula feed (43). Where mothers had battled with breastfeeding themselves, this study found that they were more likely to provide additional emotional and physical support to their daughters. Another study found that grandmothers experiences serve as a model for their daughters (106). Surrounding oneself with a strong support team is important and this support relieved the pressure and stress on the mothers who then found it easier to either persevere with breastfeeding or come to terms with their decisions to formula feed.

4.3.3 Media

Media was a source of information, women drawing from what they learnt in the media and on the internet. Social media was the most cited channel which was supported by a study that considered media engagement (33). The women in this study used media prolifically to gather information and the "breast is best" message came across strongly where specific books were used as reference guides, google being used extensively to gather information as well as other various other mobile apps and chats. Media, including advertising, is a common source of information on feeding practices, according to other studies (43). They also used social media to create WhatsApp support groups with other women who were pregnant. Other studies have shown that infant feeding is social; as a result friends and peer groups play an important influencing role (60, 68). The amount of information to which mothers are exposed in the

media can become overwhelming, and conflicting information was noted by mothers who then became selective in the media sources that they used. One study recommended that the media consult qualified individuals for guidance and that feeding recommendations published adhere to international codes (43). Browsing through a popular parenting magazine recently I came across information provided on when to introduce complementary foods which suggested from five to six months, which does not align with the guideline of six months reinforcing the inconsistencies of messaging that appear in the mass media (108).

4.4 Key Factors Influencing Feeding Practices

South Africa's population is diverse and this study group was selected for diversity to assess if there were any noticeable differences in feeding practices due to socio-demographic characteristics or other factors. What this study did find is that context and a multitude of factors influence feeding practices and this was common in other studies too (47, 60).

No clear feeding patterns emerged linked to race, educational level, income or age, with EBF, EFF and mixed feeding practiced across the group. This finding differs from other research where a literature review of initiation and duration of breastfeeding found that women who were more likely to breastfeed are older, have a higher income and are unemployed (47). However the literature varies as another study showed that women with a high income and are better educated are more likely to breastfeed (3). A California study that looked specifically at breastfeeding and socio-economic status (SES) found that women with higher maternal and paternal education and from a specific cultural group were more likely to breastfeed; family income and occupation are also possible contributors (70). This discrepancy may be as a result of the group of women purposively recruited for the study as they were all connected in some way to the sites they accessed for services.

Breastfeeding intention and initiation: This study found that intention to breastfeed was high, as was early initiation. This was similar to other studies where intention to breastfeed was associated with earlier initiation and better EBF outcomes (42, 68). A few women also selected a private health facility specifically because of its reputation for promoting and assisting with breastfeeding, having decided early on in their pregnancy to breastfeed. Other studies show that deciding to breastfeed earlier rather than later in pregnancy is associated with better breastfeeding behaviour and in these cases mothers' attitudes towards breastfeeding were more positive (47). Studies, in support of the Theory of Planned

Behaviour, show that where knowledge of the benefits (nutritional and developmental) of breastfeeding is good, it increases the intention, which increases the initiation of breastfeeding, preferably within the first hour of birth, which is an important success factor for EBF (33, 42). This study found that when intention was strong, combined with positive breastfeeding support, these women initiated breastfeeding early and were able to EBF for longer. Indian and black mothers were more likely than white mothers to have their mothers stay with them and assist them in the days following the birth so that they could then focus on being a mother, with some focusing on getting the breastfeeding technique right. Other studies have shown that where grandmothers live-in to support their daughters, breastfeeding behaviours are more positive (106).

Context: Reasons for not initiating breastfeeding were due to premature births, and where the baby was placed in NICU immediately. Another study conducted in the private sector found that breastfeeding was delayed by approximately one week when babies were admitted to NICU and midwives weren't able to assist mothers with breastfeeding (44). Similarly in this study support varied: only one of the mothers was encouraged to start expressing immediately whilst her baby was in NICU and her colostrum was fed. This study also found that twins were more likely to be mixed fed. Global studies have found that mothers of twins reported that the support they received was inadequate due to particular challenges of feeding more than one infant and that there is a gap in understanding what interventions would be more effective in supporting them to continue to breastfeed (109).

Parity: Second time mothers felt less pressure and were less likely to be influenced by other messages. They were also better at setting up boundaries to counteract some of the pressures that first time mothers; and those who struggled the first time reported better breastfeeding outcomes with their second child. A study that looked at parity and compared outcomes found that women who had breastfed previously had very different experiences to those who had not – they EBF for longer and although they may have faced initial problems they were more likely to persevere (110). This could be a consequence of being older, more confident and having previous knowledge about breastfeeding and what to expect, and intention to breastfeed was strong. Interactions with HCP were also shorter: mothers were asked questions about what they would do rather than being told what to do, and in neonatal wards they were frequently left to their own devices, possibly because they were considered more experienced which was not always the case. These differences in interactions with HCP may have helped

build their confidence and self-efficacy and provided a more relaxing environment needed for breastfeeding in the hospital.

Feeding in Public: There were instances where subtle difference were observed that were more closely linked to culture. Cultural differences have been observed in other studies and one conducted in America found that ethnic minorities were more likely to breastfeed (47). Black and coloured women were more likely to have strong associations that breastfeeding was something that they had observed as common growing up and being "something they did". The Indian mothers were not likely to breastfeed in public or in front of men and Indian mothers felt more overwhelmed in the early days by the influx of visitors who came to celebrate the birth of the child which didn't give them much space to try to breastfeed. Whereas some women were more likely to breastfeed in public, most women said they were uncomfortable doing this. Studies show that this is a common concern and media has reported on incidents of shaming for feeding in public (36, 87). However, not much was mentioned about feeding in public in relation to what they had seen in the media; only a few mentioned that they had seen stories of women being asked to stop or women who had publicly tried to change perceptions. Feeding in public hasn't been normalised and media often highlights public condemnation incidences (36).

In 2016 the NDOH launched a national mass media campaign acknowledging that media is an important channel for normalising EBF amongst communities and calling on communities to support mothers and EBF (19). Until the general perception of breastfeeding in public changes women are likely to continue to bottle feed in public, whether it be breast milk or formula. Evidence has shown that a comprehensive media campaign would go a long way to change these perceptions with a resultant increase in EBF rates (46). Women reported that public facilities were not supportive of breastfeeding or pumping, consequently the car is the preferred place to feed when in public. Similar findings have been reported in other studies where a lack of public places is shown to influence early cessation in one study (43). Internationally some countries have put in place policy and legislation to protect women who feed in public in order to shift the discourse from victimisation to a culture of support (87).

Satisfying a hungry baby: This study identified that the message of "breast is best" is pervasive although other messaging that mothers heard was contradictory as in messages supporting the need for top-ups and introducing complementary foods. When South Africa endorsed and adopted the WHO's single message approach it was supported by some researchers, but not all, and concerns were raised that more targeted and specific messaging would be required in order to avoid alienating some women (60). A few mothers in this study did feel alienated by this one message bias, especially from the antenatal classes. A number of external factors impact on their being able to breastfeed optimally and mothers who battled to feed, really struggled to come to terms with not being able to feed as it implied that they were not doing their best for their baby. A more comprehensive and inclusive approach that acknowledges the right of mothers to choose which feeding practice most suits their situation might benefit mothers and make them feel less guilty and pressured (33).

When mothers were anxious about their baby being hungry and felt pressured because their milk hadn't come in, or their baby wasn't latching, or was crying or not sleeping, they were more likely to accept offers of top-ups with pre-lacteal formula. These top-ups were then seen as a solution to their 'inadequacy' as a mother. Negative feelings about ones worth as a mother, such as guilt, pressure and a sense of failure, start almost immediately in motherhood as was found in one study which looked at pressure and judgement (111). Improving the combined knowledge of HCP, mothers and their partners was found to be important in these studies so that that pre-lacteal feeds do not continue to be a quick fix (19, 103). Part of this includes improving knowledge of breast milks specifics such as colostrum, time for milk to come in, and breast milk being adequate and nutritious. Improving knowledge of health workers in MBFI clinics has shown to improve overall attitudes resulting in fewer pre-lacteal feeds offered. With increased knowledge amongst mothers the results have seen improved breastfeeding outcomes with greater uptake and fewer problems experienced (19, 103). Mothers continued to worry about their milk supplies and whether they were feeding their babies adequately, even after months of feeding. This perception has been found in other studies to be common (22, 112). Expressing to see how much one produced and visiting the midwife or paediatrician's office for validation were mentioned in relation to concern about ongoing milk supplies. Mothers also tried a variety of ways to increase milk supply such as drinking so-called "jungle juice" and being reassured about the adequacy of breast milk is an important emotional need and one with which HCP, families and the wider community can

assist. A private sector study found that good support and positive attitudes from the mother's support structure that included HCP, family and community resulted in better breastfeeding experiences (44).

The pressure to be a good mother was felt across the group of women and studies show that this sense of identity is an issue that mothers grapple with (33). Mothers needed to be reassured by HCP, their friends and family that they were doing a good job, which is a common theme described in qualitative studies (44). The pressure they described feeling, and the sense of doubt in their own abilities, if they felt their role as mothers was being questioned, has also been well documented in studies of South African mothers (33, 44, 69). These pressures and doubts were usually related to milk supplies, baby being hungry or baby not sleeping.

Mixed Feeding: Biological factors, including aging and infant growth also influenced feeing choices. Formula was either introduced or the number of formula feeds increased in infants' diets as they grew older. This was often as part of weaning in preparation for returning to work but also occurred once mothers had returned and noticed a decline in their milk supply. The shift to formula as babies grow has been reflected in other studies, with the same reasons cited (33, 60). Many other studies have shown that mixed feeding is the norm (22, 36, 112).

Introducing complementary foods: The guideline of EBF for six months and thereafter introducing complementary foods was not a message that most mothers adhered to and studies indicate that the introduction of complementary foods before six months continues to be prevalent (19). HCP, both paediatricians and the staff at paediatricians offices, promoted introducing complementary foods from four months, often linked to when a baby starts showing interest by reaching for other food or when breastmilk alone no longer seems to satisfy the baby. Mother's family and other social networks also promoted this. They were also familiar with messages from their social networks to introduce other liquids and foods earlier than four months. In most cases they resisted these messages to introduce supplementary feeding before four months, referring to them as the 'old way', but heeded the message of other feeding from four months more readily than waiting until six months. Water was, however, the one liquid that was introduced early. Although all mothers mentioned this Indian and black mothers also felt more pressure to introduce complementary feeds if their baby cried and family members commented on them being hungry. Many studies have found

that early introduction of complementary foods is the norm, even within the first month (22, 36). Although not that as early, this study found that women generally introduced complementary foods from four months.

Working mothers: EBF was more likely amongst women on maternity leave but mixed feeding became more prevalent as babies grew older. Formula only increased substantially once women returned to work after three or four months maternity leave. Global (19, 46) and local studies indicate that unemployed women are more likely to EBF than unemployed mothers. Since this study was conducted primarily amongst working mothers, even if some were on maternity leave, it would equate that this study group would be less likely to EBF, which was the case. Other studies have found the cessation of breastfeeding and the introduction of formula is related to returning to work (29). Literature indicates that aligning South Africa's maternity leave, which is currently four months, with the infant feeding policy guidelines of EBF for six months and providing paid leave would see an increase in EBF duration (19). This is supported by the experience of one of the mothers who extended her maternity leave to unpaid leave to EBF for longer.

Work places: The environment at work was unsupportive for lactating mothers and only one mother found the working conditions and set-up of the office conducive to her continuing to express at work, whilst another mother structured her working hours to be more supportive of her being able to breastfeed. As a result, mothers who were still breastfeeding when they returned to work stopped shortly afterwards. This is consistent with other studies which have shown that in order for the duration of EBF to increase, work places need to be more supportive; flexible work hours and part-time work would assist (19, 46). A review of policies that would support conditions in workplaces for lactating mothers has also been recommended (19). This study found that when expressing in the toilet at work was the only option for some women, they chose not to. Moreover the stress of not being able to express during the day may have contributed to declining milk supplies which was also reported to have coincided with returning to work. Kassier et al found that declining milk supplies and returning to work are two main reasons why women cease breastfeeding (29). Women are guaranteed two 30-minute expressing or breastfeeding breaks at work as well as a place to do this according to the Code of Good Practice (19, 104). However, this study found that women seemed not to know about this; neither did they explore options in the workplace which begs the question about whether it is provided and if HR departments actually do discuss these

options with women. This study found that where good support was provided by a large company facilities were well used which indicates that if workplaces do comply with the code then more women would continue to breastfeed after returning to work. However, a survey conducted on compliance with the code found that even where companies do provide good support, the uptake of services was low and providing information on what is offered is also needed (19). The women in this study worked at a variety of different types and sizes of organisations; smaller companies were less likely to have a supportive environment, especially where a house had been converted, whereas new buildings and larger companies were more likely to comply with the code. An article published in 2017 stated that few companies were providing a supportive environment for lactating women (87). A survey conducted with regards to compliance with the code found that generally only the larger companies, often those that were more profitable, were compliant and offered women the support that they needed to continue breastfeeding (19).

4.5 Study Limitations

While this study provides a useful insight into the infant feeding experiences of mothers who access private health care facilities during pregnancy and post-partum, it has limitations. The findings may not be broadly transferrable, as the sample was limited to participants who speak English, reside in the Johannesburg area and who access private facilities. Thick description was used to help others judge what aspects may be transferable. Context was identified as a key factor in influencing feeding practices and since this study focused on messaging this too poses a limitation.

The possibility of participants giving answers that they thought I would want to hear was a social desirability limitation (74). To mitigate this, I was extremely sensitive about not making judgements on infant feeding practices chosen, and was cognisant of my own investigator bias. The variety of feeding practises described by participants suggests that social desirability (if it existed) did not lead to self-censorship. It was also noted that there were a few individual differences in what was noted on the participant demographic form (Annexure E) and what was told in the interview, for example a participant's age differed by one year.

I was cognisant of my experience of feeding my own infant, and some of the similarities between what participants reported and what I recalled. As a breastfeeding advocate then, I was astounded by the mixed messaging, the different types of support and the emotional affect that these had on me as a new mother. To try to avoid my own bias, I was systematic in my analysis and checked transcripts once again in the writing up of this report.

To minimise recall bias, the sample was limited to those mothers with an infant of one-year or less. I observed hesitations of recall amongst women with older babies about dates when feeding practices changed or who had told them specific things. There was also a difference in information imparted based on infant age: those with young babies still had to experience things, weren't too sure what they would do around when or which solids to introduce and were uncertain about returning to work. Additional limitations may be linked to selection bias as participants with potentially extreme experiences which they wanted to verbalise, may possibly have overlooked more common experiences. In addition to self-selection, I specifically selected mothers according to a desire to have a demographically diverse group, potentially overlooking other similarities. For instance, a number of women in the group interviewed were sourced from a particular midwife in the Sandton area. This midwife worked, in addition to other locations, at a paediatrician's office that participants mentioned recommended the introduction of solids from four months which may have led to an exaggeration of findings in this section of the report. This was noticed and the final selection consisted of a wider geographical location for residence as well as race and age.

Chapter 5: Conclusion and Recommendations

It takes a village to raise a child

This final chapter summarises what was covered in previous chapters, reinforcing the key findings of the study. Recommendations for interventions to assist with providing support for infant feeding practices, as well as suggestions for further studies to explore questions that were beyond the scope of this particular study, are also presented.

5.1 Conclusion

The research looked at the infant feeding practices of women who accessed private health care facilities and the messages and influences that impacted on their decisions and actions. It was noted that pro-breastfeeding messages were prevalent and most of the women interviewed were exposed to these, and were keen to try, and did initiate breastfeeding. However, as much as women may have the desire to breastfeed, the context and circumstances, the emotional and physical support they are given and messages that they receive to a large extent determine the initiation, continuation and duration of breastfeeding. Premature infants, twins, a mother's ill health and difficulties with latching led to mixed feeding early on. As a result, mixed feeding practices are common, increasing as babies grow older and when mothers prepare for and return to work. Feeding practices therefore change over time and most women do not breastfeed for a full six months; only a few continue past this period. Solids start being introduced at four months - most infants receive complementary foods before the recommended six months.

A supportive environment was identified as important for extending duration of breastfeeding. Lack of facilities in public spaces and at work to feed or express are concerns expressed by women, with women who did breastfeed often ceasing to continue once they returned to work. Additional barriers include culture and policies, and most working women returned to work before six months. Public support for breastfeeding, supportive maternity and work policy and legislation, that is in line with the breastfeeding policy guidelines would deal with some of these concerns and are likely to increase duration of EBF as has been the case internationally.

Participants were exposed to multiple messages from a wide variety of sources that included the health sector, their personal network as well as external sources such as the media. The

health sector plays an important role in influencing practices as individuals in the health sector are identified as a 'guiding authority'. There are specific points of contact with HCP, such as antenatal classes, check-ups and in neonatal wards that are particularly influential. Therefore, messaging consistency at these points along with the support given was shown to be an important factor for initiating and continuing to preserve with breastfeeding even when it became difficult. Family, especially partners and a women's own mother, were influential sources of information and support. Including them in the relaying of the benefits of breastfeeding, and the support that they can give to assist women to continue to breastfeed is likely to promote an increase in EBF duration. Social groups provided messaging and influence that can be both supportive, or create added pressure, as the wider community has its own opinions and prejudices. The media provided information: online and social media being accessed widely. Messages often contained conflicting information which participants have to sift through to decide what was most relevant to themselves and their own personal situation. Consistency in messaging across multiple channels would help to dispel this confusion.

New mothers receive varying and limited ante-natal support in hospital and scant support once they return home. Those who had more support, be it from family or the health system, had a more positive feeding experience. As such, implementing more supportive measures would go a long way to help new mothers. On returning to the workplace mothers face an additionally hostile environment. In an effort to make sure that their babies do not go hungry and are healthy and happy, new mothers make decisions based on these messages and influences, on what the situation is and on unique sets of circumstances. Mothers also face a myriad of emotions that include feelings of guilt, anxiety and inadequacy, their own inexperience and an overarching desire to bond with their baby and be a good mother.

Interventions that utilise multi-level approaches and consistency of messaging when it comes to providing infant feeding support to mothers, that is relevant to their situation are therefore required (46). Without these mothers will continue to make decisions based on a multitude of factors. The old African proverb, "it takes a village to raise a child," has relevance in when one looks at all the commentary that new mothers have to consider when they make feeding decisions.

5.2 Recommendations

These recommendations take into consideration a multi-level approach in order to develop a comprehensive approach to sustain long term infant feeding improvements. They are categorised into three sections: policy recommendations, programming intervention recommendations and future research recommendations.

5.2.1 Policy recommendations

- *Fast track MBFI accreditation in the private sector:* Accreditation has a positive influence on initiation of breastfeeding and the duration of EBF; where MBFI adherence in an area is good, breastfeeding outcomes improve (22). Fast tracking accreditation in the private sector, especially in light of the planned NHI roll-out, would help to align private and public messaging and action.
- *Extend maternity to six months of paid leave with flexible working hours and supportive workplace measures:* Women are entitled to four months of unpaid maternity leave but paid maternity leave is not obligatory (19). Women often return to work before four months. Aligning maternity leave in the Basic Conditions of Employment Act with breastfeeding guidelines of six months has been recommended. Implementation of this would require an amendment to the Labour Laws and it is suggested that the processes needed for this be initiated by advocacy groups. Better employee performance and a reduction in absenteeism has been shown where supportive work-family measure policies (paid nursing breaks and childcare) are in place, lactation rooms provided and lactation breaks are offered (113). According to a global study, significantly higher EBF rates are associated with the introduction of these national policies especially maternity leave policies and paid nursing breaks (36). Brazil has a 'sanitary rule' which obliges workplaces to provide hygienic spaces for women to express and store milk (113), the latter which were identified as a barrier for working women in this study.
- *A review of building guidelines and making separate feeding rooms a requirement:* A review is recommended of the National Building Regulations and Building Standards with the intention of requiring public buildings, such as shops and other public spaces, to have feeding rooms that are hygienic and separate from public toilets in shopping centres and other public gathering areas. A precedence for this has been set in international guidelines (113).

- *Effective communication of policy shifts to HCP:* When policy changes, as has been the case with the infant feeding guidelines in South Africa, it is important that communication of the reason for these shifts be effectively and efficiently communicated to HCP as they may hold onto their personal beliefs and continue to communicate historical information rather than the new message. This can lead to miscommunication and mixed messaging within and across health facilities (19, 67). Standardised messaging with supporting evidence for the changes should be conveyed by professional associations, organisations working with community health workers and other stakeholders to their members.

5.2.2 Programming intervention recommendations

- *A national communication campaign to support breastfeeding mothers:* The NDOH and UNICEF launched a national communication campaign to promote EBF and community support, entitled *"Why do communities not support mothers to breastfeed?"(87).* However, feeding in public (restaurants, parks, shops, etc.) continues to be stigmatized and is a barrier for most women. A national campaign that promotes public and community support for breastfeeding mothers with defined objectives, clear, consistent and repeated messages, aimed at specific target markets and strategic communication channels would help to create this much needed enabling environment (33, 87). A collaborative campaign across private and public health sectors that includes a variety of stakeholders, such as medical aids, professional health associations would be beneficial. Learning from the Alive & Thrive RCT experience, including expertise across multiple disciplines and throughout the campaign design process is important to improve outcomes (53)
- *Improving women's self-efficacy to breastfeed:* Improved self-efficacy is key for improving EBF rates; providing information and counselling in antenatal classes run within the private sector and in private health facilities post-natal within the first two days is important (33).
- *Greater knowledge on the longer term benefits of EBF to be imparted to expectant parents*: Educational tools could be developed to counteract the pressure that women face to mix feed and top-up, and also to highlight the importance of initiating breastfeeding immediately after birth, especially in light of the high number of Caesarean sections that take place in the private sector (45). Knowledge tools that may be useful include understanding of colostrum, milk supply, expressing, latching, and what to do if you are

separated from your infant. Medical aids should be encouraged to provide such tools to their members as part of the maternity kits they provide. Similarly, antenatal classes run at private health facilities should include this in their courses. Greater collaboration with the private sector and dissemination of the content created by national campaigns such as Side-by-Side and Grow Great could facilitate this process.

- *Interventions early on in pregnancy that target women and their partners:* Interventions reinforced at regular check-ups and ante-natal classes with hands-on support in neonatal wards by HCP would help build confidence and the self-efficacy of women to breastfeed, especially if they are given the tools to face unexpected difficulties.
- *Update content of training programmes for HCP to emphasise the importance of being patient and taking the time to help new mothers with latching, counselling on colostrum and milk supply, reassuring mothers of their abilities and providing appropriate support*. A UK study identified 20 themes as part of a continuum of support that provide a useful guide to providing professional and peer support to encourage breastfeeding initiation such as: being present for mothers and taking the time to provide affirmations and realistic and detailed information that included tips and, of course, being empathetic (50). In hospital support was identified as "the most effective intervention to improve breastfeeding" (114) and giving HCP skills to do this will assist new mothers whose confidence wanes when they experience difficulties with latching.
- *Provide hands-on lactation support and counselling within private health facilities and at home in the post-natal period:* This was shown to have improved breastfeeding outcomes: structured training of HCP in counselling and lactation management would help mothers to initiate and maintain breastfeeding successfully (36).
- *Including infant feeding modules in curricula across HCP courses, retraining HCP in private health facilities, and Continuous Professional Development (CPD) courses that give CPD points for infant feeding information:*. Understanding why pre-lacteal feeds are advised by HCP would help when developing training and communication programmes for HCP. Specific questions to probe include: Is pre-lacteal feeding an easier option, especially when staffing is limited and workload is heavy? Do HCP know the benefits of breastfeeding as well as the barriers to breastfeeding? Do they have the knowledge and skills to help new mothers to feel confident so that mothers can breastfeed and they can help them with correct latching? (36)

- *Improve access to lactation consultants:* When lactation consultants have been recruited, improved EBF have been noted. Increasing and extending access to post-natal lactation support may help more mothers with latching and continuing with breastfeeding for longer. More staff in health facilities, or active referrals to private consultants could provide the support needed to achieve a tipping-point in EBF. Private health care users are often medical scheme subscribers and some medical aids cover an at home consult by a lactation consultant (115). Promoting this service and its use to expectant mothers as part of the maternity package offered by medical aids would most likely encourage uptake of this service resulting in better breastfeeding outcomes. The introduction of the NHI will still take several years to be fully operationalised and this service may be considered as a 'complementary' service which medical schemes will continue to offer in conjunctions with the NHI (116), as currently community health workers do not do home visits within the private sector.
- *Providing informational support to new mothers and their families in maternity wards, including private rooms, on infant feeding practices and techniques*. Simple literature and lactation referral contacts that is unbiased and doesn't add to feelings of inadequacy and guilt may help women who haven't received adequate lactation support in private health facilities to use this information and reach out for additional support. Where women received positive support, even after initial difficulties, they were more successful, according to a study done in private facilities in Gauteng (44).
- *Encouraging working mothers to start expressing earlier and build up breast milk supplies:* This may help mothers to keep supplies up and, in addition, reduce the number of formula feeds needed whilst they are away at work. It has been noted in other studies that expressing and storing milk for use whilst mothers are away is not commonly practiced (36). Information sharing in peer support groups and through media interventions such MomConnect and parenting sites and applications, could help mothers gain this knowledge and make informed decisions. Other researchers have recommended social media platforms as a beneficial source of information (36).
- *Consistent messaging direct to all expectant and new mothers:* Mothers access a variety of media channels for information and are often exposed to conflicting messaging. Providing a "mHealth" platform, such as extending MomConnect and NurseConnect, to the private sector may well provide a useful source of standardised messaging to mothers and HCPs across the health sector (33).

5.2.3 Research recommendations

- *Studies focusing on recommendations and common practices in neo-natal wards and paediatrician's offices:* This study found that formula top-ups were recommended and common practice in some health facilities as well as paediatrician's offices. Knowledge of what is recommended and practised around EBF and the introduction of solids would be beneficial for programme interventions. Further research into this as a means to providing comprehensive training for HCP in antenatal wards is advised.
- *Culturally specific studies:* Conduct further investigation into the feeding practices of Indian women, as cultural constraints were identified in this study: as a group they were particularly sensitive to feeding in public and in front of males. The study also found that initiating breastfeeding was fraught with complications as extended family came to celebrate the birth of a new child, thus adding to anxiety and limiting the time needed to master breastfeeding.
- *Studies investigating compliance with and difficulties in applying the Code of Good Practice in different workplaces:* Guaranteed breastfeeding or expressing breaks (two x 30 minute breaks per day) are secured in the Code of Good Practice on the Protection of Employees during Pregnancy and After the Birth of a Child ("the Code"), although these are not enforceable (19, 104). Additional research into compliance of this Code across different size places of employment, as well as into the conditions to be able to practice and implement the Code in the workplace would be useful for understanding how to promote and provide a more supportive environment for breastfeeding women.

5.2.4 Overall Recommendation

Multifaceted interventions are implemented and become common practice: Various systematic reviews (33, 36, 114, 117) have shown that single interventions are less effective than multifaceted interventions in improving rates of EBF. Concurrent interventions across multiple settings that included community, health and home were also more likely to succeed (114). This study found that there are multiple influencers and opportunities to engage with women and their support system as well as a number of barriers to EBF. The overall recommendation is to consider the multiple factors, as depicted in the adapted conceptual framework presented in Chapter 3 (Figure 3.1) (46), that impact on infant feeding practices and develop interventions that use a multi-faceted approach with multiple actions, settings and interventions (36).

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Annexures A to K

Annexure A

Are you willing to share your experiences around feeding your young baby?

I am a student researcher busy with my Master of Public Health in Social Behaviour Change Communication at the University of the Witwatersrand (Wits).

As part of the course requirement, I will be conducting a research study to determine the influence of messaging on infant feeding decisions made by mothers utilizing private health care facilities in Johannesburg, South Africa.

Interviews and focus group discussions will be conducted and will take approximately 1½ hours of your time.

If you are keen to be involved please contact

Angela Stewart-Buchanan

Tel: 083 601 8227

Email: angela@wpmedia.co.za

Mothers must have utilized private health facilities in Johannesburg, at some stage during their pregnancy, delivery or for post-natal visits and have a baby who is less than 1-years-old.

Annexure B

SCREENING OF RECRUITED PARTICIPANTS

PARTICPANT #		
Name of Private Health Facility accessed (list for each if different)	**Ante-natal care**	
	Neonatal/Delivery	
	Post-natal care	
	Immunizations	

Annexure C

IN DEPTH INTERVIEW GUIDE

Messages influencing Infant Feeding Practices
Mothers – baby less than 1 –year-old

A. IDI Preparation Checklist

The following preparations should be completed before each IDI:

- ☐ 2 copies of study information sheets
- ☐ 2 copies of consent forms
- ☐ 2 copies of audio-recording consent forms
- ☐ 2 copies of reimbursement form
- ☐ Digital audio-recording equipment (tested for working condition)
- ☐ Backup batteries for audio recorder(s)
- ☐ Notebooks for interviewer
- ☐ 2 pens
- ☐ Private room
- ☐ Refreshment for interviewee

B. Checklist for Facilitator

The IDI shall only progress once the following are confirmed:

- ☐ Interviewee confirms she is 18-years or older
- ☐ Study ***consent form has been signed*** and ***copy given to interviewee***
- ☐ Interviewee has ***signed audio-recording consent form***

Name and Signature of Study Staff: _____ *Date:* _____

C. Introduction Exercise

Note: Start recording

Once the consent process is complete, to build rapport, the interviewee will be asked to introduce a little bit about herself without using her name, e.g. age, number of children, number siblings and what she does for pleasure. *Note: Check that recorder is working before proceeding*

D. IDI Guide

Note: Start recording

1. Could you tell me a little bit more about yourself and your baby?
    a. How old is your baby?
    b. How many children do you have and their ages?

2. Please will you tell me about your actual experience around feeding your baby?
    a. How soon did you start the first feed?
    b. What method did you use?
    c. Did you receive any help or support?
    d. Elaborate on your behaviour and experience of actual feeding?

3. How do you currently feed your baby? [Probe for content]
    a. Have you always done this?
    b. When did you change?
    c. What were the reasons for changing?
    d. How long do you plan on continuing this method?
    e. How did you feed your other children?

4. Will you share the reasons why you chose a particular method of feeding your baby?
    a. What had you decided to do before the birth?
    b. Were there any supportive factors that influenced your decision?
    c. And any negative factors that made it difficult to stick with your decision?

5. What information, if any, helped you decide on "X' practice?
    a. Types of information?

6. Who in your life, either then or now, influenced your infant feeding decisions?
    a. Can you remember who shared information with you about infant feeding?
    b. What did they say?
    c. How did you interpret this information?
    d. Who was most influential and why?
    e. Do you trust that information?
    f. How much do you listen to this information or these people?
    g. What infant feeding practices have traditionally occurred in your family?
        i. And within your group of friends?

7. What other sources did you access for information about infant feeding?
    a. Can you list the sources?
    b. Did you actively source information on feeding practices?
    c. What source was most helpful and why?
    d. Are there any other sources that would have been helpful to you to make a decision and support you in your decision?
        i. Family, Partner, Support Group, Media?

8. What have you heard about infant feeding practices?
    a. What do you think of these practices?
    b. How did you get that information?

9. Tell me about what private facilities you accessed and used while you were pregnant, for your birth and afterwards, specifically your experience around feeding your baby?
    a. Antenatal experience?
    b. Delivery experience?
    c. Post-natal experience?
    d. What role did the health care workers at the facility play in helping you with feeding your baby?

e. Did you experience any difficulties in the facility?
f. What type of delivery did you have and did this impact on your infant feeding decision?
g. Were you given any literature or products about a specific feeding method and if so what was this?

10. Looking back what information would have been most useful to you around infant feeding?
    a. What support would have been most useful to you around infant feeding?
    b. Would you do anything differently from what you have done this time?

11. Is there anything you would like to ask or to add?

Annexure D

FOCUS GROUP DISCUSSION QUESTION GUIDE

Messages influencing Infant Feeding Practices
Mothers – baby less than 1 –year-old

A. FGD Preparation Checklist

The following preparations should be completed before each FGD:

- ☐ 12 copies of study information sheets
- ☐ 12 copies of consent forms
- ☐ 12 copies of audio-recording consent forms
- ☐ 12 reimbursements forms
- ☐ 1 Box of Pens
- ☐ Digital audio-recording equipment (tested for working condition)
- ☐ Backup batteries for audio recorder(s)
- ☐ Notebooks for interviewer and note-taker
- ☐ Private room with at least 12 seats and enough space to arrange seats in a (semi) circle
- ☐ Nametags (for writing down nicknames)
- ☐ Markers
- ☐ Enough food and drinks for participants

B. Checklist for Facilitator/Note taker

The FGD shall only progress once the following are confirmed:

- ☐ All study ***consent forms have been signed*** and ***copies given to participants*** 18 and older
- ☐ All participants have ***signed audio-recording consent forms***
- ☐ Participants are in the correct group:
  - By age: Less than 25 _____Older than 25 ___
  - Parity: Unemployed ____ Employed ____
- ☐ At least 5 participants in the group
- ☐ No more than 8 participants in the group

Note: Participants without the appropriate consent forms or not meeting the inclusion criteria will be excluded.

Name and Signature of Study Staff: _____ *Date:* _____

C. Introduction Exercise

Note: Start recording

To build rapport, have everyone take a seat and in her turn introduce herself using her nickname (false name for FGD purpose), her age, and something about herself.

Note: Stop recording

Facilitator will go over **ground rules**, e.g. respect, speaking one at a time, no phones on, being able to feed babies during the session, etc. while the audio check is happening. *Note:*

During ground rules, the note taker should ensure that the recording equipment is working and everyone is audible.
Facilitator will be sensitive (aware) of issues of stigma and difficulties of discussing in the group

D. Discussion question guide – (Just a guide – let conversation flow)
Note: Start recording

1. What have you heard or advice were you given personally about infant feeding?
    a. What do you think of these practices?

2. Will you share where or who you heard from about infant feeding?
    a. What particular source influenced your decision?
    b. Why?

3. When it comes to feeding babies what type of information or source of information may influence one's decisions when it comes to actual feeding practices?
    a. Explain more…
    b. Your personal experience

4. Describe the types of messages that you received around infant feeding since becoming pregnant?

5. So tell us about how people in your social circles actually feed their babies?
    a. How similar is this to what you experienced?
    b. How long do you continue with this feeding method?
    c. Problems or support?
    d. Will you tell us about introducing solids into a baby's diet and what happens in your social circles?

6. What do women experience at the health facility when it comes to infant feeding messaging?
    a. And the facility you visited
    b. Anyone specifically

7. What are other sources of information about infant feeding?

8. How do you think what you were told or heard about infant feeding influenced your decision and final actions?

9. Is there anything you would like to ask or add about infant feeding practices?

Annexure E

Code

STUDY PARTICIPANT DEMOGRAPHIC FORM

Messages Influencing Infant Feeding Practices Mothers – baby less than 1–year-old

INSTRUCTIONS: Please answer the questions listed below or make a cross in the most appropriate box for each question. If you would like to add any additional information or want to elaborate please feel to do so.

1	Age		
2	Race		
3	Suburb where you live		
4	Marital Status	☐ Single ☐ Married □ In a Relationship	
5	Highest Qualification (e.g. Matric, Degree, Diploma)	☐ High School ☐ Matric ☐ Diploma ☐ Degree ☐ Post-graduate Degree	
6	Work Status	☐ Employed ☐ Unemployed ☐ Maternity Leave ☐ Other	
7	Number of Children & Ages	☐ Total …… ☐ Age Child 1 – …… ☐ Age Child 4 – …… ☐ Age Child 2 – …… ☐ Age Child 5 – …… ☐ Age Child 3 – …… ☐ Age Child 6 – ……	
8	Name of Private Health Facility accessed (list for each if different)	Ante-natal care	
		Neonatal/ Delivery	
		Post-natal care	
		Immunizations	

9	Current Infant Feeding method practiced? (can select multiple)	☐ Breastfeeding ☐ Bottle feeding ☐ Expressing Breast-milk ☐ Formula Feeding ☐ Solids ☐ Liquids other than breast milk or formula (water, juice, cow's milk, etc.)
10	Did you start breastfeeding straight after delivery?	☐ Yes ☐ No
11	Have you ever given your baby any of the following? (Can select multiple)	☐ Breast milk ☐ Water ☐ Cow's milk or any other milk ☐ Formula ☐ Solids (e.g. porridge, yoghurt, vegetables) ☐ Juice
12	If you have more than one child did you practice the same feeding method/s for each child?	☐ Yes ☐ No
13	As a family do you earn?	☐ Below R10,000 pm ☐ Below R25,000 pm ☐ Below R50,000 pm ☐ Below R100,000 pm □ More than R100,000 pm
14	Are you the sole-breadwinner in the family?	□ Yes □ No
15	Do you know how you were fed during your first six months?	□ Yes. If so how? _____ □ No

Annexure F

HREC CLEARANCE CERTIFICATE

R14/49 Ms Angela Stewart-Buchanan

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M150922

NAME: (Principal Investigator)	Ms Angela Stewart-Buchanan
DEPARTMENT:	School of Public Health Two Communities in Johannesburg
PROJECT TITLE:	Messages Influencing Infant Feeding Decisions Made by Mothers Utilising Private Health Care Facilities in Johannesburg, South Africa
DATE CONSIDERED:	02/10/2015
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Sara Nieuwoudt
APPROVED BY:	Professor P. Cleaton-Jones,Chairperson, HREC (Medical)
DATE OF APPROVAL:	08/07/2016

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary in Room 10004,10th floor, Senate House/2nd floor, Phillip Tobias Building, Parktown, University of the Witwatersrand. I/We fully understand the the conditions under which I am/we are authorised to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated,from the research protocol as approved, I/we undertake to resubmit to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. in this case, the study was initially review in September and will therefore be due in the month of September each year.

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

Annexure G

PARTICIPANT INFORMATION SHEET AND CONSENT FORMS

For In-depth Interviews

Messages Influencing Infant Feeding Decisions Made by Mothers

1. Introduction

Hello, my name is Angela Stewart-Buchanan and I am a student at University of the Witwatersrand (Wits). I am pursuing a Master of Public Health in Social Behaviour Change Communication through the School of Public Health at the University of the Witwatersrand. As part of the course requirement, I will be conducting a research study to explore the influence of messages on infant feeding decisions made by mothers utilising private health care facilities in Johannesburg, South Africa.

I would like to invite you to participate in this research study by undertaking an in-depth interview around your personal experience of infant feeding and the messages you have received.

Before volunteering to participate in this study, it is important that you read and understand the following explanation of the purpose of the study, the study procedures, benefits, risks, and your right to withdraw from the study at any time. This information sheet is to help you decide if you would like to volunteer. You should fully understand what is involved before you agree to take part in this study. If you have any questions, do not hesitate to ask me.

This information sheet and consent forms may contain words that you do not understand. Please ask me to explain any words or information that you do not clearly understand.

If you agree to take part in this study, we will ask you to sign this form to show that you want to take part. We will give you a copy of this form to keep.

It is important that you understand the following:

- Taking part in this study is completely voluntary.
- You may refuse to take part in this study or leave it at any time. By doing so, you will not lose any benefits you receive now or have a right to receive.
- Your decision to leave this study will not affect the medical care you get now or in the future.
- Your decision will not affect your ability to take part in other research studies.

2. Purpose of the Study

This research study is about the influence of messages and how they may or may not impact on the infant feeding decisions made by mothers who utilise private health care facilities in Johannesburg, South Africa. Infant feeding practices include breastfeeding, formula feeding, mixed feeding, bottle-feeding, expressed milk feeding and a variety of other feeding practices. Your recent experience will provide insight on how better to communicate and support mothers to provide for their new babies

I am inviting you to take part in this study because you are currently feeding an infant who is under 1 year of age. This study involves participating in one interview with a female interviewer.

3. Study Participants
This study is being conducted in Johannesburg with approximately 20 in-depth interviews planned. All women interviewed are mothers who have a child under the age of one and at some stage, either whilst pregnant or post-natal, have utilized private health care facilities. An additional 24-32 women will be taking part in focus group discussions for the same study.

4. Study Procedures
If you take part in this study, I will ask you to participate in a one-time interview, which should take approximately 1-1.5 hours. The interview will take place in a private room and is a one-time event. No other interviews are required. You will be interviewed by a trained female. With your permission, the interview will be audio-recorded so that the interviewer does not miss anything that you say. I will ask you a series of questions about the topics already mentioned earlier. Your answers to the questions will be used to help us:

- Understand the types and sources of messaging that influence women's decisions around infant feeding.
- Understand better the factors that influence your choices and decisions.
- Learn how you communicate with others around infant feeding.
- Learn from you what are useful sources and types of information required by women
- Understand your experiences when it comes to infant feeding information within the private health care sector.
- Understand more about your circumstances that may have influenced your decisions.

While I hope that you will feel comfortable enough to answer freely, you may skip any questions you don't want to answer.

5. Will any of these Study Procedures Result in Discomfort or Inconvenience?
The interviewer may ask questions or raise issues that are personal that may make you feel uncomfortable. There are no wrong answers in this type of interview. I am interested in your experiences and thoughts. However, you may skip any questions that you don't want to answer or discontinue the interview at any point.

6. Benefits
You will not benefit directly from taking part in this study. Information gathered from this study may help us to learn more about how to improve messaging, campaigns and services offered to mothers in South Africa, taking into account the experience of women, like you.

7. Risks
There are no known risks involved in participating in this study. You may feel some discomfort related to the questions and the feeding options practised. Many new mothers also experience post-natal depression or various levels of anxiety. If you would like to speak to a counsellor about how you are feeling you can call the South African Depression and Anxiety Group (SADAG) on 011 234 4837, or 0800 567 567 the toll free line run by Adcock Ingram Depression and Anxiety Helpline 0800 70 80 90, or the Postal Natal Depression Support Association (http://www.pndsa.org.za) on 082 882 0072. These are free telephonic services. There are also online tests that you can take to see if you are showing signs of needing to talk to a counsellor. These groups can also help to assist you in identifying if you need to see someone face-to-face and can refer you to people in your particular area that offer free counselling or counselling at reduced rates that fall within medical aid rates. The Helen Joseph Psychology Department in Auckland Park (011 489 0807) and St Columbus Church in Parkview (011 646 5420) offer such free services. A registered counsellor, Ms Sarah Cohen-Schwarz 083 675 5952 based in Parkwood, has agreed to offer counselling at reduced rates for this particular study and the researcher will refer participants to her when and if required.

8. Costs and Reimbursement
There is no cost to you for being part of the study. Refreshments will be provided at the interview. You will also receive R150 reimbursement to compensate you for your participation time.

9. Right as a Participant in this Study to Refuse to take part
Taking part in the study is your choice. If you decide to take part, you can always change your mind. You can stop taking part at any time.

10. Ethical Approval
- This study protocol has been submitted to the University of the Witwatersrand, Human Research Ethics Committee (HREC) and written approval has been granted by that committee.
- The study has been structured in accordance with the Declaration of Helsinki (last updated: October 2008), which deals with the recommendations guiding doctors in biomedical research involving human participants. A copy may be obtained from me should you wish to review it.
- This study is self-sponsored by the research student.

11. Confidentiality
Efforts will be made to keep personal information confidential. Anything that you share in the interview will be kept confidential in the following ways:
- I will use a code instead of your name for any quotes, which will be transcribed directly from a translated transcription from the audio recording.
- Audio recordings and transcripts of the interview will be stored in locked and/or password protected files and destroyed three years after the study is complete.
- All information obtained during the course of this study, including personal data and research data will be kept strictly confidential. Data that may be reported in scientific journals will not include any information that identifies you as a participant in this study.
- This information will be reviewed by authorised representatives of the study team.
- The information might also be inspected by the University of the Witwatersrand HREC
- If results are published they will not lead to individual identification.

Personal information maybe disclosed if required by law and organisations that may inspect and/or copy your research records for quality assurance and data analysis, which includes groups such as the research Ethics Committee.

12. Study Results
The results of the study will be compiled into a research report, which will be submitted to the University of the Witwatersrand. The results will also be shared with participants. Opportunities will also be explored to publish the findings.

13. Further Information
If you have any questions and/or complaints about this study or would like information pertaining to infant feeding, you may contact Ms. Angela Stewart-Buchanan (Tel: 083 601 8227 or angela@wpmedia.co.za) or her supervisor, Ms. Sara Nieuwoudt (Tel: 011 717 2173).

If you have any questions about your rights as a participant, you may contact Prof Peter Cleaton-Jones at the University of the Witwatersrand, Human Research Ethics Committee: Secretariat (011 274 9278).

INFORMED CONSENT TO PARTICIPATE:

- I hereby confirm that I have been informed by the study staff (Angela Stewart-Buchanan) about the nature, conduct, benefits and risks of the, Messaging Influencing Infant Feeding Decisions Study.
- I have also received, read and understood the above written information (Participant Information Sheet and Informed Consent) regarding the study.
- I am aware that the results of the study, including any personal details such as those regarding my age and residential area will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by Wits or on their behalf.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.

***PARTICIPANT**:*

Printed Name	Signature / Mark	Date and Time

I, ANGELA STEWART-BUCHANAN herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

RESEARCHER:

Printed Name	Signature	Date and Time

Annexure H

PARTICIPANT INFORMATION SHEET AND CONSENT FORMS

For Focus Group Discussions

Messages Influencing Infant Feeding Decisions Made by Mothers

1. Introduction

Hello, my name is Angela Stewart-Buchanan and I am a student at University of the Witwatersrand (Wits). I am pursuing a Master of Public Health in Social Behaviour Change Communication through the School of Public Health at the University of the Witwatersrand. As part of the course requirement, I will be conducting a research study to explore the influence of messages on infant feeding decisions made by mothers, utilising private health care facilities in Johannesburg, South Africa.

I would like to invite you to participate in this research study by participating in a focus group discussion around your personal experience of infant feeding and the messages you have received.

Before volunteering to participate in this study, it is important that you read and understand the following explanation of the purpose of the study, the study procedures, benefits, risks, and your right to withdraw from the study at any time. This information sheet is to help you decide if you would like to volunteer. You should fully understand what is involved before you agree to take part in this study. If you have any questions, do not hesitate to ask me.

This information sheet and consent form may contain words that you do not understand. Please ask me to explain any words or information that you do not clearly understand.

If you agree to take part in this study, we will ask you to sign this form to show that you want to take part. We will give you a copy of this form to keep.

It is important that you understand the following:

- Taking part in this study is completely voluntary.
- You may refuse to take part in this study or leave it at any time. By doing so, you will not lose any benefits you receive now or have a right to receive.
- Your decision to leave this study will not affect the medical care you get now or in the future.
- Your decision will not affect your ability to take part in other research studies.

2. Purpose of the Study

This research study is about the influence of messages and how they may or may not impact on the infant feeding decisions made by mothers who utilise private health care facilities in Johannesburg, South Africa. Infant feeding practices include breastfeeding, formula feeding, mixed feeding, bottle-feeding, expressed milk feeding and a variety of other feeding practices. Your recent experience will provide insight on how better to communicate and support mothers to provide for their new babies

I am inviting you to take part in this study because you are currently feeding an infant who is under 1 year of age.

3. Study Participants

This study is being conducted in Johannesburg with approximately 24-32 women taking part in focus group discussions. All women participating are mothers who have a child under the age of one and at some stage either whilst pregnant or post-natal and have utilized private health care

facilities. An additional 20 women will be taking part in in-depth interviews for the same study. This study involves participating in one focus group discussion with a female facilitator and approximately 6 other participants. The total amount of time required for your participation in this study is approximately 1-1.5 hours.

4. Study Procedures

If you take part in this study, I will ask you to participate in a one-time group discussion, which should take approximately 1-1.5 hours. The group discussion will take place in a private room and is a one-time event. No other discussions are required. Your facilitator will be a trained female supported by a female note-taker. With your permission, the discussion will be audio-recorded so that the facilitator does not miss anything that you say. I will ask the group a series of questions about the topics already mentioned earlier. Your answers to the questions will be used to help us:

- Understand the types and sources of messaging that influence women's decisions around infant feeding
- Understand better the factors that influence your choices and decisions
- Learn how you communicate with others around infant feeding
- Learn from you what are useful sources and types of information required by women
- Understand your experiences when it comes to infant feeding information within the private health care sector.
- Understand more about your circumstances that may have influenced your decisions.

While we hope that you will feel comfortable enough to answer freely, you may skip any questions you don't want to answer.

5. Will any of these Study Procedures Result in Discomfort or Inconvenience?

The facilitator may ask questions or raise issues that are personal that may make you feel uncomfortable or upset. There are no wrong answers in this type of discussion. I am interested in your experiences and thoughts. However, you may skip any questions that you don't want to answer or discontinue the discussion at any point.

6. Benefits

You will not benefit directly from taking part in this study. Information gathered from this study may help us learn more about how to improve messaging, campaigns and services offered to mothers in South Africa, taking into account the experience of women, like you.

7. Risks

There are no known risks involved in participating in this study. You may feel some discomfort related to the questions and the feeding options practised. Many new mothers also experience post-natal depression or various levels of anxiety If you would like to speak to a counsellor about how you are feeling you can call the South African Depression and Anxiety Group (SADAG) on 011 234 4837, the toll free line run by Adcock Ingram Depression and Anxiety Helpline 0800 70 80 90 or the Postal Natal Depression Support Association (http:pndsa.org.za) on 082 882 0072. These are free services. There are also online tests that you can take to see if you are showing signs of needing to talk to a counsellor. These groups can also help to assist you in identifying if you need to see someone face-to-face and can refer you to people in your particular area that offer free counselling or counselling at reduced rates that fall within medical aid rates. The Helen Joseph Psychology Department in Auckland Park (011 489 0807) and St Columbus Church in Parkview (011 646 5420) offer such free services. A registered counsellor, Ms Sarah Cohen-Schwarz 083 675 5952 based in Parkwood, has agreed to offer counselling at reduced rates for this particular study and the researcher will refer participants to her when and if required.

Although we ask that everybody respect each other's confidentiality, and encourage this, the researcher cannot guarantee and assure confidentiality in the focus group as this is dependent on

the other participants in the group. It is therefore possible that another member of the discussion group may disclose what you share.

8. Costs and Reimbursement
There is no cost to you for being part of the study. Refreshments will be provided at the group discussion. You will also receive R150 reimbursement to compensate you for your travel and participation time.

9. Right as a Participant in this Study to Refuse to take part
Taking part in the study is your choice. If you decide to take part, you can always change your mind. You can stop taking part at any time.

10. Ethical Approval
This study protocol has been submitted to the University of the Witwatersrand, Human Research Ethics Committee (HREC) and written approval has been granted by that committee.
The study has been structured in accordance with the Declaration of Helsinki (last updated: October 2008), which deals with the recommendations guiding doctors in biomedical research involving human participants. A copy may be obtained from me should you wish to review it. This study is a self-sponsored by the research student.

11. Confidentiality
As this is a discussion, we cannot guarantee confidentiality as this is dependent on the participants in the group, however the research team will make every effort to ensure that comments are confidential in any reporting on the discussion, as follows:

- I will use a code instead of your name for any quotes, which will be transcribed directly from a translated transcription from the audio recording.
- Audio recordings and transcripts of the discussion will be stored in locked and/or password protected files and destroyed three years after the study is complete.
- All information obtained during the course of this study, including personal data and research data will be kept strictly confidential. Data that may be reported in scientific journals will not include any information that identifies you as a participant in this study.
- This information will be reviewed by authorised representatives of the study team.
- The information might also be inspected by the University of the Witwatersrand HREC.
- If results are published they will not lead to individual identification.

Personal information maybe disclosed if required by law and organisations that may inspect and/or copy your research records for quality assurance and data analysis, which includes groups such as the research Ethics Committee.

12. Study Results
The results of the study will be compiled into a research report, which will be submitted to the University of the Witwatersrand. The results will also be shared with participants. Opportunities will also be explored to publish the findings.

13. Further Information
If you have any questions and/or complaints about this study, or would like information pertaining to infant feeding, you may contact Ms. Angela Stewart-Buchanan (Tel: 083 601 8227 or angela@wpmedia.co.za), or her supervisor, Ms. Sara Nieuwoudt (Tel: 011 717 2173).

If you have any questions about your rights as a participant, you may contact Prof Peter Cleaton-Jones at the University of the Witwatersrand, Human Research Ethics Committee: Secretariat (011 717 9278)

INFORMED CONSENT TO PARTICIPATE:

- I hereby confirm that I have been informed by the study staff (Angela Stewart-Buchanan) about the nature, conduct, benefits and risks of the, Messaging Influencing Infant Feeding Decisions Study.
- I have also received, read and understood the above written information (Participant Information Sheet and Informed Consent) regarding the study.
- I am aware that the results of the study, including any personal details such as those regarding my age and residential area will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by Wits or on their behalf.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.

***PARTICIPANT**:*

Printed Name Signature / Mark Date and Time

I, ANGELA STEWART-BUCHANAN herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

RESEARCHER:

Printed Name Signature Date and Time

Annexure I

AUDIO-RECORDING INFORMED CONSENT

- I hereby confirm that I have been informed by the study staff (Angela Stewart-Buchanan) about the use of audio-recording software that will record my inputs in response to the questions asked during the interview process.
- I have also received, read and understood the written information (Participant Information Sheet, Informed Consent and the Audio-Recording Consent) regarding the study.
- I am aware that the results of the study, including my audio-recording, will be anonymously processed into a study report and will be kept on file.
- In view of the requirements of research, I agree that the audio data collected during this study can be transcribed and processed in a computerised system.
- I am aware that confidentiality cannot be assured in the Focus Groups, but will be encouraged, as this is dependent on the other participants in the group.
- I therefore give my consent to my inputs being audio-recorded.

***PARTICIPANT**:*

Printed Name	Signature / Mark	Date and Time

I, ANGELA STEWART-BUCHANAN herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

RESEARCHER:

Printed Name	Signature	Date and Time

Annexure J - Information on Infant Feeding

Government Infant Feeding Policy Guidelines (Page 14-15)

3 RECOMMENDED INFANT AND YOUNG CHILD FEEDING PRACTICES

3.1 The **main infant and young child feeding recommendations** are summarised in the table below.

	Exclusively breastfeed their infants during the first 6 months of life.	Introduce adequate, safe and appropriate complementary foods at 6 months.	Main Feeding Recommendation	Breastfeeding cessation needs to occur gradually over one month. Abrupt cessation is discouraged.
HIV-negative women			Continue breastfeeding for 2 years or longer.	
HIV-positive mothers *(and whose infants are HIV uninfected or of unknown HIV status)* On lifelong ART			Continue breastfeeding for 12 months (recommended). The infant should receive ARVs from birth until six weeks of age as prescribed in accordance with current PMCT guidelines.	
HIV-positive mothers *(and whose infants are HIV uninfected or of unknown HIV status)* Not on lifelong ART			Continue breastfeeding for the first 12 months (recommended).The mother and/or infant should receive ARVs as prescribed in accordance with current PMTCT guidelines. This should continue for one week after all breastfeeding has stopped.	
HIV-positive mothers and whose infants are HIV infected			Continue breastfeeding for 2 years or longer.	

Not all mother can breastfeed all these conditions should be met to safely formula feed

1. Safe water and sanitation are assured at the household level and in the community;
2. The mother, or other caregiver can reliably provide sufficient infant formula to support normal growth and development of the infant;
3. The mother or caregiver can prepare it hygienically and frequently enough so that it is safe and carries a low risk of diarrhoea and malnutrition;
4. The mother or caregiver can, in the first six months, exclusively give infant formula milk;
5. The family is supportive of this practice;
6. The mother or caregiver can access health care that offers comprehensive child health services.

Please note: all conditions above should be met. These descriptions are intended to give simpler and more explicit meaning to the concepts represented by AFASS (acceptable, feasible, affordable, sustainable and safe).

Websites

Organisation	**What they do**	**Website**	**Contact #**
La Leche League of South Africa	Information and support to women wanting to breastfeed	http://www.llli.org/southafrica.html	Western Cape: 021 855 4657 Gauteng: 012 332 2564 KZN: 031 309 1801 Eastern Cape: 041 583 1577 Free State: 056 212 6607 Northern Cape: 082 783 2338
Mother Instinct	Information on pregnancy, birth and parenthood	http://www.motherinstinct.co.za/#!breastfeeding-support/c208t	061 778 1327
Your Parenting	Online parenting magazine	http://www.yourparenting.co.za	
UNICEF	General information on babies and children	http://www.unicef.org/nutrition/ http://www.unicef.org.uk/babyfriendly/	

Annexure K

PERMISSION TO DISPLAY NOTICE

- I hereby confirm that I have been informed by the study staff (Angela Stewart-Buchanan) about the nature, conduct, benefits and risks of the, Messaging Influencing Infant Feeding Decisions Study.
- I hereby give the researcher permission to display her call for volunteers notice in these facilities.
- I may, at any stage, without prejudice, withdraw my consent for these notices to be displayed.

***FACILITY REPRESENTATIVE**:*

Printed Name	Signature / Mark	Date and Time

Plagiarism Form

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG | FACULTY OF HEALTH SCIENCES

PLAGIARISM DECLARATION TO BE SIGNED BY ALL HIGHER DEGREE STUDENTS

SENATE PLAGIARISM POLICY: APPENDIX ONE

I Angela Jocelyn Stewart-Buchanan (Student number: 88-04323-W) am a student registered for the degree of Master of Public Health in the academic year 2019.

I hereby declare the following:

- I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.
- I confirm that the work submitted for assessment for the above degree is my own unaided work except where I have explicitly indicated otherwise.
- I have followed the required conventions in referencing the thoughts and ideas of others.
- I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.

Signature: _____ Date: 2019-10-14

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