Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley sub-district, Western Cape Province, South Africa

by

Lynette Carmen Daniels

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Supervisor: Prof X.G. Mbhenyane
Co-supervisor: Prof L.M. du Plessis

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DECLARATION

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SUMMARY

Globally, mothers have identified employment as one of the leading barriers to exclusive and continued breastfeeding. This study aimed to develop a practice model to support exclusive breastfeeding for working mothers. The study was conducted with participants from designated workplaces in the Breede Valley sub-district, Western Cape, South Africa.

An explanatory, sequential, mixed methods research design was employed, comprising a quantitative, descriptive, cross-sectional study (phase one), followed by a qualitative, multiple case study (phase two), and the development and validation of a practice model (phase three). In phase one an online survey was conducted to assess current breastfeeding support practices. In phase two, data was collected at nine purposively selected workplaces, using focus group discussions (FGDs) and in-depth interviews. FGDs were also conducted with employed breastfeeding mothers from designated workplaces who exclusively or predominantly breastfed their children for any period up to six months. In phase three, the practice model was developed, drawing on the analysis of data from phases one and two and making use of programme theory approaches and logic models. The draft model was sent to 11 experts. After input from the two modified Delphi rounds had been received and amendments to the model had been made, it was presented for feedback to the nine participating workplaces during four FGDs and one in-depth interview.

A response rate of 36.8% (14/38) was achieved for the online survey. The results revealed that arrangements surrounding breastfeeding in designated workplaces were limited and inadequate, with few support practices. Onsite or nearby crèche facilities (n=2, 14.3%), breastfeeding counsellors (n=1, 7.1%), promotion of the benefits of breastfeeding to employees (n=2, 14.3%) and provision of private space for expressing (n=2, 14.3%) were not common practice. Workplace breastfeeding policies (n=4, 28.6%) were not readily available, and were mostly found in the public sector. Forty-three percent of workplaces (n=6, 42.9%) did not allocate time for expressing breastmilk at work.

Phase two revealed that employees viewed their workplaces as unsupportive in terms of providing breastfeeding time and designated spaces for expressing breastmilk. Returning to work was viewed as challenging, mainly because of the unsupportive attitudes of co–workers and supervisors and a lack of space and time to express breastmilk. The challenges reported by managers related to the absence of appropriate space and infrastructure, as well as the resources to finance what was needed. The majority of managers claimed that they valued a supportive workplace environment and a culture of caring focusing on staff wellness. They regarded themselves as flexible (including in

respect of allowing employees personal time). This was in conflict with employees' views. Employees felt that their employers were unsupportive, strict and un-accommodating with regard to the provision of time for expressing, mentioning that they mostly used their lunch and tea breaks.

Participants were positive about the final practice model and viewed it as informative and well designed. They were positive that the model would be feasible and commended the tiered approach to implementation. The model was perceived as an ideal tool to use, if accompanied by some training.

The study showed that legislated breastfeeding breaks are poorly implemented or mostly absent, mainly due to widespread ignorance of breastfeeding rights in the formal sector. There is an urgent need for advocacy around creating an enabling workplace environment for breastfeeding. The practice model has the potential to be locally applied and will be of particular use to workplaces that want to initiate and/or strengthen breastfeeding support.

OPSOMMING

Moeders het werk wêreldwyd geïdentifiseer as een van die grootste hindernisse vir eksklusiewe en voortgesette borsvoeding. Hierdie studie het ten doel gehad om 'n praktykmodel te ontwikkel om eksklusiewe borsvoeding te ondersteun vir werkende moeders. Die studie is uitgevoer met deelnemers van aangewese werkplekke in die Breedevallei-distrik, Wes-Kaap, Suid-Afrika.

'n Verduidelikende, opeenvolgende, gemengde metode-navorsingsontwerp is gebruik wat bestaan uit 'n kwantitatiewe, beskrywende, deursnitstudie (fase een), 'n kwalitatiewe, veelvuldige gevallestudie studie (fase twee), en die ontwikkeling en validerings van `n praktykmodel (fase drie). In fase een is 'n elektroniese aanlyn opname gedoen om huidige borsvoedingpraktyke te assesseer. In fase twee is data versamel by nege doelgerigte geselekteerde werkplekke, met behulp van fokusgroepbesprekings (FGB's) en in-diepte onderhoude. FGB's is ook gedoen met borsvoedende moeders in diens van aangewese werkplekke wat hul kinders eksklusief of oorwegend geborsvoed het vir enige periode tot op ses maande. In fase drie is die praktykmodel ontwikkel, gebaseer op die ontleding van die resultate van fases een en twee, en deur gebruik te maak van programteoriebenaderings en logikamodelle. Die konsepmodel is aan 11 kundiges gestuur. Na die ontvangs van insette van die twee aangepaste Delphi-rondtes en wysigings aan die model gemaak was, is dit aan die nege deelnemende werkplekke voorgelê vir terugvoering, tydens vier FGB's en een in diepte-onderhoud.

'n Respons koers van 36,8% (14/38) is behaal vir die aanlyn-opname. Resultate toon dat reëlings rondom borsvoeding by aangewese werkplekke beperk en onvoldoende is, met min ondersteunende praktyke. Dagsorg fasiliteite ter plaatse of in die omgewing (n = 2, 14,3%), borsvoeding beraders (n = 1, 7,1%), bevordering van die voordele van borsvoeding aan werknemers (n = 2, 14,3%) en die voorsiening van privaat spasie vir uitmelk (n = 2, 14,3%) was nie algemene praktyk nie. Borsvoedingbeleide by die werkplek (n = 4, 28,6%) was nie geredelik beskikbaar nie, en was meestal in die openbare sektor gevind. Drie-en-veertig persent van die werkplekke (n = 6, 42,9%) het nie tyd geallokkeer om borsmelk by die werk uit te melk nie.

Fase twee het onthul dat werknemers hul werkplekke as nie ondersteunend beskou in terme van die voorsiening van borsvoedingstyd en die aangewese spasies om borsmelk uit te melk. Die terugkeer na die werk is as 'n uitdaging beskou, hoofsaaklik as gevolg van die nie ondersteunende houdings van medewerkers en toesighouers, en `n gebrek aan spasie en tyd om borsmelk uit te melk. Die uitdagings wat bestuurders ondervind, hou verband met die afwesigheid van toepaslike spasie en infrastruktuur, asook die hulpbronne om te finansieer wat benodig word. Die meerderheid

bestuurders het genoem dat hulle waardeer 'n ondersteunende werkplekomgewing en 'n kultuur van omgee, fokus op die welstand van die personeel. Hulle het hulsef beskou as buigsaam (insluitend ten opsigte van die voorsiening van persoonlike tyd aan werknemers). Dit was instryding met die siening van werknemers. Werknemers het gevoel dat hul werkgewers nie ondersteunend en streng is en nie akkomoderend is met betrekking tot die voorsiening van tyd om uit te melk, met melding dat hulle meestal hul middag- en teetyd gebruik.

Deelnemers was positief oor die finale praktykmodel en het dit as 'n insiggewende, goed ontwerpte dokument beskou. Hulle was positief dat die model uitvoerbaar sal wees en het die afgestemde benadering tot implementering aanbeveel. Die model word beskou as 'n ideale instrument om te gebruik, as gepaard gaan met opleiding.

Die studie het getoon dat die wetlike voorsiening van borsvoedingstyd swak geïmplementeer of meestal afwesig is, hoofsaaklik as gevolg van wydverspreide onkunde oor die borsvoeding regte in die formele sektor. Daar is 'n dringende behoefte aan voorspraak rondom die skepping van 'n instaatstellende werkplekomgewing vir borsvoeding. Die praktykmodel het die potensiaal om plaaslik toegepas te word en sal veral van waarde wees vir werksplekke wat borsvoedingsondersteuning wil inisieer en/ of versterk.

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“It always seems impossible until it's done.”

Nelson Mandela

CONTRIBUTIONS BY PRINCIPAL RESEARCHER AND FELLOW RESEARCHERS

The principal researcher, Lynette Daniels, developed the research idea and the protocol. The researcher is a female academic and qualified dietitian with many years' experience in the field of public health nutrition. She has obtained the following training in preparation for this research study, Qualitative research methods short course at Stellenbosch University and the Atlas ti software programme training from the African Doctoral Academy.

The principal researcher planned the study, undertook data collection, captured the data for analyses, analysed the data with the assistance of a statistician (Ms T Esterhuizen), analysis and interpretation of all qualitative data, developed and adjusted the practice model and drafted the thesis chapters.

Supervisor Prof. X Mbhenyane provided input from conceptualisation of the project, through the empirical phase, analysis and write-up of the thesis, as well as help with acquiring funding and research resources. Co-supervisor Prof. L. du Plessis provided input from conceptualisation, through the empirical phase, analysis and write-up of the thesis. A table indicating the supervisor's statement of contribution to the work, can be viewed below. Language and technical editing of this thesis was done by Prof. Gareth Cornwell.

	Contribution	Statement of contribution
	Xikombiso Mbhenyane	Main supervisor supervised the conceptualisation and development of protocol, Data quality checks of all data analysis and results interpretation, review and input on the developed practice model and the validation instruments prior to sending to experts. Responsible for corrections and marking of dissertation and overall quality control and adherence to plan of action.
	Lisanne Du Plessis	The co-supervisor supervised the conceptualisation and development of the protocol. Data quality checks of all data analysis and results interpretation, reviewed the developed practice model and validation of instruments prior to sending to the expert panellist. Contribution to the write up process and overall quality control.

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ABBREVIATIONS/ACRONYMS

BBF	Becoming Breastfeeding Friendly
BCEA	Basic Condition of Employment Act
BFHI	Baby Friendly Hospital Initiative
BPCP	Breastfeeding Peer Counselling Programmes
CEO	Chief Executive Officer
CHWs	Community Health Workers
C4D	Communication for Development
CRC	Convention on the Rights of a Child
DOE	Department of Education
DOH	Department of Health
DOTP	Department of the Premier
DSD	Department of Social Development
EBF	Exclusive Breastfeeding
EBMP	Employed Breastfeeding Mother Participant
EP	Employee Participant
ESBQ	Employer Support for Breastfeeding Questionnaire
FGD	Focus Group Discussion
FMHS	Faculty of Medicine and Health Sciences
HRM	Human Resources Manager
HREC	Health Research Ethics Committee
IBFAN	International Baby Action Network
IDIP	In-Depth Interview Participant
ILO	International Labour Organization
MBFI	Mother Baby-Friendly Initiative
MFWI	Mother-Friendly Workplace Initiative

MMP	Middle Manager Participant
MP	Maternity Protection
NPO	Non- Profit Organization
PI	Principal Investigator
SA	South Africa
SADHS	South African Demographic and Health Survey
SANHANES	South African National Health and Nutrition Examination Survey
SU	Stellenbosch University
SUN	Scaling-Up Nutrition
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UNICEF	United Nations Children's Fund
WABA	World Alliance for Breastfeeding Action
WBW	World Breastfeeding Week
WC	Western Cape
WHA	World Health Assembly
WHO	World Health Organization

GLOSSARY

Content Validity	Requires that the measure accounts for all the elements of the variable or concept being investigated (Katzenellenbogen, Joubert, & Abdool Karim, 1997).
Designated employer	A designated employer means an employer who employs 50 or more employees (Republic of South Africa, 1998).
Enabling Environment	Political and policy processes that build and sustain momentum for the effective implementation of actions to address a specific issue (Gillespie, Haddad, Mannar, Menon, & Nisbett, 2013).
Employee	Any person excluding an independent contractor who works for another person or the state or who receives or is entitled to receive any remuneration (Republic of South Africa, 1997).
Exclusive Breastfeeding	Only giving the infant breastmilk for the first 6 months of life, no other food or water, but allows the infant to receive oral rehydration solution (ORS), drops and syrups (vitamins, minerals and medicines) (World Health Organization, 2003).
Face Validity	Refers to the extent to which the measure or question makes sense (Katzenellenbogen et al., 1997).
Logic Model	A commonly used tool for illustrating an underlying programme theory. Most often, presented in the form of a flow chart that illustrates the linkages between program components and outcomes (Wilder Research, 2009).
Mix Method Research	Research in which the researcher collects and analyses data, integrates the findings and draws inferences using both qualitative and quantitative approaches (Tashakkori & Creswell, 2007).
Model	A simplified description or graphic representation of reality (processes, organizations, beings). Models are often used to

	hypothesize the outcomes of specific inputs or processes (Naidoo & Wills, 2016).
Predominantly Breastfeeding	Infant's predominant source has been breastmilk (including milk expressed or from a wet nurse as the predominant source of nourishment). Infant may also have received liquids (water and water-based drinks, fruit juice) ritual fluids and ORS, drops or syrups (vitamins, minerals and medicines (World Health Organization, 2003).
Programme theory	Underlying rationales for programs, describing how and why a program should lead to the intended outcomes (Wilder Research, 2009).
Reliability	The degree of similarity of information obtained when the measurement is repeated on the same subjects or the same group (Katzenellenbogen et al., 1997).
Validity	The extent to which a measure actually measures what it was intended to measure (Katzenellenbogen et al., 1997).
Workplace	Any place where employees work (Republic of South Africa, 1997).

CHAPTER 1: INTRODUCTION

1.1 Rationale for the research study

Appropriate infant feeding practices, according to the World Health Organization (WHO), entail the early initiation of breastfeeding (within one hour of birth), exclusive breastfeeding (EBF) for the first six months of life, followed by the introduction of safe and nutritionally adequate complementary foods, with breastfeeding continuing until the child is at least two (World Health Organization, 2003). These practices are considered important for the child's survival, growth and development (Victora et al., 2016).

EBF is defined as giving an infant only breastmilk for the first six months of life (no other food or water), while allowing him or her to receive oral rehydration solution, drops and syrups (vitamins, minerals and medicines) (World Health Organization, 2003). EBF provides the essential nutrition for growth and development and is therefore regarded as key to a child's health and survival (World Health Organization, 2003). In fact, the promotion of EBF for the first six months of life is perceived to be the most effective strategy to ensure the survival of children in low-income settings (Bhutta et al., 2013). Efforts to scale up breastfeeding could prevent an estimated 823 000 annual child deaths and 20 000 annual maternal deaths from breast cancer. Unfortunately, only 37% of infants are exclusively breastfed in low- and middle-income countries (Victora et al., 2016).

In South Africa (SA), infant feeding practices are sub-optimal, with rates of breastfeeding, specifically EBF, remaining low over time, regardless of the implementation of various child health interventions (Bland, Rollins, Coutsoudis & Coovadia, 2002). The EBF rate for SA infants under the age of six months is estimated to be 32% (Statistics South Africa, 2017).

Inadequate rates of EBF globally result from social, cultural, health system and commercial factors, as well as from a lack of knowledge about breastfeeding. This includes societal beliefs regarding mixed feeding (i.e. the belief that an infant requires other liquids or solid foods before six months of age, as breastmilk is inadequate); the absence of an enabling and supportive environment within hospitals and workplaces; inadequate skilled support (in health facilities and in the community); the aggressive marketing of breastmilk substitutes; insufficient (legislated) maternity and paternity leave; and a lack of knowledge of proper breastfeeding techniques among women, family and community members, and health-care providers (World Health Organization/UNICEF, 2014).

Successful breastfeeding is not the sole responsibility of a woman and involves many stakeholders in various settings. It is clear that today's society fails to offer a supportive environment for women who want to breastfeed (Rollins et al., 2016). The 2016 Lancet series on breastfeeding cited a

conceptual model (Figure 1) reflecting the components of an enabling environment for breastfeeding. The model includes a range of determinants that function at structural, setting, and individual levels. The structural level relates to any social factors that affect the general population, including the media, advertising and social trends. At the setting level the workplace and employment conditions are highlighted as among several determinants that affect breastfeeding decisions and behaviour over time. The individual level relates to mother-infant attributes and relationships (Rollins et al., 2016).

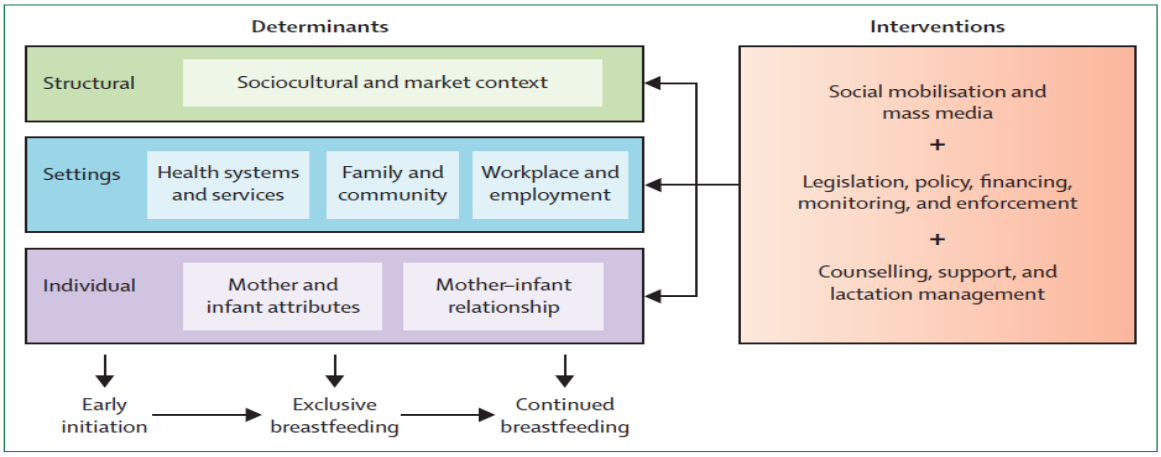


Figure 1.1: The components of an enabling environment for breastfeeding: a conceptual model (Rollins et al., 2016).

In SA, the barriers to EBF were emphasised in the Tshwane Declaration, including the challenges to breastfeeding in the workplace for working mothers (Department of Health, 2011). It is well known that breastfeeding is an essential source of nutrition for young babies, but breastfeeding can be difficult for mothers in employment when support in the workplace is minimal or absent (Rojjanasrirat, 2004; Cardenas & Major, 2005; Chatterji & Frick, 2005; Johnson, Kirk & Muzik, 2015). Breastfeeding initiation and duration rates are reported to be higher among women who have longer maternity leave (Chatterji & Frick, 2005), who are in part-time rather than full-time employment (Fein & Roe, 1998; Ogbuanu, Glover, Probst, Hussey & Liu, 2011), and who are the beneficiaries of support programmes for breastfeeding in the workplace (Cohen & Mrtek, 1994; Ortiz, McGilligan & Kelly, 2004; Bai & Wunderlich, 2013; Yimyam & Hanpa, 2014).

The literature indicates that working mothers in full-time employment breastfeed their infants for shorter durations than mothers who are part-time or unemployed (Roe, Whittington, Fein & Teisl, 1999; Dodgson, Chee & Yap, 2004; Kimbro, 2006; Ryan, Zhou & Arensberg, 2006). The cessation of breastfeeding is also greater among working mothers (Lewallen et al., 2006), while full-time employment is associated with an increased risk of no breastfeeding (Ryan et al., 2006; Mandal, Roe

& Fein, 2010; Ogbuanu et al., 2011). The tendency of working mothers to cease breastfeeding prematurely shows that all stakeholders need to extend support to these mothers to enable them to sustain breastfeeding for longer (Hirani & Karmaliani, 2013).

To attain the goal of six months' EBF recommended by the WHO, a mother needs a supportive environment at home, at work and in her community that protects and promotes the practice of breastfeeding. The WHO has set a global target to increase the rate of EBF in the first six months of life to at least 50% by 2025 (World Health Organization/UNICEF, 2014). For women in employment, merging breastfeeding and work is difficult, and mothers often decide to wean their children entirely when returning to work. Workplaces, however, are excellent settings for the implementation of interventions that assist the initiation and the continuation of EBF (Ortiz et al., 2004). Support from employers can significantly influence breastfeeding duration and exclusivity rates, with far-reaching benefits in terms of maternal and infant health, and decreased healthcare costs in both the short and the long term (Balkam, Cadwell & Fein, 2011).

1.2 Significance of the study

Workplaces are excellent settings for the implementation of interventions to assist in the initiation and continuation of EBF (Ortiz et al., 2004). The 2016 Lancet publication mentioned above inspired the research reported here, which aimed to explore and understand the workplace environment in respect of support for breastfeeding. With more women entering the workforce, there is a need for extended support for mothers in the workplace, to enable them to sustain their breastfeeding practices and improve the EBF and continued breastfeeding rates in the country.

Little evidence is currently available in SA relating to breastfeeding support practices at the workplace. The researcher identified a need both to gather baseline information on the status of breastfeeding support practices in various workplaces and to understand and explore enabling and limiting factors for breastfeeding from the perspectives of employers and employees. To date there is no specific model for workplaces in SA to guide employers in creating an enabling and supportive environment for breastfeeding.

1.3 Research Question

What does a practice model to support EBF in designated workplaces[1] entail?

[1] A workplace that employs more than 50 employees.

1.4 Aim and Objectives

1.4.1 Aim

The aim was to develop a practice model to support EBF in designated workplaces.

1.4.2 Objectives

The following objectives were designed to respond to the aim:

- To assess current breastfeeding support practices in designated workplaces
- To explore employers' and employees' experiences and perceptions regarding breastfeeding support in the workplace
- To explore the experiences of employed mothers who exclusively or predominantly breastfed their children from birth for any period up to 6 months
- To develop and validate a practice model to support EBF in designated workplaces by drawing on results from the research.

1.5 Outline of dissertation

The dissertation is presented in nine chapters, as per the following brief overview.

Chapter 1 comprises a general introduction and presents the research question, aim and objectives.

Chapter 2 provides an overview of the relevant literature, globally and nationally.

Chapter 3 offers a conceptual framework for the study, as well as a detailed description of the methodology utilized for each phase of the research.

Chapters 4 to 7 report on the results from the three phases of the study. The titles of the 4 chapters are:

- Chapter 4: Baseline analysis of workplace breastfeeding support practices of designated workplaces in the Breede Valley sub-district. (This part of the research was written up in a research article and accepted for publication in the South African Journal of Child Health).
- Chapter 5: Exploring breastfeeding support in designated workplaces from the perspective of the employer and employees in the Breede Valley sub-district.
- Chapter 6: Exploring the experiences of employed breastfeeding mothers at designated workplaces who exclusively /predominantly breastfed for any period up to six months.
- Chapter 7: Description of the process leading to the development and validation of a practice model to support breastfeeding in designated workplaces.

Chapter 8 offers a critical discussion of the main findings.

Chapter 9 presents the final conclusions. It also includes an account of the strengths and limitations of the research and recommendations for future research and practice.

CHAPTER 2: LITERATURE OVERVIEW

2.1 Introduction

The 1000 days between the commencement of a woman's pregnancy and her child's second birthday offer a unique window of opportunity to shape the health and wellbeing of a child. Breastfeeding is key during this critical period. The benefits of breastfeeding are well documented in the literature. Breastfeeding provides short-term and long-term health, and economic and environmental advantages to children, women, and society (Rollins et al., 2016). Breastfeeding improves the survival chances, health, and development of all children. Globally, there is evidence that breastfeeding provides protection against child infections and malocclusion, increases intelligence, and probably reduces the incidence of overweight and diabetes (Victora et al., 2016). It saves women's lives by protecting them from breast cancer and it contributes to human capital development. These benefits span populations living in high-income, middle-income, and low-income countries (Victora et al., 2016). However, to realise such gains, political support and financial investment are needed to protect, promote, and support breastfeeding (Rollins et al., 2016).

The WHO recommends the initiation of breastfeeding within one hour of birth and EBF for six months, followed by appropriate complementary feeding practices, with continued breastfeeding for up to two years or beyond (World Health Organization, 2003). Breastfeeding includes the aspect of nurturing that covers both child feeding and child care, and requires mothers and babies to be together for as long as possible. Optimal breastfeeding practices contribute to the realisation of infants' and young children's right to adequate food (Convention on the Rights of the Child [CRC] Art24.2[c]) and the highest attainable standard of health (CRC Art 24.1) (United Nations Office of the High Commissioner on Human Rights, 1990). Simultaneously, mothers have the right to appropriate post-natal care (International Convention on the Elimination of All Forms of Discrimination Against Women [CEDAW Art 12.2]), and the right to paid maternity leave (CEDAW Art 11.2[b]), both of which strongly support the process of breastfeeding and the breastfeeding mother (United Nations Office of the High Commissioner on Human Rights, 1981).

Defined as the practice of giving an infant only breastmilk for the first six months of life (i.e., no other food or water), EBF has a bigger potential impact on child mortality than any other preventive intervention (Jones et al., 2003). In low-income and middle-income countries, only 37% of infants younger than six months of age are exclusively breastfed, and global sub-optimal breastfeeding practices contribute 11.6% of the mortality among children under five years (Victora et al., 2016).

In SA, infant feeding practices are sub-optimal. The South African Demographic and Health Survey of 2016 estimated that only 32% of children under the age of six months are exclusively breastfed (Statistics South Africa, 2017).

In 2012, the World Health Assembly (WHA) Resolution 65.6 endorsed a comprehensive implementation plan for maternal, infant and young child nutrition, which specified six global nutrition targets for 2025 (World Health Organization, 2014). The fifth global target relates to increasing the rates of EBF in the first six months to at least 50%.

Global target 1: 40% reduction in the number of children under-5 who are stunted
Global target 2: 50% reduction of anaemia in women of reproductive age
Global target 3: 30% reduction in low birth weight
Global target 4: No increase in childhood overweight
Global target 5: Increase the rate of exclusive breastfeeding in the first 6 months up to at least 50%
Global target 6: Reduce and maintain childhood wasting to less than 5%

Source: Comprehensive implementation plan for maternal, infant and young child nutrition (World Health Organization, 2014).

Scaling up efforts to increase the rates of EBF as proposed by global nutrition target five can also help drive progress towards the other global nutrition targets (stunting, anaemia in women of reproductive age, low birth weight, childhood overweight and wasting), and it is therefore considered one of the most powerful tools policy-makers have at their disposal to improve the health of their people and their economies (World Health Organization/UNICEF, 2014).

It is emphasized that efforts to increase the rates of EBF require action at the health-system, community and policy levels (World Health Organization/UNICEF, 2014). At the health-system level, the ten steps to successful breastfeeding of the Baby-Friendly Hospital Initiative (BFHI) and its certification process significantly improve rates of EBF. Community support for breastfeeding is also critical. The counselling of mothers during pregnancy, immediately after delivery and postnatally has significant positive effects on rates of EBF. At community level, creating and increasing awareness of EBF using communication strategies (e.g. mass media campaigns) is also deemed important (World Health Organization/UNICEF, 2014). Countries need to enact policies that protect breastfeeding and support women in their efforts to breastfeed their children exclusively for the first six months. For instance, six months of paid maternity leave would allow women to continue

to breastfeed for longer without having to choose between earning an income and providing the best nutrition for their infant. Another critical policy action involves the enacting, enforcement and monitoring of legislation relating to the international Code on the Marketing of Breastmilk Substitutes and subsequent relevant WHA resolutions (the Code), which aim to protect breastfeeding by ensuring the proper use, marketing and distribution of breastmilk substitutes (World Health Organization/UNICEF, 2014).

2.2 Breastfeeding and the Sustainable Development Goals

The Sustainable Development Goals (SDGs) (Table 2.1) are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity.

Table 2.1: Sustainable Development Goals

GOAL 1: End poverty in all its forms everywhere
GOAL 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
GOAL 3: Ensure healthy lives and promote well-being for all at all ages
GOAL 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
GOAL 5: Achieve gender equality and empower all women and girls
GOAL 6: Ensure availability and sustainable management of water and sanitation for all
GOAL 7: Ensure access to affordable, reliable, sustainable and modern energy for all
GOAL 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
GOAL 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and innovation
GOAL 10: Reduce inequality within and among countries
GOAL 11: Make cities and human settlements inclusive, safe, resilient and sustainable
GOAL 12: Ensure sustainable consumption and production patterns
GOAL 13: Take urgent action to combat climate change and its impacts*
GOAL 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development
GOAL 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss
GOAL 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at

	all levels
GOAL 17:	Strengthen the means of implementation and revitalize the global partnership for sustainable development

Source: 2030 Agenda for Sustainable Development (United Nations, 2015).

Breastfeeding is a central part of the 2030 Agenda for Sustainable Development, and can be linked to the SDGs in the following ways:

Goals 1, 8 and 10 focus on ending poverty, promoting economic growth and reducing inequalities. Breastfeeding is associated with adding US$302 billion annually in additional income to the world economy – nearly 0.5 per cent of world gross national industry (UNICEF, 2016).

Goals 2 and 3 are concerned with hunger, health and well-being. Breastfeeding is a vital source of nutrition that can save children's lives and contribute to improved health outcomes for children and mothers (UNICEF, 2016).

Goal 4 is about education. The association between breastfeeding and higher IQs and educational attainment means that breastfeeding can contribute to efforts to achieve global learning targets (UNICEF, 2016).

Goal 5 centres on gender equality. Breastfeeding is linked to critical equality issues, including birth spacing and workplace rights (UNICEF, 2016).

Goal 12 tackles sustainable consumption. Breastmilk does not require industry for production and is created and consumed with a minimal ecological footprint (UNICEF, 2016).

It is therefore important for national governments throughout the world to develop budgets and action plans to achieve the SDGs. The latter would include breastfeeding being made a priority.

2.3 The role of global organizations in supporting, protecting and promoting breastfeeding

Global and national organizations are critical in advocating for and securing the necessary political will to improve breastfeeding practices. Historically, global organizations have had considerable success in influencing political support for breastfeeding at international and national levels. This has been done through, for example, developing the Global Strategy for Infant and Young Child Feeding, the International Code on the Marketing of Breastmilk Substitutes and subsequent World Health Assembly (WHA) resolutions (the Code), the International Labour Organization (ILO) Maternity Protection Convention No. 183, and the Baby-Friendly Hospital Initiative. More recently,

the WHO has identified increasing EBF rates to 50% as one of six global targets for 2025 to enhance maternal, infant and child nutrition, and specified priority actions to be jointly implemented by member states and international partners (Mcfadden, Kenney-Muir, Whitford & Renfrew, 2015).

At the international level, organizations such as the United Nations Children Fund (UNICEF) and WHO have provided leadership and influenced the breastfeeding agenda through the development of legislative and policy responses, as well as introducing programme mechanisms to support national governments to better enable women to breastfeed. Organizations such as the International Baby Action Network (IBFAN) have advocated at national and international levels for the protection of breastfeeding. IBFAN conducts regular independent monitoring of Code violations and produces a bi-annual report, Breaking the Rules, which is used as evidence to inform governments of Code violations (Mcfadden et al., 2015). Furthermore, the becoming breastfeeding friendly evidence-informed global initiative was designed to help countries to identify the strength of their breastfeeding friendly environment and develop recommendations and plans for scaling up breastfeeding policies and programmes. This initiative is grounded in the Breastfeeding Gear Model indicating eight gears that must be at work and in harmony for large scale improvement in a country`s breastfeeding program (Pérez-Escamilla, 2019).

2.4 Actions to drive progress in increasing exclusive breastfeeding

The following evidence-informed recommendations have been made by the WHO (2014) in order to achieve progress on the global EBF target for 2025 (World Health Organization/UNICEF, 2014).

1. Provide hospital- and health facility-based capacity to support EBF, including revitalizing, expanding and institutionalizing the BFHI in health systems.

    - Sustaining the effectiveness of the BFHI requires institutionalization within the health system, to allow for the certification and recertification of hospitals and continued investments in the training, follow-up and supervision of health-care staff.
    - Sustainability also requires monitoring to track progress and measure the number and proportion of hospital births in baby-friendly hospitals and other health-care facilities.
    - Integrating breastfeeding promotion and support throughout the maternal and child health continuum, particularly in the prenatal and postpartum periods.

2. Provide community-based strategies to support EBF, including implementing communication campaigns tailored to the local context.

- Ensure strong linkages between facility- and community-based strategies. The influence of facility-based programmes on EBF such as the BFHI may wane after women return home from facilities, and community support is needed.
- Provide continued family and community support through community leaders and a variety of other communication channels.
- In countries where the rate of health facility delivery is low, community-based support can be provided through home visits or support groups.
- Communication channels and messaging should be tailored to the context, based on literacy levels, use of and access to different media, and contact with health-care providers among target audiences. Behaviour change messages should be tailored to specific barriers to, and motivators for, exclusive breastfeeding identified in each country, at the national or subnational level.
- One-on-one and peer-to-peer counselling are effective but group counselling also improves rates of EBF, and a combination of both appears to be particularly effective (Haroon et al., 2013). Support for mothers can come from adequately and appropriately trained professionals or laypersons, and is most effective when consistent information and messages, practical support and referrals come from both health facilities and community members.

3. Significantly limit the aggressive and inappropriate marketing of breast-milk substitutes by strengthening the monitoring and enforcement of legislation related to the International Code on the Marketing of Breastmilk Substitutes and subsequent relevant WHA resolutions.

- Countries are urged to enact legislation/regulations or other legally enforceable measures to give effect to the Code, and actively monitor, implement and enforce effective sanctions in case of violations

4. Empower women to exclusively breastfeed, by enacting 6 months of mandatory paid maternity leave as well as policies that encourage women to breastfeed in the workplace and in public.

- Workplace policies should support all working women – in both formal and informal sectors – to continue breastfeeding in the workplace (e.g. on-site child care, breaks for breastfeeding or milk expression, and private comfortable places for women to express and safely store breastmilk).

5. Invest in training and capacity-building in breastfeeding protection, promotion and support.

- In addition to training in infant and young child feeding practices, training in problem-solving and counselling skills should be strengthened, and ways to provide follow-up and mentoring for staff after training should be identified.
- Recognizing the different skill sets and information needs of different types of health-care providers will make training more efficient and effective. Health-care providers also need to be trained on their responsibilities under the Code.

Source: Global nutrition targets 2025: breastfeeding policy brief (World Health Organization/UNICEF, 2014)

Creating an enabling environment for breastfeeding through policy and legislation is considered important to increase the rates of EBF. An enabling environment results from "political and policy processes that build and sustain momentum for effective implementation of actions that reduce malnutrition" (Gillespie et al., 2013, p. 2). The following elements are considered important in building an enabling environment: rigorous monitoring and evaluation, advocacy, co-ordination, accountability, leadership, capacity and resources (Gillespie et al., 2013). The three linked elements for an enabling environment are: knowledge and evidence, politics and governance, capacity and financial resources (Gillespie et al., 2013). Du Plessis, McLachlan and Drimie (2018) suggest that, in addition, a people-centred approach is an important element in creating an enabling environment for infant and young child nutrition at implementation level.

The 2016 Lancet series on breastfeeding proposed a conceptual model portraying the components of an enabling environment for successful breastfeeding (Rollins et al., 2016). The model includes the determinants of breastfeeding at structural, setting and individual levels. The structural level relates to any social factors that affect the general population, including the media, advertising and social trends. At the setting level the health system and services, community and family, and the workplace and employment are identified as factors that affect breastfeeding decisions and behaviour over time (Rollins et al., 2016).

2.5 Breastfeeding support interventions in the workplace

Success in breastfeeding is not the sole responsibility of a woman and involves many stakeholders. UNICEF's vision for breastfeeding, as portrayed in Figure 2.1, below, is also founded on the understanding that for breastfeeding to work requires government leadership and support from families, communities, workplaces and the health system (United Nations Children's Fund, 2018). It is clear that today`s society is still not a supportive environment for many women who want to breastfeed (Rollins et al., 2016).

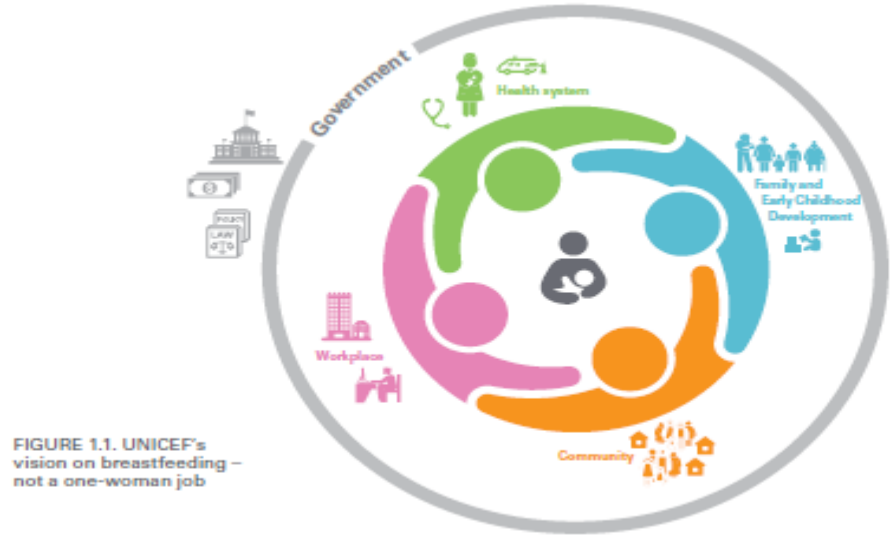


Figure 2.1: UNICEF's vision on breastfeeding (United Nations Children's Fund, 2018).

Globally, mothers have identified employment as one of the leading barriers to exclusive and continued breastfeeding, a main reason for not breastfeeding or for the early cessation of breastfeeding (Rollins et al., 2016). With the growing number of women in the labour force, it has become increasingly important to pay attention to maternity leave, facilities for expressing breastmilk and breastfeeding breaks within the workplace (Rollins et al., 2016). The literature indicates that support for breastfeeding in the workplace enhances a mothers' capacity to continue with breastfeeding (Dodgson et al., 2004; Ortiz et al., 2004; Bai & Wunderlich, 2013; Yimyam & Hanpa, 2014). Employers can support their breastfeeding employees with relatively small effort and reap the benefits that come from having employees with healthier children. Adequate provision for breastfeeding in the workplace is an investment in the health of the present and future workforce (World Alliance for Breastfeeding Action, 1993). Support for breastfeeding in the workplace benefits not only families but employers as well, by improving worker productivity, loyalty and commitment,

enhancing the public image of employers, decreasing absenteeism amongst mothers and reducing the turnover of employees (United States Department of Health and Human Services, 2008).

Women's work spaces are diverse and include informal as well as formal employment. There are nevertheless three general requirements for every mother to be able to combine breastfeeding and work successfully:

- **Time:** paid maternity leave, flexibility at work and breastfeeding breaks.
- **Space:** child care facilities at or near the workplace, private facilities and space for expressing and storing breastmilk, a clean and non-hazardous environment at work.
- **Support:** maternity benefits, job security, a positive attitude towards breastfeeding in public, supportive women in unions and workers' groups.

This generic framework was proposed by the World Alliance for Breastfeeding Action (WABA) when the Mother-Friendly Workplace Initiative (MFWI) was launched in 1993. The aim was to encourage worldwide action to support working women's right to breastfeed. The framework continues to portray the central pillars of an effective breastfeeding-friendly workplace (World Alliance for Breastfeeding Action, 1993).

Support for breastfeeding in the workplace can include the following: developing policies to support breastfeeding mothers in the workplace, providing a private area (other than a bathroom) for women to breastfeed or express milk, allowing time and flexibility to express breastmilk at work, providing working mothers with options when returning to work (such as working part-time, job sharing or extending maternity leave), providing on-site or nearby child care facilities at work, access to refrigeration for the storage of breastmilk, allowing mothers to bring babies to the workplace and offering supportive lactation management services (Stewart-Glenn, 2008).

Providing space to breastfeed and breastfeeding breaks at the workplace are considered low-cost interventions (Rollins et al., 2016) that can reduce the obstacles that mothers face when they want to continue breastfeeding at work. In reality, many women do not feel that they have breastfeeding support at work for several reasons, including the lack of breastfeeding break times, lack of space to express, unsupportive supervisors and pressure from colleagues.

In an attempt to remedy this situation, UNICEF recently developed a theory of change for workplace breastfeeding support programmes (United Nations Children's Fund, 2018). The theory of change was created to clarify the logical steps required to improve breastfeeding practices among working mothers. The theory of change, as portrayed in Figure 2.2, shows that the uptake of maternity and

breastfeeding entitlements and accommodations hinges on a working mother's intention to use those accommodations, which in itself is influenced by:

• At an individual level, the working mother's belief in her ability to successfully breastfeed and work (self-efficacy), and her motivation to do so.

• A mother's belief in the opportunity cost of taking breastfeeding breaks.

• At the interpersonal level, the technical, practical and emotional support she receives from healthcare workers (HCWs), influential family members, her supervisors, her peers (including positive deviants, such as mentor mothers) and her infant's caregiver.

• Within her immediate work environment, active adherence to the notion of a mother-, baby- and breastfeeding-friendly work environment. This is manifested through businesses' compliance with legislation, choice of workplace policies, systems and accommodations, and the inclusion in the workplace culture of encouragement and support from management.

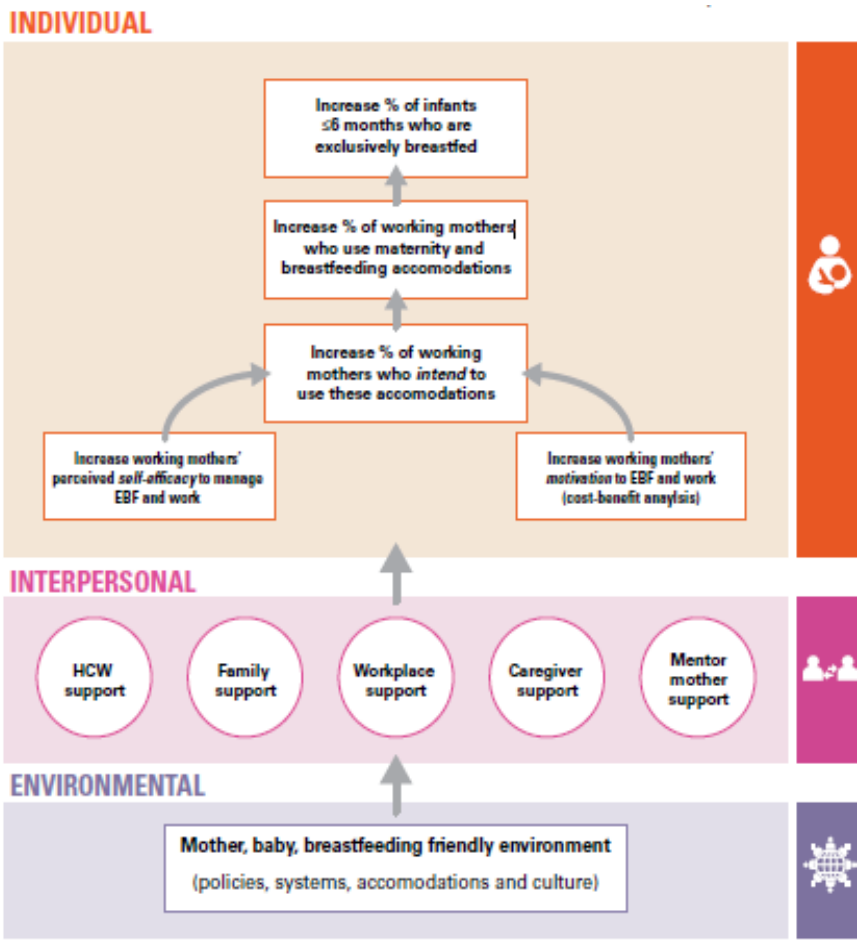


Figure 2.2: UNICEF's theory of change for improving breastfeeding practices through workplace interventions (United Nations Children's Fund, 2018).

The literature reveals that for successful implementation, workplace interventions should be designed to address multiple levels (Chen, Wu & Chie, 2006), and joint efforts at the level of the employer, the employee, and the workplace itself are needed to promote a balance between employment and breastfeeding (McIntyre, Pisaniello, Gun, Sanders & Frith, 2002).

A global literature review by Hirani and Karmaliani (2013) identifies the following workplace interventions at the levels of the employee, employer and workplace as among the most powerful:

- Educating employed mothers about the management of breastfeeding with employment (employee level);
- Enhancing employers' awareness about the benefits of breastfeeding accommodation at workplace (employer level);
- Workplace level:
    - Physical facilities for lactating mothers, including privacy
    - Child care facilities
    - Breast pumps and breastmilk storage facilities
    - Providing job flexibility to working mothers
    - Initiating mother-friendly policies in the workplace that support breastfeeding (Hirani & Karmaliani, 2013).

A mother's workplace setting can have a deep impact on the duration of breastfeeding and the mother's decision to continue or discontinue with breastfeeding (International Labour Organization, 2012b). A study by Kimbro (2006) found that in the month before returning to work, a mother was 34% more likely to quit breastfeeding, and twice as likely to stop breastfeeding in the month she returns to work.

A question to explore would be whether workplace support varies among employment type and if occupation type has an influence on the duration of breastfeeding. To answer this, a retrospective survey amongst women returning to work was recently undertaken. This study found that workplace support indeed varies according to employment type. Women in the professional/management positions were most likely to receive informal (verbal encouragement) and direct support (flexibility, space) for breastfeeding when returning to work. Women in the service industry and in the production and transportation industries reported receiving the lowest levels of informal and direct support (Snyder et al., 2018).

Generally speaking, women in professional or administrative positions breastfeed for longer than clerical employees or manual-labourers (Kimbro, 2006). The longer duration of breastfeeding

among professionals may be a reflection of higher breastfeeding rates among more highly educated women, or of jobs that allow more flexibility (Kimbro, 2006).

2.6 Interventions needed to improve breastfeeding practices

When relevant breastfeeding interventions are successfully delivered, breastfeeding practices are responsive and can improve rapidly. Findings from the Lancet Breastfeeding series meta-analyses indicated that breastfeeding practices are highly responsive to interventions delivered in health systems, communities, and homes (Rollins et al., 2016). Maternity leave and workplace interventions are also beneficial, although studies in this area are few and generally limited to high-income settings. The largest effects of interventions on breastfeeding outcomes are achieved when interventions are delivered in combination. For example, combined health system and community interventions increase EBF by 2.5 times (Rollins et al., 2016).

A systematic review by Sinha et al. (2015) of interventions to improve breastfeeding outcomes concluded that to achieve the best outcomes, interventions should be delivered in a combination of settings, involving health systems, home and family and community environment concurrently. EBF rates were seen to improve significantly by 79% (RR 1.79, 95% CI 1.45–2.21) when interventions were delivered concurrently in any combination of settings. Interventions delivered in the work environment were associated with an increased probability of EBF in the intervention group, but the results were not statistically significant (RR 1.28, 95% CI 0.98–1.69) (Sinha et al., 2015).

A review conducted by UNICEF (United Nations Children's Fund, 2018) found evidence that the following features helped to improve the breastfeeding practices of working mothers:

- Working women's awareness of the existence of mother- and baby-friendly policies in the workplace; the availability of child- and breastfeeding-friendly spaces; the availability of breastfeeding breaks.
- Workplace-based encouragement, experience and support for breastfeeding at work, in particular from managers and supervisors; colleagues and co-workers who had successfully managed breastfeeding and working.
- Tailored information, counselling and capacity building for working mothers before, during and after maternity leave, including: information on the benefits of breastfeeding for infants, mothers, families, communities and businesses; training in breastfeeding techniques (expressing, storing, transporting and feeding breastmilk) before a mother's return to work; anticipatory guidance for managing exclusive breastfeeding and work.

- Support from HCWs, including certified lactation consultants, in the workplace.
- Husbands', or partners', and other family members' emotional and practical support for sustaining breastfeeding while working.
- Community and social support and the creation of a culture where breastfeeding is valued and protected and viewed as normal.

Again, breastfeeding support programmes that include multiple components are most effective (Balkam et al., 2011). They result in lower rates of breastfeeding discontinuation; longer duration of any breastfeeding; higher rates of any breastfeeding at six or 12 months; longer duration of EBF or higher rates of EBF at six months (Dinour & Szaro, 2017).

2.7 UNICEF initiatives to improve the breastfeeding practices of working mothers

In 2016, with support from the Bill and Melinda Gates Foundation, UNICEF launched two country-level initiatives to improve the breastfeeding practices of working mothers, in partnership with businesses operating in two distinct settings; 1) Ready-made garment (RMG) factory sites located in urban and peri-urban areas of Dhaka, Bangladesh, and 2) A vast tea estate situated in Kericho County, Kenya.

The initiatives aimed to generate evidence on the operational feasibility, effectiveness and cost-effectiveness of supporting breastfeeding in the workplace, and to showcase its benefits for children, families, communities and businesses. UNICEF applied the Communication for Development (C4D) process to design social and behavioural change communication strategies to increase acceptance of, and demand for workplace breastfeeding programmes in each context (United Nations Children's Fund, 2018).

2.7.1 Bangladesh Case Study

In 2016/2017, UNICEF Bangladesh implemented an evidence-based C4D process to design a strategy to motivate working mothers to exclusively breastfeed their infants up to six months of age, while addressing the social and behavioural barriers that prevent this practice. Because the main sites of intervention were limited to factories, the C4D design process focused on actions that could take place within the workplace. Two C4D approaches were prioritised:

(1) social and behavioural change communication targeted to reach pregnant women and breastfeeding mothers in the workplace; and

(2) workplace capacity building and mobilization of factory-based managers, HCWs, social welfare officers (SWOs), human resource officers (HROs) and day-care providers, to establish a positive culture and concrete support for workers who breastfeed.

In this context the maternity and breastfeeding provisions offered at the two demonstration sites in Bangladesh comprised paid maternity leave in two fractions of 56 days each, two breaks of 30 minutes each to breastfeed in addition to lunch break, medical facilities with free or discounted medical care, and day-care facilities for children (United Nations Children's Fund, 2018).

Approaches for working mothers to exclusively breastfeed their infants from birth to six months of age included positive deviance (mother mentors), interpersonal communication, group communication and discussion, breastfeeding counselling and support from healthcare workers before and after maternity leave. Approaches to accomplish desired employee behaviour (to ensure that mothers used the breastfeeding breaks and other accommodations) included written documentation in work contracts, back-to-work preparatory consultation, prenatal and pre-maternity leave consultation. Approaches to accomplish desired employer behaviour (to implement corporate maternity protection and breastfeeding policies) included workplace dialogue, institutional sensitization, and compliance monitoring. Programme approaches for working mothers who were unable to breastfeed their infants in the workplace or express and store breastmilk included back-to-work counselling, capacity building (of the mother and the caregiver), mentoring and positive deviance. Some lessons learned to date from this case study include the importance of the following:

- Engaging working women in the programme.
- Transferring C4D knowledge and capacity to gatekeepers in the workplace.
- Being attentive to social norms. Social and gender-related expectations help guide maternal, new-born and child health practices and limit a woman's decision-making power. To shift social norms relating to breastfeeding, influential family members, including husbands and in-laws, must also be included in C4D interventions.
- Going beyond the workplace. The evidence shows that multicomponent C4D programmes involving the many places and people that influence a working mother's life (such as health-care facilities, communities, households and the media) are most effective.
- Involving RMG leadership. To ensure sustainability, the initiative must go beyond simple proof of compliance and foster full engagement of RMG business leadership. The reasons for adopting the project should stem from the commitment of businesses to the initiative.

- Being flexible in the implementation of C4D approaches and activities. A common strategic framework for C4D can serve as a guideline, but flexibility in its design and implementation is also needed because work settings and/or conditions within and outside of the RMG sector vary (United Nations Children's Fund, 2018).

2.7.2 Kenya Case Study

As part of the initiative, in March 2017, the private tea estate and the Kericho County government launched two day-care centres for children of working mothers, from the time maternity leave ends to the age of three years, when preschool begins (United Nations Children's Fund, 2018). Private breastfeeding rooms with facilities for washing as well as expressing and storing breastmilk were also established nearby. The programme approaches taken to accomplish the desired behaviour as part of this initiative are described in the Table 2.2, below.

Table 2.2: Desired behaviour and programme approaches in Kenya

Desired Behaviour	**Programme approaches**
For mothers to exclusively breastfeed their infants up to 6 months of age	➢ Interpersonal communication by community-based volunteers, ➢ Group dialogue and discussion with mother-to-mother support groups, ➢ Maternal, infant and young child nutrition (MIYCN) and breastfeeding counselling by health-care workers (HCWs).
Working mothers use breastfeeding breaks and other accommodations to fulfil desired breastfeeding behaviours	➢ Interpersonal communication. ➢ Back-to-work (anticipatory) counselling by social welfare workers and community-based volunteers. ➢ Positive deviance.
Working mothers who cannot breastfeed their infants during working hours express and store breastmilk.	➢ Back-to-work counselling. ➢ Capacity building. ➢ Group dialogue and discussion. ➢ Positive deviance. ➢ Caregiver capacity building. ➢ Family support.
Key influencers provide practical and emotional support for exclusive breastfeeding of infants.	➢ Baby-friendly Community Initiative. ➢ HCWs capacity building. ➢ Interpersonal communication group discussion with family members. ➢ Community sensitisation. ➢ Positive deviance.
Company leadership and senior management to improve, enforce and sustain an enabling environment for breastfeeding	➢ Consensus building. ➢ Evidence generation. ➢ Advocacy.

Social welfare officers, unit managers and supervisors adhere to corporate breastfeeding policies for working mothers.	➢ Institutional sensitisation. ➢ Institutional mobilisation. ➢ Workplace dialogue. ➢ Compliance monitoring.

Source: Let's make it work!: Breastfeeding in the workplace (United Nations Children's Fund, 2018).

The UNICEF-supported projects in ready-made garment factory sites in Bangladesh and a private tea estate in Kenya continued throughout 2018, and the impact will be documented.

2.8 Breastfeeding support interventions in the workplace and breastfeeding outcomes

There is evidence that workplace breastfeeding support programmes are able to increase the rate and extend the duration of breastfeeding. A review by Hilliard (2017) examined the impact of workplace lactation accommodations and their association with breastfeeding duration. Eleven articles were reviewed, yielding an overall indication that the presence of a corporate lactation programme, on-site child care, and return-to-work/lactation consultation by telephone were consistently associated with breastfeeding at six months. Other breastfeeding accommodations (i.e. lactation spaces, lactation breaks, worksite lactation policies, and supervisor/co-worker support) were not consistently associated with breastfeeding duration and showed mixed results (Hilliard, 2017).

Cohen and Mrtek (1994) and Ortiz et al. (2004) found that the presence of a corporate lactation programme promoted breastfeeding at six months, while Bai and Wunderlich (2013) in New Jersey reported a similar result as a consequence of the presence of an on-site child care facility. The only study that examined telephone and return-to-work consultations with a lactation consultant was that by Balkam et al. (2011), in the United States who duly reported a significant positive association between these practices and EBF at six months.

In four United states studies (Dabritz, Hinton & Babb, 2009; Bai & Wunderlich, 2013; Sattari, Serwint, Neal, Chen & Levine, 2013; Alvarez, Serwint, Levine, Bertram & Sattari, 2015), co-worker and supervisor support for breastfeeding was significantly positively associated with overall breastfeeding duration and EBF at six months. In contrast, Waite and Christakis (2015) found no significant association between co-worker and supervisor support and breastfeeding duration at either of their two study sites ($p = .73$ and $.75$). Sattari et al. (2013) found that the perception of unsupportive colleagues was significantly associated ($p= .037$) with a 3.5-month decrease in breastfeeding duration.

Lactation spaces for milk expression and lactation breaks were not consistently associated with BF duration. Two studies (Bai & Wunderlich, 2013; Alvarez et al., 2015) examining availability of a lactation space found a significant positive association with breastfeeding duration (r = .504 and .26, p = 0.039 and p = 0.01, respectively), while four other studies (Hills-Bonczyk, Avery, Savik, Potter & Duckett, 1993; Dabritz et al., 2009; Balkam et al., 2011; Sattari et al., 2013) found no significant association with breastfeeding duration (p= not reported, p = .094, p= not significant, p= not reported respectively).

Lactation breaks were not consistently associated with BF duration either. Two studies (Sattari et al., 2013; Alvarez et al., 2015) found a significant positive association with total BF duration (r = .493 and .29 and p = .044 and < .001, respectively); but Bai and Wunderlich (2013) found no significant association (r = .05, p = .52). One prospective cohort study reported that women who could not find time to express milk during the workday had significantly shorter BF duration than those reporting no problems finding time to express (13 weeks vs. 22 weeks total duration, p = .01) (Hills-Bonczyk et al., 1993).

In multivariate models, providing a paid break for at least six months was linked with an 8.9% increase in the rate of EBF (Heymann, Raub & Earle, 2013). Dabritz et al. (2009) similarly indicated that breastfeeding rooms and providing breaks to breastfeed or express breastmilk at work increased breastfeeding by 25% (95% CI 9–43) at six months.

When examining worksite policies, Bai and Wunderlich (2013) and Dabritz et al. (2009) reported different results. Dabritz et al. found that a worksite policy was significantly associated with breastfeeding at six months (p = .036), whereas Bai and Wunderlich (2013) found no significant association between worksite policy and EBF at six months (r = .13, p = .24) (Bai & Wunderlich, 2013).

The studies described above thus evidence a variety of breastfeeding outcomes resulting from breastfeeding support interventions in the workplace.

2.9 Strategies for combining breastfeeding and work and breastfeeding outcomes

There is little documentation of the strategies that mothers use to continue breastfeeding, or of the association between the strategies they use and breastfeeding outcomes. A study by Fein, Mandal and Roe (2008) therefore set out to examine which strategies are associated with smaller decrements in breastfeeding intensity and longer duration amongst 810 mothers who worked and breastfed. Direct feeding from the breast was associated with longer BF duration than pumping

only. Pumping milk only is an effective strategy for maintaining breastfeeding intensity after the mother's return to work (Fein et al., 2008).

The authors concluded that it is important to establish ways for mothers to feed their infants directly. Ways to enable a mother to directly feed from the breast can include on-site childcare, keeping the infant at work, allowing the mother to leave work to go to the infant or having the infant brought to work (Fein et al., 2008).

2.10 The business case for breastfeeding

While every workplace has unique resources and constraints, every workplace can equally support women in employment to breastfeed if it has the will to act. A project by the United States Department of Health and Human Services Office on Women's Health, The Business Case for Breastfeeding, was designed as a toolkit with comprehensive resources to help employers create breastfeeding-friendly workplaces (United States Department of Health and Human Services Office on Women's Health, 2018a). The Business Case for Breastfeeding websites provide employees with guidance on breastfeeding and working, while offering employers online resources and cost - effective time and space tips and solutions for any industry setting (e.g. retail/trade, manufacturing, agriculture, health care, education) (United States Department of Health and Human Services Office on Women's Health, 2018b).

An evaluation of the implementation of The Business Case for Breastfeeding in South-Eastern Virginia was published by Garvin et al. (2013). The one-year project was effective in assisting employers to establish and maintain lactation support programmes. Seventeen healthcare facilities implemented changes based on The Business Case for Breastfeeding. After an average of eight months with these interventions in place, organizations continued to provide lactation support (Garvin et al., 2013).

2.11 The workplace and global maternity protection

Maternity Protection (MP) at work is a fundamental human right and a prerequisite for gender equality (International Labour Organization, 2012a). It has two key aims, to preserve the health of the mother and her newborn, and to provide a measure of income and job security. It seeks to enable women to combine their reproductive and productive functions successfully, and to prevent unequal treatment at work because of their reproductive function. The five core elements of MP at work are maternity leave, maternity/cash benefits, health protection at the workplace, employment

protection and non-discrimination, and breastfeeding arrangements at work (International Labour Organization, 2012a).

Over the course of its history, the ILO has adopted three Conventions on MP (No. 3, 1919; No. 103, 1952; No. 183, 2000). These Conventions, together with their corresponding Recommendations (No. 95, 1952; No. 191, 2000) have over time expanded the scope and entitlements of MP at work (International Labour Organization, 2012a). The most recent ILO pronouncements on MP, Convention No. 183 (2000) and Recommendation No. 191 (2000), provide the minimum standards for national law and practice. These instruments do not facilitate six months of EBF, but they do make breastfeeding possible for working women for at least a few months. The ILO Convention (No. 183) lays down recommendations for paid maternity leave and breastfeeding breaks. These include maternity leave of longer than 18 weeks, with a minimum of six weeks compulsory leave after delivery; daily breaks or a reduction in working hours for lactating mothers; the provision of facilities for lactating mothers; and payment of maternity benefits of not less than two-thirds of the mother's salary (International Labour Organization, 2014).

Over time, there has been a gradual improvement in MP across the world. In 1994, 38% of countries for which information was available provided at least 14 weeks of maternity leave. By 2013, among this same set of countries, 51% provided at least 14 weeks of maternity leave. During this period, there was also a shift away from unpaid leave schemes and employer liability systems of financing maternity benefits. The percentage of countries that provide unpaid leave dropped from 5% to 1% (International Labour Organization, 2014). Only 53% of 185 countries included in the Lancet Breastfeeding Series met the 14-week minimal standard, and only 23% met the recommendation of 18 weeks maternity leave as set out by the ILO. In the informal work sector, almost 80% of working women, who live mainly in Africa and Asia, have no maternity benefits at all (Rollins et al., 2016).

A recent study by Chai, Nandi and Heymann (2018) sought to examine whether extending the duration of paid maternity leave available to new mothers affected the early initiation of breastfeeding, EBF under six months and breastfeeding duration in 38 low-income and middle-income countries. A one-month increase in the legislated duration of paid maternity leave was associated with a 7.4 percentage point increase (95% CI 3.2 to 11.7) in the prevalence of early initiation of breastfeeding, a 5.9 percentage point increase (95% CI 2.0 to 9.8) in the prevalence of EBF and a 2.2-month increase (95% CI 1.1 to 3.4) in breastfeeding duration (Chai et al., 2018). A review article also reports a positive relationship between maternity leave and breastfeeding duration (Navarro-Rosenblatt & Garmendia, 2018). These positive results provide evidence to

support the extension of paid maternity leave. A study investigating national policies relating to breastfeeding breaks found that in 182 countries, breastfeeding breaks with remuneration were guaranteed in 130 countries (71%), unpaid breaks provided in seven countries (4%), while 45 countries (25%) had no policy in place (Rollins et al., 2016). This information proves that at a global level much more effort is needed at a policy level to provide breastfeeding breaks, as recommended by the 2000 ILO convention and recommendation.

2.12 Status of Maternity Protection in South Africa

In SA, pregnant workers are entitled to at least four consecutive months of maternity leave,) according to Section 25 of the Basic Conditions of Employment Act (BCEA) (Republic of South Africa, 1997). With the exception of the public sector and large companies, this entitlement is unpaid, and mothers need to claim from the Unemployment Insurance Fund (UIF) if contributions have been made by the mother to the fund in the months preceding her pregnancy. The benefit can be claimed for a maximum of 121 days, in the amount of up to 60% of the contributor's salary. However, a sliding scale is applied, and women earning at the higher end of the scale may claim significantly less than 60%. The highest earning women may claim a maximum of only 38% of their salary. The legislation also states that no employee may work for six weeks after the birth of her child, unless a medical practitioner or midwife confirms that she is fit to do so (Republic of South Africa, 1997). Maternity leave in SA is therefore less than the 18 weeks recommended by ILO R191 (2000).

In terms of the Code of Good Practice on the protection of employees during pregnancy and after child birth included in the BCEA, arrangements should be made to accommodate employees who are breastfeeding, with 30-minute breastfeeding breaks twice a day to breastfeed or express for the first six months of the child's life (paragraph 5.13) (Republic of South Africa. Department of Labour, 1998). However, the actual situation is that women employees and their employers are mostly unaware of these legislated breastfeeding breaks (Reimers, 2017; Martin-Wiesner, 2018), which are seldom provided or requested in workplaces. In this context dietitians and nutritionists have an important role to play, to educate and empower communities regarding their breastfeeding rights in the workplace, and also to encourage and advocate for supportive environments for breastfeeding employees in workplaces.

While the provision of legislated breastfeeding time in SA is an essential policy directive, the Code of Good Practice still poses some challenges for breastfeeding employees as it fails to address a few important points. First, it fails to address the requirement that the employer provide a suitable space for expressing and storing breastmilk. Secondly, it does not specify whether the breastfeeding

breaks are paid or unpaid; and thirdly, it makes no provision for penalties for employers who fail to comply with the legislation.

The Tshwane Declaration in SA specifically resolved that legislation needs to be reviewed to extend maternity leave for all workers and to stipulate an enabling workplace (Department of Health, 2011). This resolution has not yet been addressed.

On the 28 November 2018, President Cyril Ramaphosa signed the Labour Law Amendment Bill into law. The bill makes important improvements to paid parental leave in SA. The bill is matched by the UIF Amendment Bill, which dictates how UIF payments will be managed. The bill introduces a set level of maternity benefits, at 66% of full salary for maternity leave, 10 days' leave for parents who are not biological mothers or fathers, and paid leave for adoptive parents (Republic of South Africa, 2018). These changes, effective from 1 January 2019, are very important for breastfeeding, because they both improve the benefits paid for maternity leave and allow mothers' partners to support them to breastfeed.

2.13 Overview of the Western Cape Government breastfeeding initiatives

The Tshwane Declaration of Support for Breastfeeding in SA was signed by the Minister of Health in 2011. It symbolised a commitment of political will at the highest level, as well as a commitment by all stakeholders in SA, to work together to ensure the promotion, protection and support of breastfeeding. The need to address challenges around maternity protection for working mothers and creating enabling workplaces was expressed in the Declaration as follows (Department of Health, 2011):

> We specifically resolve that … Legislation regarding maternity among working mothers is reviewed in order to protect and extend maternity leave, and for measures to be implemented to ensure that all workers, including domestic and farm workers, benefit from maternity protection, and to include an enabling workplace. (Tshwane Declaration, Department of Health, 2011, p. 214)

There has been progress on some commitments made in the Tshwane Declaration (Du Plessis & Pereira, 2013), but little attention has been paid to workplace support for breastfeeding mothers. This may be due in part to a lack of understanding regarding the importance and impact of breastfeeding, and also a negative perception thereof. The perceived cost implications of implementing interventions to ensure MP and support for employed breastfeeding mothers, may

also be a reason why workplace support is lagging behind other breastfeeding support interventions in SA (Southern Africa Food Lab, Western Cape Government, 2016).

In the Western Cape much has been done to respond to the Tshwane Declaration. A Policy framework and implementation plan for Breastfeeding Restoration has been formulated. The restoration plan is aligned with the Tshwane Declaration and includes focus areas relating to various policies and practices. Districts were requested to formulate plans to facilitate the policy framework and implementation plan at district level, in line with the Provincial timelines as indicated in the Breastfeeding Restoration plan (Southern Africa Food Lab, Western Cape Government, 2016). One of the key areas to be addressed in the district plans concerns the creation of a breastfeeding-friendly workplace for public health workers at all levels (Circular 164/2012: Western Cape Policy Framework and Implementation Plan for Breastfeeding Restoration).

A milestone achievement in the Western Cape is that The Mother Baby Friendly Initiative (MBFI) (previously known as the Baby Friendly Hospital Initiative) is currently implemented in 100% of the public birthing units in the Western Cape. Implementation of MBFI requires that practices in the birthing unit be reviewed to remove obstacles to breastfeeding.

An infant feeding counselling guideline was developed to guide counsellors (or any healthcare worker) through enabling a mother to make an informed infant feeding choice. Community Health Workers (CHW) are trained in infant feeding as part of the implementation of MBFI to provide support for the mother once she is discharged from the birthing unit. Some birthing units have lactation consultants who volunteer their services, but this is not uniform or consistent throughout the province (Du Plessis, Peer, Honikman & English, 2016).

Breastfeeding Peer Counselling Programmes (BPCP) driven by non-profit organizations (NPOs) and funded by health district sub-structures (two sub-districts constitute one sub-structure) place breastfeeding peer counsellors at midwife obstetric units and basic antenatal care sites in the Cape Town Metropole. They work four hours a day and are paid a stipend. The identified BFP counsellors (BFPC) are capacitated to deliver peer counselling, having been trained via a 20-hour, updated national breastfeeding course. The BFPC are tasked with educating pregnant women regarding infant feeding, supporting mothers without companions and supporting (and educating) postnatal women on breastfeeding and its management. Part of their function is also to foster the establishment of community support groups, but this has been difficult to implement and they consequently remain facility-based counsellors (Du Plessis et al., 2016).

The Western Cape (WC) has furthermore created sentinel sites for human milk banks, with guidelines for the management of expressed breastmilk. Standardised key messages conveyed through provincial documents, initiatives and policies have been adopted as much as possible. The 'First 1000 days' campaign was launched in 2016 and includes a communication campaign with resources (https://www.westerncape.gov.za/general-publication/first-1-000-days-campaign). These resources are available to the general public (Du Plessis et al., 2016).

The WC has also progressively worked towards reducing the use of infant formula by creating an environment in which mothers are enabled to make informed decisions, and by reinforcing the criteria for the prescription of infant formula based on set requirements (Du Plessis et al., 2016).

The WC Department of Health is the sole government department in the WC province with a breastfeeding policy (Circular H144/2012). The policy recommends the implementation of legislated breastfeeding times to the extent of providing a maximum of 30 minutes twice a day for breastfeeding or expressing milk, up and until the child is 12 months of age. This policy is currently under review by the Department and there are plans to roll out a new policy to other government departments.

Furthermore, the Western Cape Household Food Security and Nutrition Strategy (2016) states in Section 5.1, Pillar One: Food assistance under programmes targeting children, Programme 4: Promoting breastfeeding and improved complementary feeding, that: "…the Western Cape Government will advocate for safer and more appropriate facilities for women in the workplace who are breastfeeding children up to the age of six months" (Department of the Premier, Western Cape, 2016, p. 26). In particular, support of these interventions will include:

- Advocacy for the establishment of breastfeeding-friendly workplaces, including day centres
- Establishment of an Infant and Young Child Feeding workgroup
- Finalisation of a policy on Human Milk Banking and
- Monitoring of the implementation of Regulation 991 in the Foodstuffs, Cosmetics and Disinfectant Act (54/1972), which provides regulations relating to foodstuffs for young children.

As a major employer, the WC government needs to set an example and make available opportunities to encourage these measures in the workplace as well as other spheres of government (Department of the Premier, Western Cape, 2016).

The Western Cape seems to be doing well on the health systems and services front. Within government, structures for breastfeeding support have been put in place, but outside of the public service environment, no formal structures for this cause exist apart from the NPO “La Leche League” and the activist group “Normalise Breastfeeding”.

According to Du Plessis and Pereira (2008) what is lacking in the Western Cape’s approach seems to be a broad-based and visible advocacy strategy aimed at families, communities and the workplace. Currently the focus is on communities and families but limited to advocacy weeks (e.g. Pregnancy week in February, Human Milk banking week in March, Breastfeeding week in August). There is a need for more continuous mass media and advocacy campaigns beyond the health calendar month activities, with a sharper focus on the workplace setting.

2.14 Summary

The literature indicates the benefits of breastfeeding span populations in rich and poor nations (Rollins et al., 2016). Improving breastfeeding practices would prevent an annual toll of 823 000 deaths among children under five years and 20 000 deaths of women as a result of breast cancer. Breastfeeding not only reduces morbidity in children, it also improves their educational potential and probably their earning potential as adults (Rollins et al., 2016). Yet despite these established benefits, breastfeeding is no longer a norm in many communities, including SA.

It is clear from the literature that a multi-layered approach is needed in various domains including the health system, the family and the community, and the workplace and employment, in order to increase EBF rates at a global and national level (Rollins et al., 2016). In SA and in the WC, as previously mentioned, many initiatives are currently being implemented, especially in the health system setting. The rate of EBF has however remained low at 32%. Workplace breastfeeding support interventions are lagging behind in SA, and with more women of childbearing age entering employment, an urgent focus on the workplace setting is required to improve the breastfeeding and EBF rates in the country. Little evidence is currently available about breastfeeding support practices within workplaces in the South African context.

This research aims to assess the current state of affairs in the Breede Valley sub-district, WC province, relating to breastfeeding support practices. It investigates the experiences of employees and employers, in order to establish the critical elements and aspects of a practice model to support breastfeeding in designated workplaces.

The chapters that follow will take the reader on a journey to the Breede Valley sub-district, WC province, to explore these questions.

CHAPTER 3: METHODOLOGY

3.1 Introduction

The research study was conducted in three phases (as shown in Figure 3.1) and the methodology for each phase is discussed in this chapter. The chapter comprises the following elements: the research question, the aim and objectives (these sections are repeated for ease of reading); research setting; overall study plan for phases one to three; and ethical and legal aspects.

3.2 Research question

What does a practice to support EBF in designated workplaces entail?

3.3 Aim

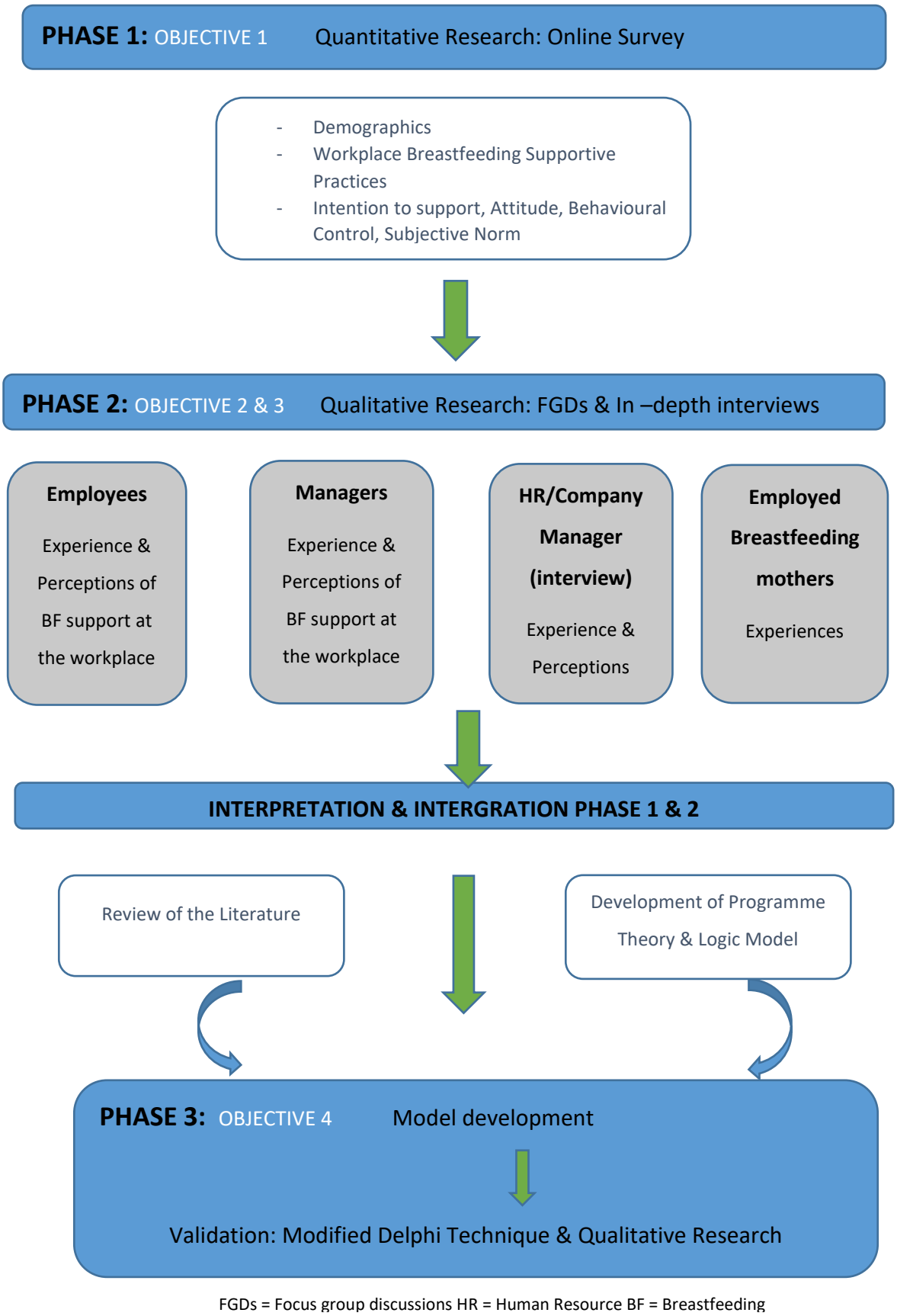
To develop a practice model to support EBF in designated workplaces.

3.4 Objectives

1. To assess current breastfeeding support practices in designated workplaces;
2. To explore employers' and employees' experiences and perceptions regarding breastfeeding support in the workplace;
3. To explore the experiences of employed mothers who exclusively or predominantly breastfed their children from birth for any period up to six months;
4. To develop and validate a practice model to support EBF in designated workplaces by drawing on the results of the research.

3.5 Conceptual framework of the research

The conceptual framework shown in Figure 3.1 illustrates how the research process addressed the research question and responded to the research objectives.

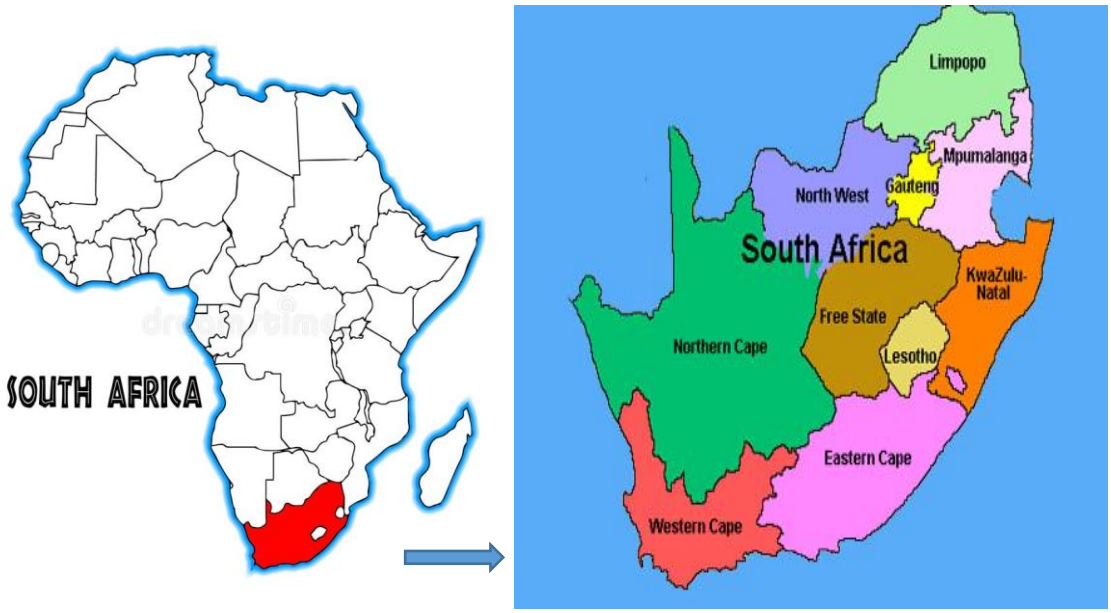


FGDs = Focus group discussions HR = Human Resource BF = Breastfeeding

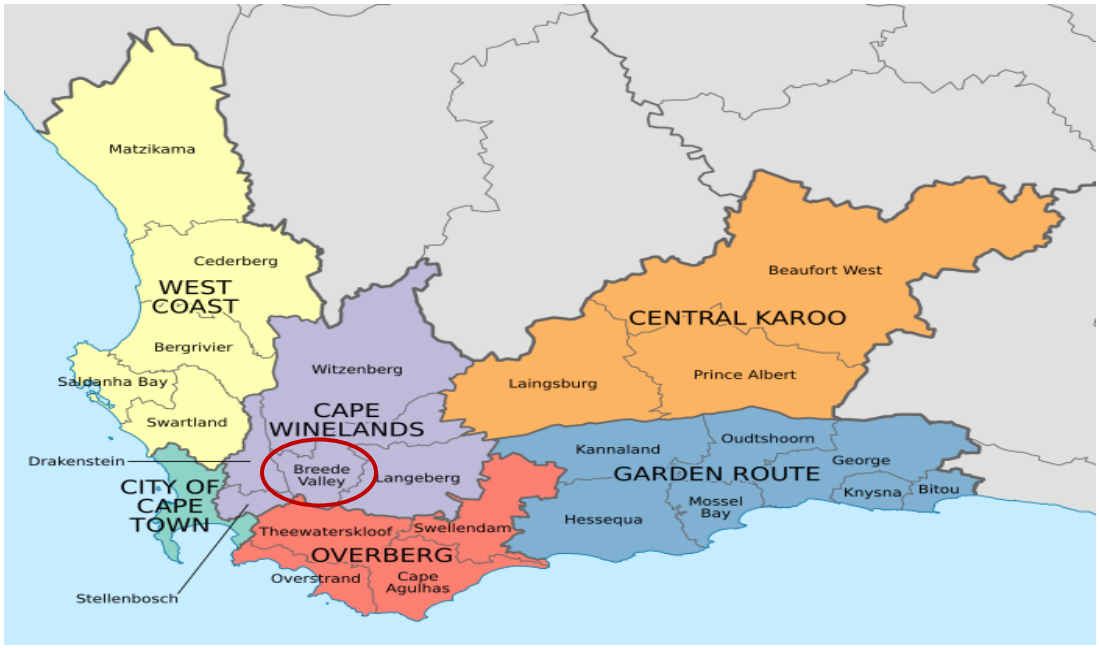
Figure 3.1: Conceptual framework of the research

3.6 Research Setting

The Western Cape consists of six districts: 1) City of Cape Town, 2) Cape Winelands, 3) West Coast, 4) Central Karoo, 5) Overberg and 6) Eden. The Cape Winelands district can be further divided into 5 sub-districts, namely Witzenberg, Drakenstein, Stellenbosch, Breede Valley and Langeberg (see Figure 3.2, below).



Source: (To South Africa, n.d.; Dreamstime, 2019)



Source: (Wikipedia, 2019)

Figure 3.2 Map of provinces in South Africa and the Western Cape Municipal districts and sub-districts.

The Breede Valley sub-district has a population size of 166 825 (Statistics South Africa, n.d.) and is the largest fruit and wine producing valley in the Western Cape province of South Africa (SA-Venues, 2019). Worcester is the capital of the Breede Valley sub-district, and was selected as the setting for the development and validation of the practice model for designated workplaces for the following reasons. The various workplaces present in the Worcester area represent linkages at several levels: local, regional, provincial (e.g. governments departments) as well as national (retail stores, e.g. Pick n Pay, and large commercial food companies, e.g. Rainbow Chickens). This setting was therefore ideal for the development of the practice model. Research conducted in Worcester in 2015 (Du Plessis, 2015) relating to stakeholder commitment and the capacity to address infant and young child nutrition, engaged with one of the stakeholder groups, namely the local Business Forum in the Breede Valley. This Forum represents more than one hundred businesses in the area, ranging from street vendors to large corporate companies. Du Plessis (2015) claimed that the local Business Forum in the Breede Valley held promise as a discussion forum for possible future research collaboration as well as knowledge sharing: “The engagement with the forum might lead to further research on workplace support for breastfeeding mothers” (Du Plessis, 2015).

3.7 Study Plan

3.7.1 Study domain

The study straddles the quantitative and qualitative domains. Quantitative methods focus on data capable of being measured and quantified. The methods can highlight trends across data sets and the findings can be generalised to a specific population. Qualitative methods, on the other hand, enable a deeper understanding of why people think, feel or act in a certain way, and this is accomplished through talking to the participants using focus groups or interviews.

3.7.2 Study design

An explanatory, sequential, mixed methods research design was employed, comprising a quantitative, descriptive, cross-sectional study with an analytical component (phase one), followed by a qualitative, multiple case study (phase two), succeeded by the model development and validation phase (phase three).

Mixed methods research is a rapidly expanding methodology in the social and human sciences around the world. Mixed methods is a research approach in which investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or programme of inquiry (Tashakkori & Creswell, 2007).

Mixed-methods research is increasingly recognised as valuable because it can potentially capitalise on the respective strengths of the quantitative and qualitative approaches as described above.

An explanatory sequential design involves first collecting quantitative data and then collecting qualitative data to help explain or elaborate on the quantitative results (Creswell & Plano Clark, 2007). This design was selected to gather multiple perspectives so as to arrive at a complete understanding of the research problem. The quantitative data analysis provided a general picture of the problem, and the qualitative data analysis elaborated on this, providing depth and nuance. The mixed-methods design embraces both positivism (stating the reality of the world) and constructivism (stating the meaning of the phenomenon), and epistemologically it includes both objective and subjective perspectives (Subedi, 2016).

An overview of the study design is presented in Figure 3.3, below.

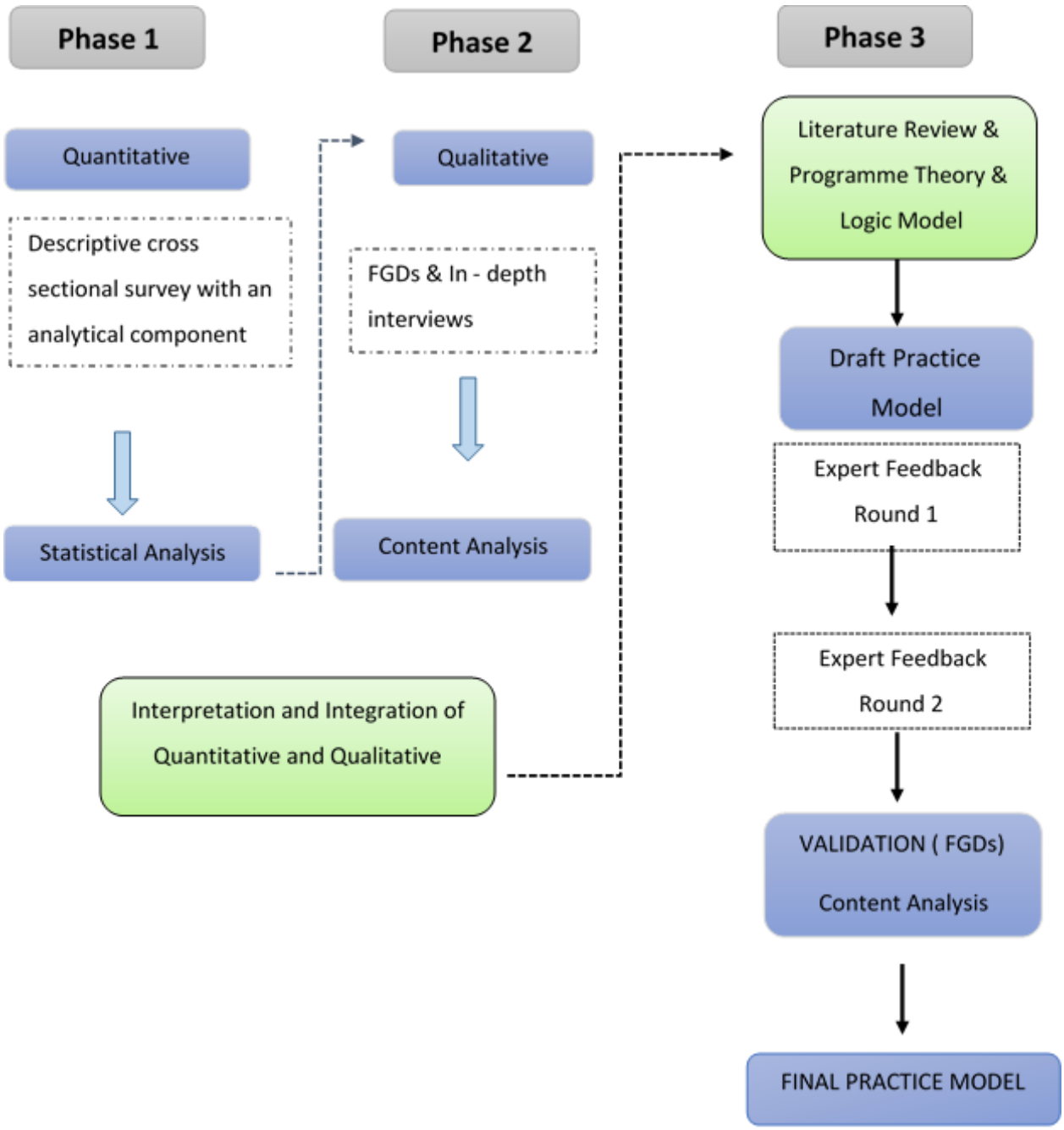


Figure 3.3 Mixed-Methods Research Design

The methodology for each phase is discussed separately.

3.8 Phase 1: Baseline analysis of the workplace breastfeeding support practices of designated workplaces in the Breede Valley sub-district

3.8.1 Rationale for quantitative approach

A quantitative descriptive cross-sectional study with an analytical approach was used to assemble a general picture in response to the first objective. Quantitative approaches are quicker and more cost effective to execute, although the response rate of online surveys is known to be low (at +/- 32 %) (Lindemann, n.d.).

3.8.2 Study population and participants

The study population included private and public designated workplaces in the Breede Valley sub–district. Designated workplaces are businesses or institutions with more than 50 employees (Republic of South Africa, 1998). Designated workplaces were selected as the literature indicates that larger employers are more likely to provide flexible work options and day care facilities, and employ written breastfeeding policies (Dunn, Zavela, Cline & Cost, 2004). Workplaces were selected from three categories, namely:

- Private sector: producers (farmers), manufacturers and distributors
- Private sector: traders (retail shops)
- Public sector.

The study participants were mainly the Human Resources managers (HRMs) and/or the company manager (Director, Chief Executive Officer, senior managers) at workplaces in these three categories. HRMs and/or company managers were selected on the ground that they would be able to provide information on company policies as well as report on any barriers (experienced or foreseen) or enablers within their setting. They are also the individuals who have the power to influence the workplace environment and policies. In addition, by exploring their attitudes, intentions, beliefs and perceptions, pertinent underlying issues can be uncovered.

3.8.3 Sample selection

A list was compiled indicating the names of all the designated workplaces in each of the three categories. Various sources were utilized to compile the list, e.g. the Worcester business forum administrative officer, Department of Health websites and HRM officers. The sampling of the baseline survey included all designated workplaces indicated on the list.

3.8.4 Sample size

Thirty-eight designated workplaces were confirmed on the list compiled. See addendum A.

3.8.4.1 Inclusion

- Designated workplaces in the Breede Valley sub–district that employ more than 50 employees.
- Managers who consented to participate in the online survey.

3.8.5 Methods of data collection

3.8.5.1 Research Process

The designated workplaces on the complied list were all contacted telephonically to obtain the contact details of the HRMs and/or company managers. Permission to conduct the online survey with the HRMs from the public-sector workplaces was obtained from the relevant departmental ethics committees.

3.8.5.2 Online Survey

The online survey was developed by the researcher, based to a large extent on the Employer Support for Breastfeeding questionnaire (ESBQ) (Addendum B). No adaptions were made to the ESBQ. The ESBQ questionnaire has 41 items with eight subscales measuring employers' attitudes, subjective norms, perceived behavioural control, and intention to support breastfeeding (Rojjanasrirat, Wambach, Sousa & Gajewski, 2010). The ESBQ was developed on the basis of the theories of planned behavior (TPB) and reasoned action (TRA) (Rojjanasrirat et al., 2010), and from an extensive review of the literature. The construct validity and reliability of the ESBQ was established, as a tool to assess policy changes for encouraging and promoting breastfeeding among working mothers (Rojjanasrirat et al., 2010).

Permission to use the ESBQ was obtained from the developer of the questionnaire (Addendum C). The SurveyMonkey software programme was used to conduct the online survey, which was in English as it was expected that most managers would be able to read and understand English. Additional items added to the survey questionnaire related to information on the participants demographics and the occurrence of time support (e.g. maternity leave, breastfeeding breaks, paternity leave etc) and structural support practices and/interventions (e.g. space, breastfeeding policy, onsite/nearby creche facility, occupational health programmes) at work. Also, awareness of the Code of Good Practice, barriers and challenges to providing space and time and what support they require to accommodate breastfeeding in the workplace.

The online survey had the following sections:

Screening Section: To determine that the participant was from a designated workplace in the Breede Valley sub-district. If the participant responded "no" to any of the two screening questions, the survey was ended and a "thank you" message was given.

Section 1: Demographic information about the participants was requested, e.g. gender, age, position, employer type, relationship status, own children, grandchildren, data on the number of women employed at companies in their reproductive years, data on the average number of women within a year-long period on maternity leave.

Section 2: Baseline data, including information about aspects of breastfeeding support interventions (e.g. maternity leave benefits, workplace policies, occupational programmes, nearby or onsite crèche facility).

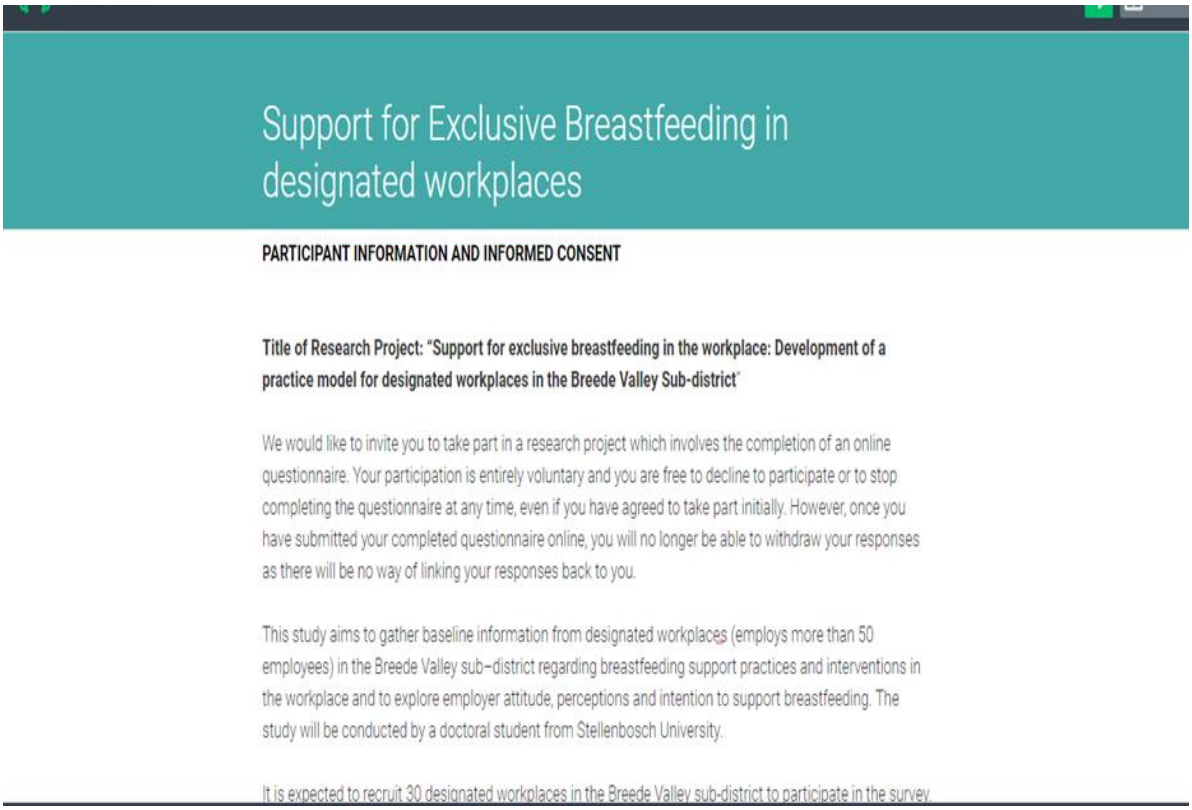
Section 3: Perceptions and attitudes, divided into six sections as in the ESBQ, numbered A to F.

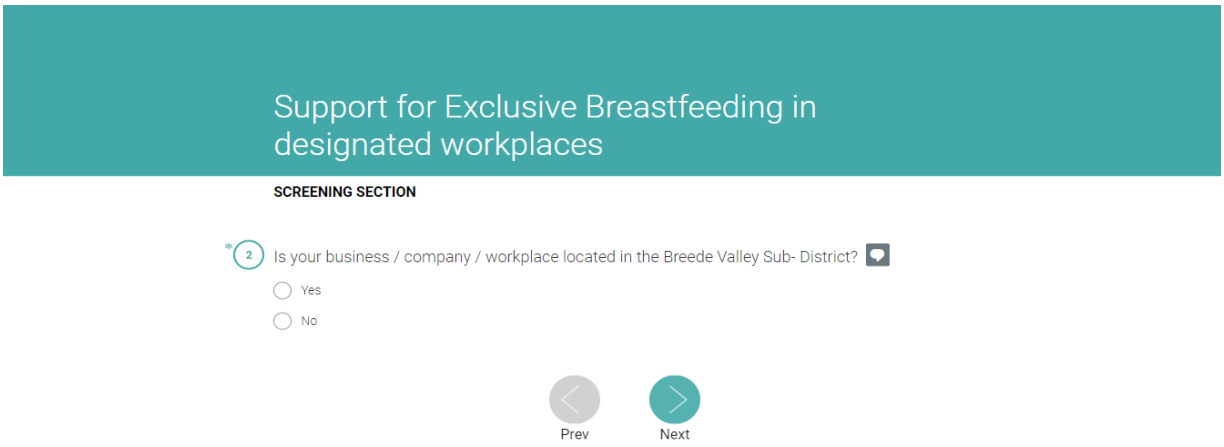
- Section A: Intention to provide support to breastfeeding working mothers (one item to answer)
- Section B: Other people's influences in providing support. Overall subjective norm (one direct item to answer)
- Section C: Social influences (specific other people) in providing support (eight items; four normative belief items and four motivation to comply items)
- Section D: Direct attitude: feelings about providing support to breastfeeding working mothers (five items)
- Section E: Personal belief about providing support to breastfeeding working mothers (18 items)
- Section F: Control over providing support to breastfeeding mothers (eight items)

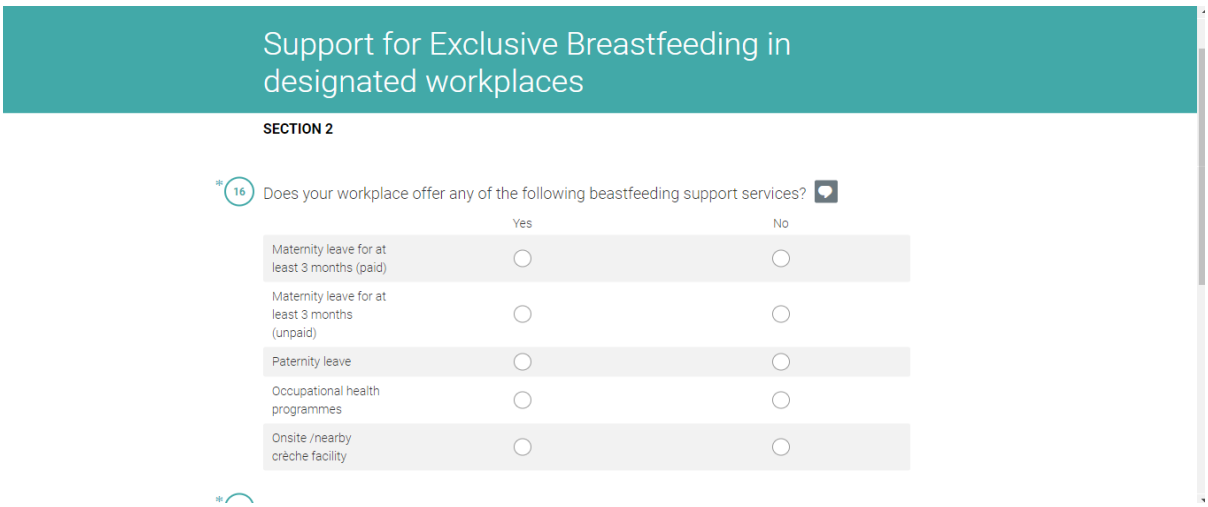
The survey link was sent via email to all the HRMs on the list compiled. The e-mail included a motivation regarding why the survey was of importance and the anticipated value of the participants' input. Participants initially had access to the survey for six weeks, but this was extended as a very low rate of response had been achieved by the end of the period. Reminder emails (Addendum D) were sent at two-week intervals to the participants to encourage participation. As the reminder emails did not improve the response, follow up phone calls as well as physical contact was made with selected workplaces. Hard copies of the online survey were provided to some workplaces. Two surveys were completed in hard copy and were manually entered in the

SurveyMonkey programme by the researcher. The survey was closed after another seven weeks. Screenshot of parts of the SurveyMonkey online survey are reproduced below.

Image: Screenshots of the SurveyMonkey online survey






Support for Exclusive Breastfeeding in designated workplaces

SECTION 2

16 Does your workplace offer any of the following beastfeeding support services?

	Yes	No
Maternity leave for at least 3 months (paid)		
Maternity leave for at least 3 months (unpaid)		
Paternity leave		
Occupational health programmes		
Onsite /nearby crèche facility		

3.8.6 Pilot study

A pilot study was conducted with HRMs of two designated workplaces to test the efficacy of the online survey. Changes were made to the wording of some of the survey questions after the pilot study, and some further clarifying material was added.

3.8.7 Validity

Validity refers to the extent to which a measure actually measures what it is meant to measure. Content validity requires that the measure account for all the elements of the variable or concept under investigation (Katzenellenbogen et al., 1997).

Prior to the commencement of the pilot study, the online questionnaire was circulated to two experts, one in infant and young child nutrition and one in the field of human resources, in order to test content validity. The following changes were made to the online questionnaire after feedback was received from the content reviewers:

- Changes to grammar and spelling
- Addition of questions on the participants' knowledge of the Code of Good Practice on the protection of employees during pregnancy and after the birth of the child
- Inclusion of follow-up questions on when and how well the policy is implemented
- Addition of the "widowed" category next to "divorced"
- Inclusion of questions on paternity leave
- Inclusion of a question on the Western Cape Department of Health Breastfeeding Policy.

Face validity refers to the extent to which the measure or question makes sense (Katzenellenbogen et al., 1997). Questions on the face validity of the online questionnaire (language, format, layout,

procedure, understanding) were answered by the participants involved in the pilot study. See Addendum E.

3.8.8 Reliability

The reliability of the SurveyMonkey application was improved through testing and retesting the survey prior to the pilot study. The fixed format of the online survey also assisted in improving the reliability of the data.

3.8.9 Data storage

Data was exported from the SurveyMonkey database into a password-protected Excel document at the end of the six-week period and again at the end of the data collection period. A back-up of the Excel document was stored at a separate location in a locked cabinet. Data on the SurveyMonkey database is password protected and not device specific. If a device is stolen, for example, the database can be accessed using another device (by providing the login and password details).

3.9 Phase 2: Exploring breastfeeding support in the workplace from the perspective of the employer and employees of designated workplaces in the Breede Valley sub-district

3.9.1 Rationale for qualitative approach

A qualitative approach provided depth and richness to the baseline information by exploring the topic in more detail. The strength of the focus group is that it offers an efficient way of obtaining information and several individual viewpoints at once.

3.9.2 Study population and participants

The study sample included four categories:

- HRMs and/or company managers (director, Chief Executive Officer, senior managers) at the three workplace categories (retail, public, manufacturer/distributor)
- Middle managers from the three workplace categories (retail, public, manufacturer/ distributor)
- Employees (full or part time) employed at the selected workplaces for more than three months
- Employed mothers from designated workplaces who exclusively/predominantly breastfed their infants from birth for any period up to six months.

3.9.2.1 Inclusion criteria

- Employers (HRMs, company and senior managers) and employees who gave consent to participate in the study
- Male and female middle managers and employees
- Managers who can converse in English, Afrikaans or isiXhosa
- Public and private designated employers
- Full- or part-time employees, working more than three months at the selected workplace
- Employed mothers who exclusively or predominantly breastfed from birth for any period up to six months and had their babies within the last 24 months.

3.9.2.2 Exclusion criteria

- Employers who employ fewer than 50 employees (small workplaces)
- Full- or part time-employees who had worked for less than three months at the selected workplace.

3.9.3 Sample selection

A total of nine workplaces were purposively selected (three workplaces in each of the three workplace categories). At each of these nine workplaces, at least one in-depth interview was conducted with the company manager and/or HRM, one focus group discussion (FGD) was conducted with employees consisting of six to eight participants, and within each of the three workplace categories one FGD was conducted with managers. See Figure 3.4 for the intended sampling technique of the qualitative phase of the study.

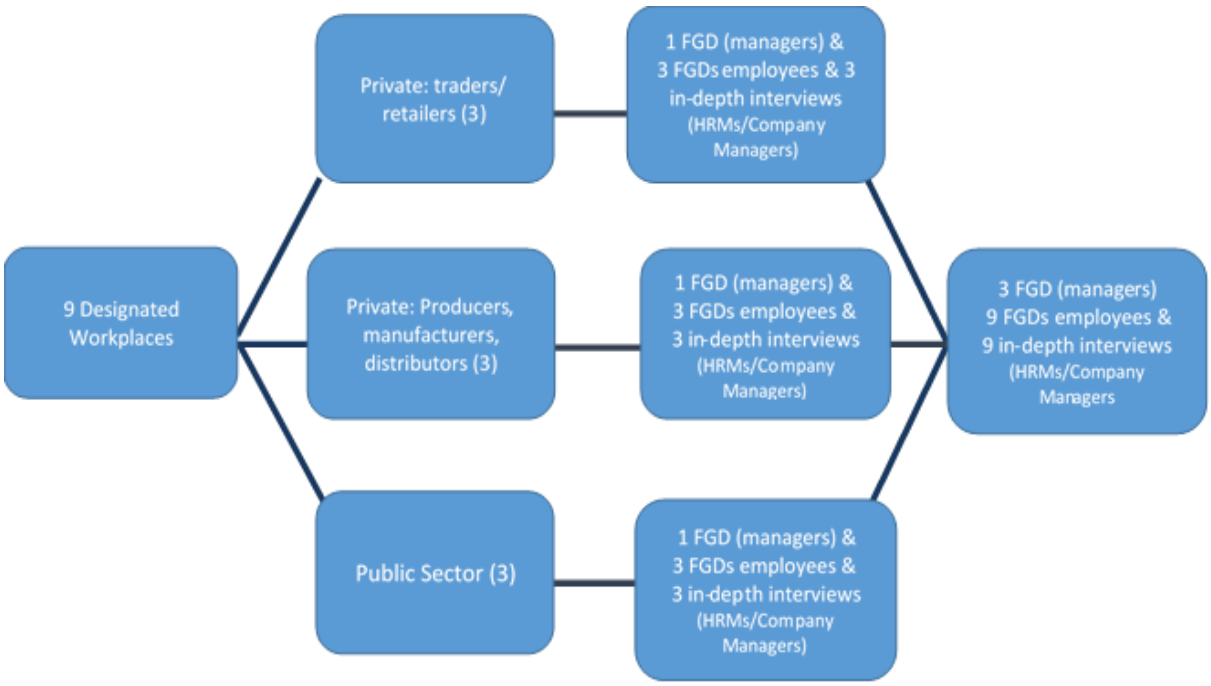


Figure 3.4: Intended sampling technique /process for qualitative phase

3.9.4 Sample size

Sample size was determined by data saturation. Grady (1998) described data saturation as the point at which "new data tend to be redundant of data already collected. In interviews, when the researcher begins to hear the same comments again and again, data saturation is being reached…. It is then time to stop collecting information and to start analysing what has been collected" (Grady, 1998).

A total of eight in-depth interviews, seven employee FGDs, instead of the intended nine and three middle manager FGDs were conducted. Data saturation of the employee FGD was achieved by the fifth focus group and achieved by the sixth HRM /company manager's in-depth interview. A total sample size of 51 employees, 12 middle managers, 24 employed breastfeeding mothers and eight HRMs/company managers was achieved.

3.9.5 Methods of data collection

3.9.5.1 Standardization of research team

A trained research assistant and/or fieldworker assisted during the FGDs and, if necessary, during the in-depth interviews. The research assistant was a qualified dietitian and postgraduate student. The fieldworker was a local community member from Worcester Avian Park, with experience in qualitative research methods. During the training session the aim and objectives of the study were discussed, an overview of qualitative research and conducting FGDs was provided and the roles of

research assistant/fieldworker described. The fieldworker mainly assisted with the recruitment of employed breastfeeding women and their FGDs.

3.9.5.2 Research Process

Nine purposively selected workplaces were approached to gain approval and permission from the company chief executive officer (CEO) or workplace director to conduct the study (Addendum F). Once approval was granted, the researcher proceeded to contact the managers to arrange the in-depth interview as well as a suitable date, venue and time for the FGDs. Advertisements (Addendum G) were emailed to the identified contact person at each workplace to assist with the recruitment of participants for the FGDs. If any of the selected workplaces declined participation, another workplace was selected from the list compiled. As the strategy to support, protect and promote breastfeeding is an initiative of the Department of Health (DOH), the researcher selected one workplace under the auspices of DOH, namely the Cape Winelands DOH district office. Two other public-sector workplaces were selected, the offices of the regional Department of Education (DOE) and Department of Social Development (DSD).

The FGDs and in-depth interviews were conducted in a quiet environment. All employee FGDs and in-depth interviews with HRMs /company managers were conducted at the relevant workplace. During the FGD, the research assistant took field notes and recorded any non-verbal gestures made by the participants.

Community advertisements, posters (Addendum H) and the fieldworker assisted in recruiting employed mothers from designated workplaces who had exclusively or predominantly breastfed from birth for any period up to six months. The researcher also helped recruit mothers who met the inclusion criteria. Mothers who met the inclusion criteria and who were willing to participate placed their contact details on a list provided to the fieldworker (Addendum I). The fieldworker assisted with gathering the mothers together on the day of data collection and with the conduct of their FGDs.

3.9.5.3 Focus group guides

Three FGD guides for the employees, managers and employed breastfeeding mothers (Addenda J - L) were developed for phase two of the study. The FGD guide directed the process and included a few introductory questions and probes to use during the FGDs. It was developed by the researcher and based on existing literature (Chow, Smithey Fulmer & Olson, 2011). During the FGDs, participants could express their views freely and the researcher managed the group dynamic so as to foster an open and non-judgmental atmosphere.

One in-depth interview discussion guide for the human resource manager/senior manager (Addendum M) was developed by the researcher. The aim of the in-depth interview discussion guide was to assist with the process. It included introductory questions as well as probes to use during the interview.

3.9.6 Pilot study

A pilot FGD with employees and a pilot in-depth interview with a manager were conducted two weeks prior to the first data collection and a week prior to the commencement of the employed breastfeeding mother FGDs. The pilot study was conducted so that the research team could familiarize themselves with the general procedure to be followed on the day, the flow of the discussion, and to discuss and reflect on any problems or issues that arose in order to improve on the procedure and discussion.

The following changes were made to the discussion guides following the pilot employees' FGD and in-depth interview:

- Included general question on paternity leave benefits
- Changed the phrasing of some questions.

No changes were made to the employed breastfeeding mothers' discussion guide.

3.9.7 Reducing bias in qualitative research

In order to reduce bias, the researcher prepared in advance for each data-collection encounter whilst remaining mindful of her role as a dietitian.

Participants seemed to enjoy the FGDs and participated enthusiastically. The initial nervousness and apprehension of the researcher soon disappeared after the start of the first FGD and in-depth interview. Debriefing discussions were held with the research assistant and fieldworker after each FGD to discuss any issues that arose. The researcher also reflected after each discussion by making notes of any initial impressions and the effectiveness of the techniques used.

To enhance credibility, different methods of data collection (FGDs and in-depth interviews) and different sites were used. There was extended engagement with the nine participating workplaces during the qualitative phase as well as during the validation phase. The researcher obtained and examined any documents that were referred to during the FGDs and in-depth interviews to verify the information provided. Frequent sessions were held between the researcher and the promoters to discuss alternative approaches or suggestions for improvement. The independent status of the researcher was emphasized during each FGD, which appeared to encourage free expression without

anyone's losing credibility in the workplace. To ensure honesty, participants had the opportunity to refuse participation, were informed about their right to withdraw from the study, and were encouraged to be frank with the researcher.

To ensure dependability and confirmability, in-depth methodological descriptions of the study are reported in this chapter. This will enable the study to be repeated and the research results to be scrutinized. To ensure confirmability and to reduce the effect of researcher bias, different research methods were employed (quantitative and qualitative) and shortcomings or weaknesses detected in techniques and methods are reported on. To ensure transferability and allow for comparisons, a detailed description of the context, methods and results is provided (Shenton, 2004).

The researcher successfully completed a qualitative research methods short course in 2015 and the Atlas ti course in 2017. After the interviews and FGDs had been transcribed, the researcher performed quality control to ensure that the data had been captured accurately by listening to the recordings while reading the transcripts.

Personal declaration:

The researcher is a female academic and a qualified dietitian with a key interest in infant and young child nutrition. She is an advocate of breastfeeding because she believes in its importance. The researcher therefore acknowledges that her own experience as a dietitian and advocate of breastfeeding, and her own experience as a breastfeeding mother, may to some extent bias her viewpoint on the research topic. To minimize this potential bias, the researcher took a neutral stance during the FGDs and interviews and avoided implying that there was a right or wrong answer.

3.9.8 Data storage

All signed consent and demographic forms were stored in the researcher's office in a locked cabinet (where they will remain for a period of up to five years). All audio recordings and transcripts were saved on the researcher's password-protected computer, with a backup on Drop Box and on an external hard drive. The audio recordings will be destroyed after completion of the research.

3.10 Phase 3: Model development and validation

3.10.1 Rationale for the approach

To inform the development of the model in phase three of the study, a mixed-methods approach was adopted, consisting of two distinct phases, quantitative followed by qualitative. The advantages of mixed methods include straightforwardness and opportunities for the exploration of the quantitative results

in more detail. The limitations of the design are the extra time that it takes to execute and the additional resources required to collect and analyse both types of data (Ivankova, Creswell & Stick, 2006).

The researcher prioritized the two approaches equally. The quantitative and qualitative phases were connected through the selection of workplaces for the qualitative phase from the list of workplaces compiled for the quantitative phase. The qualitative phase elaborated on the findings of the HRMs survey by, first, including the perspectives of different categories of individuals to identify any similarities or discrepancies in their views. Secondly, the interview and focus group discussion guide for the qualitative phase further elaborated on the following: outcomes (positive and negative) of the provision of breastfeeding support, factors influencing support, experiences of receiving requests for breastfeeding support, challenges encountered and support needed. Thirdly, the results from the quantitative and qualitative phases were integrated during the interpretation of the outcomes of the study, in order to inform the development of the practice model. In the overall discussion chapter of this thesis, the researcher reflects on both quantitative and qualitative published articles on the topic.

3.10.2 Methods of developing the practice model

The researcher employed a methodology combining programme logic and programme theory, drawing on the literature and findings from the FGDs and interviews to draft the practice model.

The findings of phases one and two were interpreted and the main issues arising from each phase were highlighted for inclusion in the model. The researcher conducted a review of all the evidence. Programme theory and programme logic models were then used as a framework for the development of the practice model.

The researcher conducted a critical review of the literature in the field of breastfeeding support interventions and breastfeeding outcomes. Programme theory has been described as a theory of change or action in respect of a programme, in which causal linkages among the various components of a programme are articulated. Step one was to think through the outcomes the researcher would like to achieve through the programme by reflecting on some of the following questions (Wilder Research, 2009):

- In what ways would you like the lives of participants to be different/improved after receiving the service/activities? How will you know if you have accomplished your goals? How will participants' knowledge, attitudes, feelings or behaviour be different?
- In what ways would you like the workplace to be different/improved as a result of your programme activities? How will you know if you have accomplished your goals? How will the workplace be different?

By reflecting on the above questions, the practice model goal was determined. The next step was to develop the theory of the programme, which involved the researcher's answering three questions for each selected activity (Wilder Research, 2009):

- If the activity is provided, then what – realistically – should be the result for participants?
- Why do you believe the activity will lead to this result? (In other words, what is your assumption about how this kind of change occurs? Are you drawing from an established theory used by others?)
- What evidence do you have that the activity will lead to this result (such as previous results from your own or other programmes, published research, or consistent feedback from participants)?
- Repeat the same three questions for each activity or service provided.

To answer the above questions, the researcher conducted a critical review of the literature in the field of breastfeeding support interventions and breastfeeding outcomes. A table showing the programme theory development and a table showing a summary of relevant reviewed articles can be found in Chapter Seven of this thesis. Revisiting the literature enabled the researcher to explain underlying linkages and identify the change mechanism along the casual pathway that would lead to improved breastfeeding duration and EBF rates among employees. The programme theory that was developed informed the researcher's preliminary thinking about the programme logic model.

The use of programme logic models began in the 1970s (Knowlton & Phillips, 2013). The W. K. Kellogg Foundation was instrumental in spreading the use of logic models with its *Logic model development guide* (2001) (W. K. Kellogg Foundation, 2004). Some logic models focus purely on the logic and sequence of programme components, while others focus on the theory underpinning the programme. Programme logic is often used to identify and describe the way in which a programme fits together, usually in a simple sequence of inputs, activities, outputs and outcomes. Programme theory goes a step further and attempts to build an explanatory account of how the programme works, with whom, and under what circumstances. Thus, programme theory might be seen as an elaborated programme logic model, where the emphasis is on causal explanation using the notion of "mechanisms" at work (Knowlton & Phillips, 2013).

The primary elements for each strand of a programme logic model are resources, planned activities, output, outcomes and impact. Resources or inputs are what is needed to ensure the programme can operate. Activities are the tactical actions (e.g. events, services, publications) that occur to fulfil the promise of each strategy. Together, activities make up the programme design. Outputs are

descriptive indicators of what the specific activities generate. Outcomes are changes in awareness, knowledge, skill or behaviour. The impact reflects changes that occur over a longer period (Knowlton & Phillips, 2013).

Programme logic models are operational, offering a detailed map that can be implemented when supplemented with work plans. The steps utilized by the researcher to draft the practice model were as follows (Knowlton & Phillips, 2013):

1. Identify the results that one or more strategies will ultimately generate.
2. Describe the stepwise series of outcomes (or changes) that will show progress toward impact.
3. Name all the activities needed to generate the outcomes (for each strategy).
4. Define the resources/inputs that link directly to and will "supply" the activities.
5. Identify the outputs that reflect the accomplishment of activities.

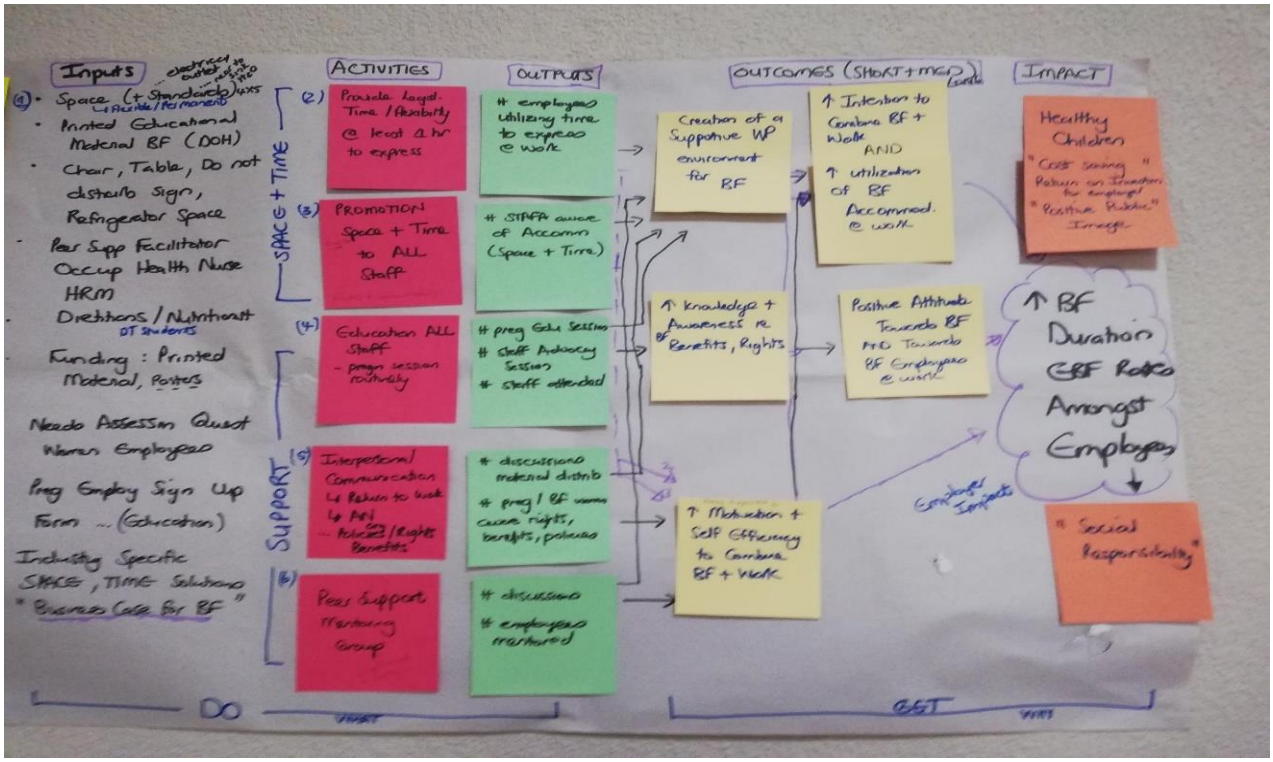
The process unfolded as follows: the researcher made use of sticky notes or pieces of paper when drafting the programme logic model. She reviewed and clarified the links between activities and outcomes, as identified in the programme theory. She started the process of brainstorming the outcomes that needed to occur to secure the desired results. Following this, the outcomes were organized into short-term, intermediate and long-term categories. One short-term outcome was selected, and the researcher then determined what activity was essential to that outcome. Next, she organized the activities in relation to a single or multiple strategy. For the given strategies and their activities, the resources required were listed. From the activities the researcher worked out what outputs were possible and organized these elements as one model (Knowlton & Phillips, 2013). After this process was completed the researcher reviewed and revised the constructed draft model several times, to ensure the connections and linkages were portrayed correctly.

The following changes and additions were made during the reviewing process:

- Elements of time, space and support were incorporated alongside the activities of the design
- Increased intention to combine breastfeeding and work were included as an outcome with the increased utilization of breastfeeding accommodation at work
- Self-efficacy was added to the wording of the motivation, and belief in her ability as a short-term outcome

- The linkage between motivation, self-efficacy and intention to combine breastfeeding and work was added
- The original impact, “increased breastfeeding duration and exclusivity rated amongst employees,” was changed to a long-term outcome and the impact elements of healthy children, a positive public image and cost saving were added
- The linkage from providing time as legislated and promotion of time and space, to the increased motivation and self-efficacy to combine breastfeeding and work outcome, was included
- The linkage from self-efficacy to the behaviour “increased breastfeeding duration and exclusive breastfeeding rates amongst employees” was included as developed in the programme theory
- Do/what and get /why was added to the design.

Image: Drafting of programme logic model



The programme logic model acted as a tool to guide the design of the programme and development of the practice model. The W. K. Kellogg Foundation *Logic model development guide* (W. K. Kellogg Foundation, 2004) and the *Logic model guidebook* (Knowlton & Phillips, 2013) were used by the researcher to guide the process.

3.10.3 Experts and Delphi Technique

The developed practice model was sent for input to experts in the field of breastfeeding and infant feeding, human resource management and organizational and/or behaviour specialists (e.g. UNICEF local office representative, a South Africa National Department of Health national and/or provincial representative, a Western Cape La Leche League representative, organization and behaviour specialist, human resource managers). This method is known as the Delphi technique. Please see Addendum N for a list indicating which sectors the expert reviewers represent.

The Delphi technique is a widely used and accepted method for gathering data from respondents within their domain of expertise. The technique is designed as a group communication process aimed at achieving a convergence of opinion on a specific real-world issue. The Delphi technique is a method for consensus-building that uses a series of questionnaires delivered using multiple iterations to collect data from a panel of selected subjects (Hsu & Sandford, 2007).

The following steps were followed in the course of the modified Delphi technique:

- An email was sent to the expert panellist to ask for their participation and to obtain informed consent
- The expert panel was provided with a questionnaire to complete, together with background information about the study
- After receiving feedback each participant's responses were allocated a number
- The feedback and responses from the first round were analysed and the developed practice model was reformulated as necessary for the second round of responses.
- The researcher kept a clear record of all decisions made during the Delphi process.
- After the second round of feedback the practice model was adapted, according to the consensus of the expert panel members.

3.10.4 Focus group discussion and in-depth interviews for the developed practice model

The model was refined via a series of discussions and interviews conducted with the workplaces participating in phase two. The aim was to test the practice model with the potential end-users. The researcher developed a discussion guide for the FGDs and interviews. Four FGDs were held to provide the participating workplaces the opportunity to provide input and feedback regarding modifications to the model, as well as views on what would work well and any potential problems

with the practice model they could foresee. After concluding all of the participating workplace FGDs and interviews, the practice model was finalized.

3.11 Ethics and Legal Aspects

3.11.1 Permission and Approval

Ethics approval (Ethics approval number: S17/04/089) was obtained from the Health Research Ethics Committee, Stellenbosch University (Addendum O). Permission to conduct the qualitative study at the nine selected workplaces were sought from the company CEO or relevant manager, or from the three selected public workplaces, namely the Western Cape Provincial Department of Health, Strategy and Health Support Directorate (Reference: WC_2017/RP24_516), the Department of Education Research Directorate (Reference 20170706-2726) and the Department of Social Development Research, Population and Knowledge Management Directorate (Reference 12/1/2/4) (refer to addenda P – R).

3.11.2 Language

The predominant languages in the Breede Valley sub-district are Afrikaans, English, and isiXhosa. Most residents speak and understand at least one of these languages. The online survey used in phase one of the study was only available in English, since it was expected that managers would be able to read and understand English.

For phases two and three, participants were given the option to take part in an FGD conducted in Afrikaans, English or isiXhosa. Participants opted for Afrikaans and English and therefore all FGDs were conducted in either English or Afrikaans. The researcher is bilingual and fluent in Afrikaans and English and conducted all the interviews and FGDs in one of these two languages, as preferred by the group or interviewee. There was therefore no need for an isiXhosa FGD interpreter.

3.11.3 Informed Consent

Participation in the study was voluntary. The informed consent process is explained for each phase in the following sub-sections.

3.11.3.1 Phase 1:

Informed consent was obtained at the start of the online survey. The section for consent provided information regarding the purpose of the study and the right of the participant to withdraw from the survey at any stage. A link was provided where a copy of the online survey participant information leaflet and consent form (Addendum S) could be accessed. The participants were asked

to accept or decline participation in the survey. Once the participant accepted, they could proceed with the online survey.

3.11.3.2 Phases 2 and 3:

For the in-depth interviews and FGDs, written informed consent was obtained from all participants, with separate written consent to the recording of the interviews. The consent forms (Addenda T - V) were explained and signed and the reason for recording was explained.

3.11.4 Participant Confidentiality and Anonymity

3.11.4.1 Phase 1:

The survey information was treated confidentially and was completed anonymously. Each participant was allocated a unique identifier code.

3.11.4.2 Phases 2 and 3:

Confidentiality was discussed at the beginning of each FGD and in-depth interview. Participants were also asked to keep all discussions confidential. The Delphi expert panellists were blind copied in all email communications and each participant was assigned a unique code to keep the process anonymous. All participants' details were stored separately from the audio recordings.

3.11.5 Compensation for time and travel

3.11.5.1 Phases 2 and 3:

Refreshments, such as tea, coffee and muffins were served at all FGDs, during comfort breaks, in order to prevent fatigue. The participants in the FGDs all received a parcel consisting of healthy snacks (e.g. fresh/dried fruits and yoghurt) as a token of the researcher's appreciation for their participating in the study.

Participants from the exclusively/predominantly breastfed group were compensated for their travel and for their time with a R150 food gift card. All participants were required to sign for the receipt of the food gift card. See Addendum Y. As these FGDs were not held at the participants' employment place and during their working hours, but at a central venue, a financially compensatory incentive was provided to them for their time and motivation in attending the FGDs over weekends or after hours. The financial incentive was deemed effective in encouraging participation of this category of participants.

3.12 Financial Disclosure

Funding for this study was received from the following sources:

- National Research Fund Thuthuka Funding 2018 – 2020
- Early Research Career Funding, Stellenbosch University (2015 – 2017)
- Stellenbosch University HOPE Project.

CHAPTER 4: WORKPLACE BASELINE ANALYSIS OF THE BREASTFEEDING SUPPORT PRACTICES OF DESIGNATED WORKPLACES IN THE BREEDE VALLEY SUB-DISTRICT

In article form, this chapter was accepted for publication in March 2020 by the *South African Journal of Child Health*.

4.1 Introduction

Globally, only 37% of infants are exclusively breastfed (Victora et al., 2016). In SA the EBF rate for infants under the age of six months is reported to be approximately 32% (Statistics South Africa, 2017). The WHA is aiming to increase the rate of EBF in the first six months of life to at least 50% by 2025 (World Health Organization, 2014). For a mother to reach the WHO recommendation of six months' EBF, she needs a supportive environment at home, at work and in her community that protects and promotes breastfeeding. Working mothers often find it challenging to continue breastfeeding whilst in employment, especially if workplace support is absent. If women are not supported, they may decide to wean their children entirely and turn to formula when returning to work. There is therefore a need for extended support for mothers in the workplace to enable them to sustain their breastfeeding practices.

The objective of this study was to assess the breastfeeding support practices in designated workplaces in the town Worcester, situated in the Breede Valley sub–district.

4.2 Methods

The setting for the study was the Breede Valley sub-district of the Western Cape Province, South Africa. The Western Cape is divided into six districts: 1) City of Cape Town, 2) Cape Winelands, 3) West Coast, 4) Central Karoo, 5) Overberg and 6) Eden. The Cape Winelands district is sub-divided into five sub-districts, namely Witzenberg, Drakenstein, Stellenbosch, Breede Valley and Langeberg ("Health and health services in the Western Cape: Key issues," n.d.).

Worcester is the main town in the Breede Valley sub-district and was selected as the setting for the development and validation of the practice model for designated workplaces. Workplaces present in this sub-district have linkages at various levels, local, regional, provincial (e.g. government departments) and national (retail stores like Pick n Pay and large commercial food companies such as Rainbow Chickens). This setting was therefore ideal for the development of the practice model. A recommendation from a Worcester study conducted on stakeholder commitment and capacity to address infant and young child nutrition mentioned that the local Business Forum in the Breede Valley holds promise as a host for possible future research collaboration (Du Plessis, 2015).

The study population included both private and public designated workplaces in the Breede Valley sub–district. Designated workplaces are businesses with more than 50 employees (Republic of South Africa, 1998). Workplaces were selected from three categories:

- Private designated business sector including producers (farmers), manufacturers and distributors
- Private designated business sector including traders (retail shops)
- Public sector

The researcher compiled a list of all the designated workplaces in the Breede Valley sub-district. All the workplaces were contacted telephonically to verify that they were indeed designated workplaces, and to obtain the contact details of the HRMs. A total of 38 designated workplaces was included in the sample (Addendum A). An online survey was conducted during September and November 2017 with HRMs and/or the company managers (Director, Chief Executive Officer) of the various designated workplaces. HRMs and/or company managers were selected as they were deemed to be in a position to provide information about company policies as well as report on any barriers or enablers experienced or foreseen within their setting. They are also the individuals who can potentially influence the workplace environment and policies.

The questionnaire (Addendum B) for the online survey was developed by the researcher but based largely on the Employer Support for Breastfeeding questionnaire (ESBQ) (Rojjanasrirat et al., 2010). The ESBQ consisted of 41 items with eight subscales measuring employers' attitudes, subjective norms, perceived behavioural control, and intention to support breastfeeding. The ESBQ was developed based on the theory of planned behaviour (TPB) and theory of reasoned action (TRA) (Ajzen, 1991). The construct validity and reliability of the ESBQ were established so that it could serve as a tool to assess policy changes for encouraging and promoting breastfeeding among working mothers (Rojjanasrirat et al., 2010). Permission to use the ESBQ was obtained from the developer (Addendum C). No changes were made to the ESBQ. Additional baseline data was collected included aspects of participants demographics and breastfeeding time and structural support interventions, e.g. maternity leave benefits, paternity leave benefits, workplace policies, wellness, occupational programmes, nearby or onsite crèche facilities, data on the number of women employed at companies in their reproductive years, data on the average number of women on maternity leave within a year-long period. The SurveyMonkey software program was used to conduct the online survey. The survey was only available in English as it was assumed that managers would be able to read and understand English. The link to the survey was emailed to all the HRMs

or company managers. The e-mail sent included a motivation on the importance of the survey and the anticipated value of the participants' input. Participants originally had access to the survey for six weeks. This was extended due to the low response rate. Reminder emails were sent every two weeks to encourage participation and increase the response rate. In addition, the researcher contacted the workplaces telephonically and conducted site visits to promote participation. An option to complete the survey in hard copy was also explored. Two hard copy questionnaires were manually entered into the SurveyMonkey program by the researcher.

4.2.1 Quality Control

To test the content validity of the online questionnaire it was circulated to three experts in the field of infant and young child nutrition and human resource management prior to the pilot study. Feedback was received from two experts and the questionnaire was adapted accordingly. The online survey was piloted at two designated workplaces in the Cape Metropole district. Questions on the face validity of the questionnaire (language, format, layout, procedure, comprehensibility) were answered by the participants involved in the pilot study.

4.2.2 Ethical Aspects

Ethics approval (Ethics approval number: S17/04/089) was obtained from the Health Research Ethics Committee, Stellenbosch University. Permission to conduct the qualitative study at the nine selected workplaces was sought and obtained from the company CEOs or relevant managers, and from the three selected public workplaces, namely the Western Cape Provincial Department of Health Strategy and Health Support Directorate (Reference: WC_2017/RP24_516), the Department of Education Research Directorate (Reference 20170706-2726) and the Department of Social Development Research, Population and Knowledge Management Directorate (Reference 12/1/2/4) (refer to addenda P – R).

Participation in the online survey was voluntary. Informed consent was obtained at the commencement of the survey. The section preparing participants for consent provided information regarding the purpose of the study and the rights of the participant, including the right to withdraw from the survey at any stage. A link was also provided to the online survey information leaflet and consent form (Addendum S). To ensure anonymity, participants were assigned a code and no company names or participant names were recorded. The participants were asked to accept or decline participation in the survey. Once the participant accepted, they could proceed with the online survey.

4.2.3 Data Analysis

The interpretation and scoring guide for the ESBQ was used to calculate the scores of the four subscales in the ESBQ questionnaire. The quantitative data was exported from Survey Monkey into Excel and a statistician assisted with the data analysis. The summary of the statistics will provide the researcher with information about the designated workplaces through statistical inference. Summary statistics were used to describe the variables. Distributions of variables are presented with histograms and/or frequency tables. Medians or means will be used as the measures of central location for ordinal and continuous responses, and standard deviations and quartiles as indicators of spread. Relationships between two continuous variables will be analysed with regression analysis and the strength of the relationship measured with the Pearson correlation or Spearman correlation if the continuous variables are not normally distributed. A p-value of $p < 0.05$ will represent statistical significance in hypothesis testing, and 95% confidence intervals will be used to describe the estimation of unknown parameters.

4.3 Results

4.3.1 Characteristics of the participants

The characteristics of the participants are reflected in Table 4.1. A response rate of 36.8 % (14/38) was achieved in this study. The majority of respondents were female (78.6%; n=11). The mean age of the participants was 45 years (SD: 10.1). Seventy-nine percent (n=11) of the respondents held the position of human resources manager, 7.1% (n=1) had the position of chief executive director and 14.3% (n=2) had the position of general manager and facility manager. The mean number of years employed was 7.5 years (SD:7.02). The majority (85.7%; n=12) of the respondents were married and had children of their own (85.7%; n=12), with 50% of them having two children. Ninety-three percent of the respondents (n=13) did not have any grandchildren. Four (28.6%) came from the public sector, three each (21.4%) from the retail and manufacturing sectors, and one (7.1%) from the private health care sector. The remaining three survey participants came from the security, welfare and non-profit organization sector. The mean number of women on maternity leave per year at these workplaces was 3.5 (SD:1.74). The mean percentage of women in the labour force was estimated at approximately 55.8% (SD:28.98), and the mean percentage of women of child-bearing age at these workplaces was estimated at 58.9% (SD:30.10).

Table 4.1: Characteristics of Participants

Variable (N=14)	**n (%) or Mean (SD)**
Gender	
Male	3 (21.4)
Female	11 (78.6)
Age **Mean (SD)**	44.7 (10.1)
Position:	
Human Resource Manager	11 (78.6)
Chief Executive Officer	1 (7.1)
General Manager	1 (7.1)
Human Resource and Facility Manager	1 (7.1)
Years employed **Mean (SD)**	7.5 (7.0)
Relationship status:	
Married	12 (85.7)
Living together	1 (7.1)
Divorced/separated	1 (7.1)
Own children	12 (85.7)
Number of children (n=12)	
1	14.3
2	50.0
3	21.4
Grandchildren	1 (7.1)
Employer Type:	
Retail	3 (21.4)
Public / Government	4 (28.6)
Manufacturer	3(21.4)
Private Health Care	1 (7.1)
Other: Welfare, Security, Non-Profit Company	3 (21.4)
Mean (SD) number of women on maternity per year	3.5 (1.74)
Mean % of women in labour force	55.8 (28.98)
Mean % of women of childbearing age at workplaces	58.9 (30.10)

The provision of workplace structural (physical) support practices for breastfeeding (e.g. space, crèche facility, policies) are outlined in Table 4.2. Almost 60% (n=8) indicated that occupational health programmes were available for employees, with two workplaces (14.3%) indicating that they had onsite or nearby crèche facilities that their employees could utilize. Only two workplaces (14.3%) indicated that space was provided for breastfeeding employees. The space consisted of an office with a closed door. Open-ended comments on the main reason for not providing such a space included a lack of space and infrastructure (n=8). The results indicate that having a workplace breastfeeding policy was not general practice, with only four workplaces (28.6%) indicating that they had a written breastfeeding policy in place, mostly of them in the public sector. Five workplaces (36%) indicated that they had a refrigerator available for breastmilk storage. Only one workplace (7.1%) reported having a breastfeeding counsellor available for staff. Thirty-six percent (n=5) of workplaces reported providing educational material to pregnant and new mothers and new fathers. Only two (14.3%) workplaces routinely promoted the benefits of breastfeeding to employees.

Table 4.2: Workplace Structural Support provided for Breastfeeding (N= 14)

Structural support for breastfeeding	**n (%)**
Occupational Health Programmes	8 (57.1)
Onsite/nearby crèche	2 (14.3)
Private space and room	2 (14.3)
Written breastfeeding policy	4 (28.6)
Refrigerator for breastmilk storage	5 (35.7)
Breastfeeding counselling for staff	1 (7.1)
Educational material pregnant and new mother	5 (35.7)
Educational material for expecting fathers	5 (35.7)
Routinely promote the benefits of breastfeeding to employees	2 (14.3)
Written breastfeeding policy	4 (28.6)
Staff aware of policy	4 (100)
Promotion of policy	3 (75.0)
Positive implementation of policy	2 (50.0)
Department of Health: Awareness of Breastfeeding Policy	3 (75.0)

All four workplaces with a breastfeeding policy indicated that staff were aware of the breastfeeding policy, with 75% (n=3) indicating that the policy was promoted and 50% (n=2) reporting positive implementation of the policy. The implementation of the policy had occurred 2 to 5 years previously. At the Department of Health (DOH) workplaces, 75% were aware of the Western Cape DOH breastfeeding policy.

A structural breastfeeding support score out of nine was determined and the mean structural support score for breastfeeding achieved by the public sector was compared with that of the private sector. Figure 4.1 reflects the mean structural support score of five for the public sector workplaces, and of one for the private sector workplaces, indicating that the public sector was more likely to provide structural support for breastfeeding. Due to the small sample size, no further statistical test could be performed.

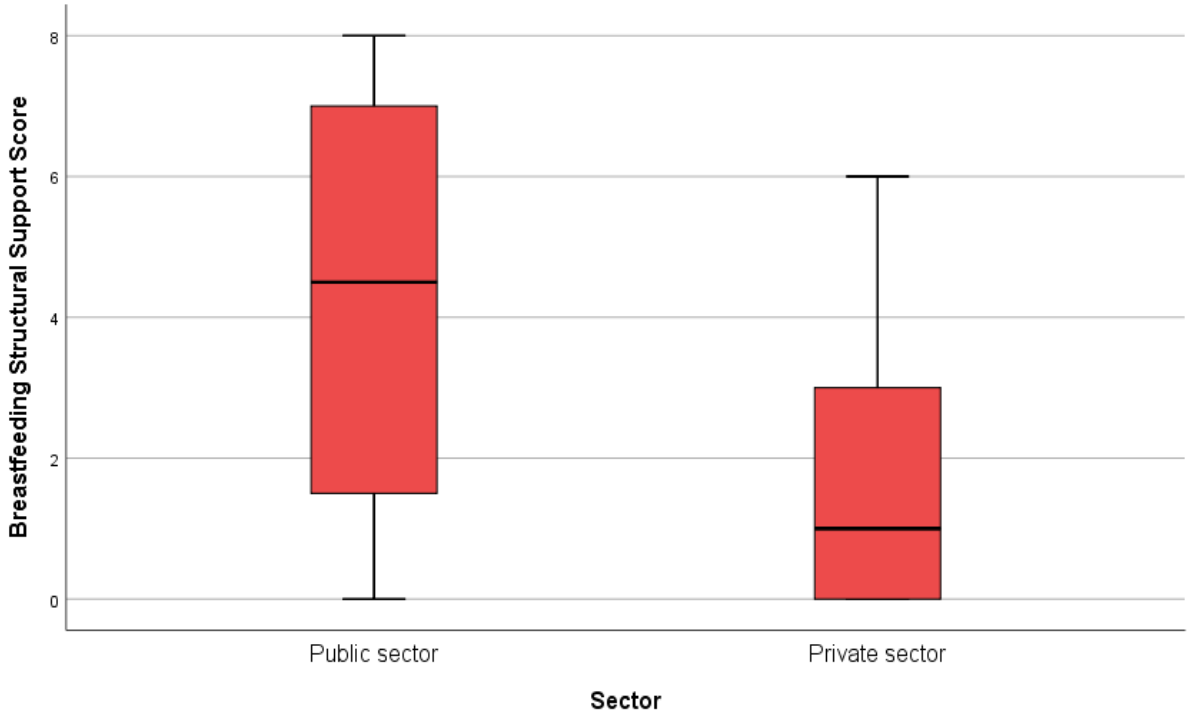


Figure 4.1: Structural support: public and private sector workplaces compared

Figure 4.2 reflects time supportive practices for breastfeeding. The majority of participants (92.3%; n=13) indicated that paternity leave (part of family responsibility leave) was provided by their workplaces for new fathers. Sixty-four percent of workplaces (n=9) provided paid maternity leave for at least three months, while 57% (n=8) reported providing unpaid maternity leave for at least three months. Almost 60% (n=8) indicated that time was allocated to employees for the expressing of breastmilk. Open-ended responses regarding the reasons for not providing time included no

formal request received from employees (n=2), time pressure (n=1), unaware that it was mandatory to provide time (n=1) and simply not prioritized (n=1) within the workplace. Thirty-six percent (n=5) of workplaces indicated that flexible working hours for breastfeeding employees was allowed, while more than 55% (n =8) provide extended maternity leave without job loss. Part-time work options were only available at one workplace, and the possibility of job sharing was not offered at any workplaces.

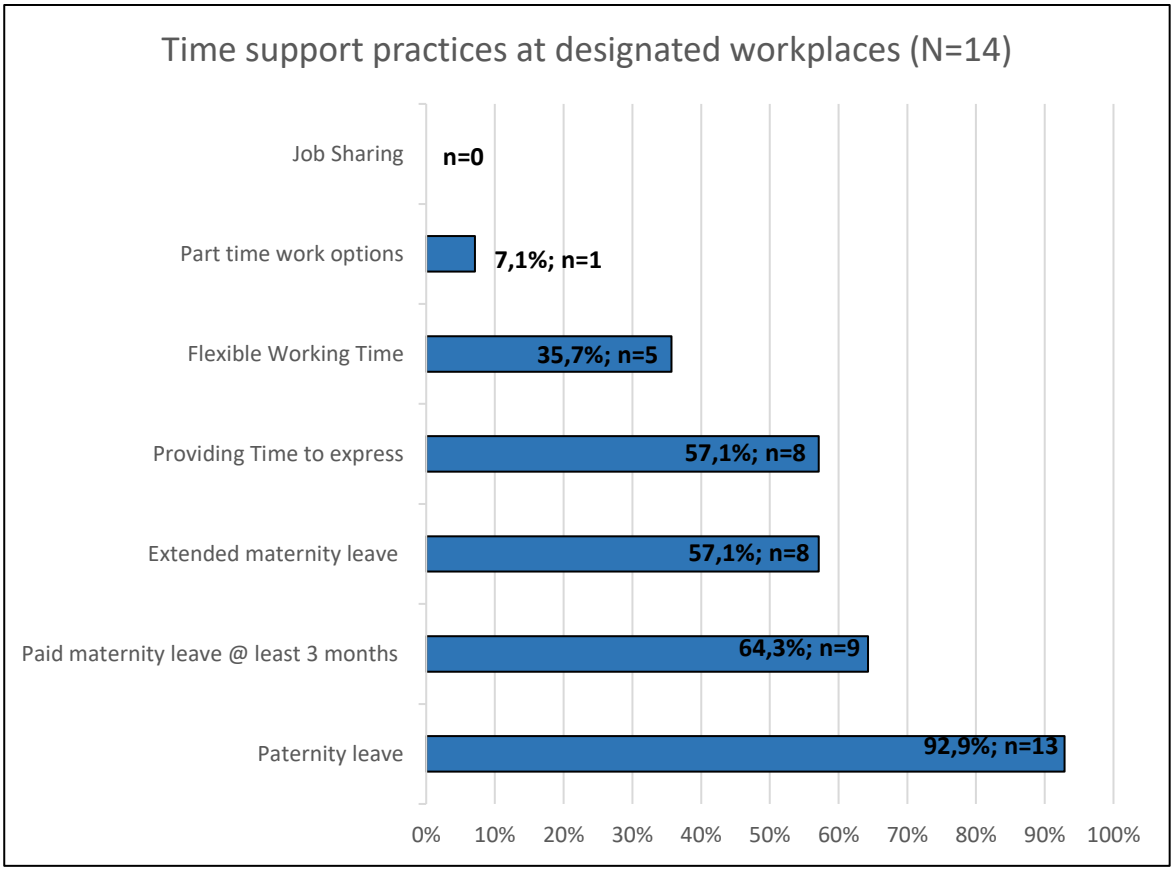


Figure 4.2: Workplace time supportive practices

A time support score out of seven elements was determined for the workplaces. Figure 4.3 indicates the mean time support score of four for the public sector and three for the private sector.

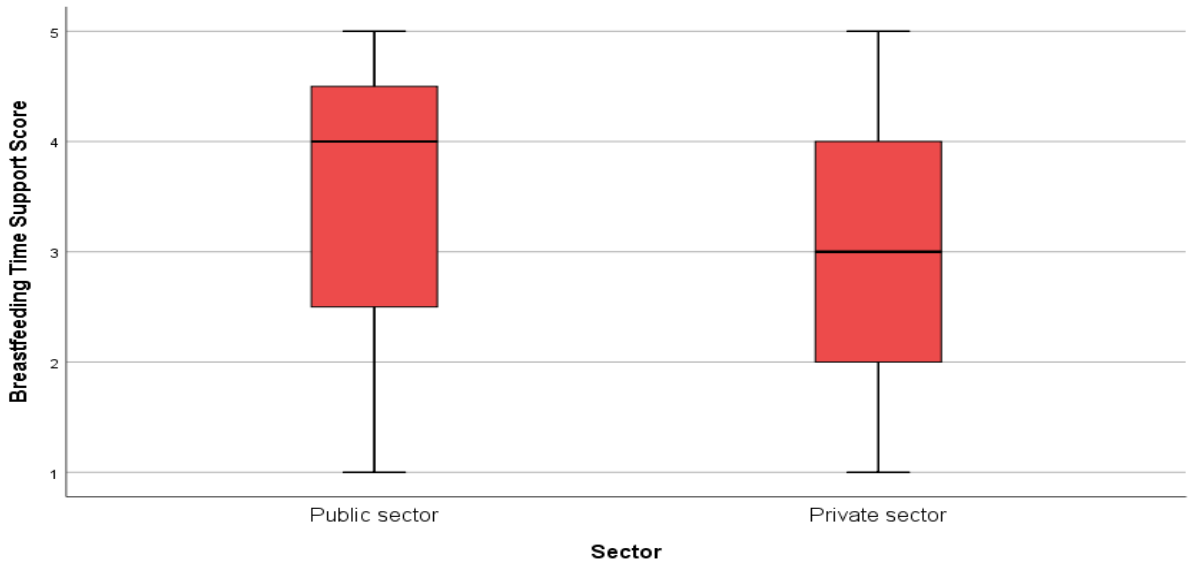


Figure 4.3: Time support scores: the public and private sectors compared

Most of the participants (93%, n=13) indicated that they knew about the Code of Good Practice on the Protection of Employees during pregnancy and after the birth of a child (part of the Basic Conditions of Employment Act). More than 55% (n=8) of workplaces affirmed the need for more information on how to support breastfeeding women at work. Open-ended comments on the needs identified by the participants to accommodate breastfeeding at work included information, education, training about the benefits of breastfeeding support (n=5), a breastfeeding policy and communication (n=1) and a space regulatory framework or standards (n=1).

The ESBQ included six sections, designated Sections A – F:

- Section A: Intention to provide support to breastfeeding working mothers with one item
- Section B: Other people`s influences in providing support. Overall subjective norm with one direct item
- Section C: Social influences (specific other people) in providing support with eight items (four normative belief items and four motivations to comply items)
- Section D: Direct attitude (feelings about providing support to breastfeeding working mothers) with five items
- Section E: Personal belief about providing support to breastfeeding working mothers with 18 items
- Section F: Control over providing support to breastfeeding mothers with eight items

Table 4.3 shows the mean scores of the ESBQ sub-scales, and Table 4.4 presents the difference between male and female mean scores on the 4 subscales.

Intention to support breastfeeding was measured on a single item to determine the overall employer's intention to provide support for breastfeeding, using a five-point rating scale ranging from 1 (very weak) to 5 (very strong). The mean score was 3.64 (Table 4.3), which indicates an overall positive intention to support. The sample appears to indicate a mean intention to support score of 4.33 for males and 3.45 for females (Table 4.4).

Table 4.3: Mean scores of the ESBQ sections

Item	Mean Item Range	SD
Intention to provide support to breastfeeding working mothers (section A: 1 item)	3.64 (1 – 5)	1.15
Other people's influence in providing support (Section B: 1 overall subjective norm item)	4.18 (1 - 5)	0.87
Social influence in providing support to breastfeeding working mothers (Section C: total subjective norm 8 items)	46.2 (4 – 100)	33.2
Direct Attitude (Section D: 5 items)	23.0 (5-25)	3.70
Personal Belief about providing breastfeeding support to working mothers (Section E: 18 items)	175.5 (9 – 225)	48.25
Control over providing support for breastfeeding working mothers (section F: 8 items)	29.5 (8 – 40)	5.20

Table 4.4: Mean scores of males and females for the ESBQ 4 scales

Variables	Males (n = 3)		Females (n = 11)	
	Mean	SD	Mean	SD
Intention to support breastfeeding	4.33	0.57	3.45	1.21
Direct attitude	23.3	2.88	22.9	4.01
Subjective norm	49.3	18.90	45.4	36.89
Perceived behavioural control	29.0	1.00	29.6	5.90

The sample trend indicates that the retail type of employer had a mean intention to support breastfeeding score of 2.67, while the other employer types – which included security (n=1), welfare (n=1) and a non-profit organization (n=1) – had a mean score of 4.33. Twelve individuals with children had a mean score of 3.83 and two individuals with no children had a mean score of 2.5.

One individual with a grandchild had a mean score of 5.0 and those with no grandchildren had a mean score of 3.54. See Table 4.5.

Table 4.5: Mean intention to support breastfeeding scores by employment type, own children and grandchildren

	Mean intention to support breastfeeding score (N=14)	
Employment type	**Mean (SD)**	**N**
Retail	2.67	3
Manufacturing	3.67	3
Public	3.75	4
Private health care	4.00	1
Other (welfare, security, non-profit organization)	4.33	3
Own children	**Mean (SD)**	**N**
Yes	3.83 (1.115)	12
No	2.50 (0.707)	2
Grandchildren	**Mean (SD)**	**n**
Yes	5.00	1
No	3.54 (1.127)	13

Subjective Norm is defined as "the perceived social pressure to perform or not to perform the behaviour" in question (Ajzen, 1991, p. 188). Subjective norm construct was measured as one single direct item and two belief composite subscales, as follows:

- ***Other people's influences in providing support*** was measured as a single item on a 5-point rating scale, asking whether most people who are important to the respondent think that he or she should or should not provide breastfeeding support. The mean score achieved was 4.18 (range 1–5) which was a positive subjective norm construct.
- ***Social influence in providing support to breastfeeding working mothers*** was measured as four normative belief items with a 5-point scale, to assess how other members feel about providing support. It contained four corresponding items that assessed the extent to which the employer wished to comply with those business members' wishes. A mean score of 46.29 was obtained (range 9–100).

Attitude measurement consisted of three subscales, one direct attitude subscale and two belief composite attitude subscales consisting of 18 items. Behavioural belief consisted of nine items measuring beliefs about the likelihood of outcomes of support, and the outcome evaluation consisted of evaluating the importance of each of nine corresponding items, ranging from one (not important) to five (important). Each of the belief items was multiplied by the corresponding item

and summed for a total attitude score. The higher the score the more positive the attitudes were towards support for breastfeeding.

- ***Direct Attitude*** measured as five items rated on a five-point scale with a possible range of 5 (very negative) to 25 (very positive). A mean score of 23.0 was obtained which indicates a relatively positive attitude towards providing breastfeeding support. The frequency table of the five items on the direct attitude scale is indicated in Table 4.6.

Table 4.6 Direct attitude items

Item	Low n (%)	Medium n (%)	High n (%)
Providing support for breastfeeding working mothers is necessary	0 (0.0)	2 (14.3)	12 (85.7)
Providing support for breastfeeding working mothers is NOT embarrassing	0 (0.0)	2 (14.3)	12 (85.7)
Providing support for breastfeeding working mothers is positive	0 (0.0)	2 (14.3)	12 (85.7)
Providing support for breastfeeding working mothers is important	0 (0.0)	3 (21.4)	11 (78.6)
Providing support for breastfeeding working mothers is beneficial	0 (0.0)	3 (21.4)	11 (78.6)

Similar direct attitude mean scores was seen between males (23.3) and females (22.9), as indicated in Table 4.4. One individual with grandchildren had a mean score of 25.0, while those with no grandchildren (n=13) had a mean score of 22.85. The sample shows a direct attitude mean score of 25.0 for the public sector and other employment types, and a mean score of 20.67 for the retail employment type (see Table 4.7). There was no correlation between age and direct attitude, rho = 0.043 (p=0.884).

Table 4.7: Mean direct attitude score by employment type

Employment type	Mean Direct attitude score (N=14)	
	Mean (SD)	n
Retail	20.67 (5.132)	3
Manufacturer	21.67 (5.774)	3
Public	25.00 (0.000)	4
Private health care	20.00	1
Other (welfare, security, non-profit organization)	25.00 (0.000)	3

- ***Personal Belief***

The mean personal belief score about providing support for breastfeeding working mothers was 175.5 (range 90 – 225; SD 48.25). The score indicates a relatively positive attitude towards support for breastfeeding.

Perceived behavioural control consisted of eight items on a 5-point scale assessing beliefs about the control the employer has over his or her situation and ability to provide support for breastfeeding mothers. The total score is the sum of all eight items. A mean score of 29.5 was achieved, indicating a good sense of control over the ability of employers to provide support. Males and females had similar mean perceived behavioural control scores, as illustrated in Table 4.4. The public-sector employment type had a mean perceived behavioural control score of 27.5 (SD: 7.724), and retail a mean score of 33.0 (5.196) (see Table 4.8). Age was weakly negatively correlated, with perceived behavioural control rho = - 0.211 (p = 0.047).

Table 4.8: Mean perceived behavioural score by employment type

Employment type	**Mean Perceived behavioural control score (N=14)**	
	Mean (SD)	**n**
Retail	33..00 (5.196)	3
Manufacturing	29.33 (2.517)	3
Public	27.50 (7.724)	4
Private health care	28.00	1
Other (welfare, security, non-profit organization)	29.33 (5.033)	3

4.4 Discussion

The aim of the study (phase 1) was to assess the current breastfeeding support practices in designated workplaces. The findings of the baseline survey indicate that breastfeeding support at designated workplaces is limited and inadequate.

The existence of a written breastfeeding policy was not common among the study population, and mainly present in public-sector workplaces. In Colorado (Dunn et al., 2004) and more recently in Michigan (Hojnacki, Bolton, Fulmer & Olson, 2012) it was also found that few workplaces had written breastfeeding policies (4% and 3%, respectively). A survey (n = 32) was conducted among diverse organizations, including private companies (large, medium-sized and small), government departments, development agencies, nine human rights institutions, academic institutions, and

NGOs in SA to understand how, and to what extent, they complied with key maternity laws and maternity leave legislation (Martin-Wiesner, 2018). Similarly to our study, a low response rate of 32% was achieved for the survey. The researcher reported from her initial conversations that many organizations did not have breastfeeding policies in place and were thus not fulfilling their responsibilities in this regard; in some cases they were not even aware of these responsibilities (Martin-Wiesner, 2018). Martin-Wiesner's survey found that only 16% of organizations (n=5) had a written breastfeeding policy in place. Most indicated that they had a written breastfeeding policy since it was required as part of their global or international governance framework, with one organization indicating that they valued breastfeeding. Reasons provided by these survey respondents for the absence of written breastfeeding policies in their organizations ranged from lack of demand and possible ignorance on the part of employee representatives, to unsuitable buildings that would make the policies impossible to apply (Martin-Wiesner, 2018). One recent quantitative study by Payton et al (2019) reported that only eight of the 23 employers (35%) that participating in the survey had a written policy on breast-feeding and/or pumping milk at work. Another earlier survey of hospitals in New Jersey found that only 36.1% had a written institutional policy, however only 7.7% of non-hospital employers had a written lactation policy (Bai, Gaits & Wunderlich, 2015). In SA, there are no explicit guidelines for employers relating to breastfeeding policies in the workplace. Within the WC, currently only one government department (the Department of Health) has a formal breastfeeding policy.

Formal policies carry the benefits of providing and establishing standard guidelines and expectations for workplace breastfeeding support. In one qualitative study, participants had mixed reactions to workplace breastfeeding policies. Some believed that a company policy on breastfeeding was not needed, given the infrequency of requests, and that a policy would restrict the company's ability to be flexible. Others believed that a policy would stipulate what acceptable breastfeeding support entails, ensure fairness and consistency, and show that the company values its employees (Chow et al., 2011). In this study, the participants believed that private or family businesses were more likely to have a policy than public companies because of their family-friendly image. In contrast, our quantitative study revealed that a written breastfeeding policy was more common in the public-sector type of employment.

Policies at the level of the employer and of government are essential for creating a supportive environment for breastfeeding. But the mere existence of formal policies does not guarantee that support is provided, and it also does not indicate how that support is experienced. Interpersonal

communication must therefore also be considered alongside workplace support for breastfeeding. A review of workplace lactation accommodation found that having workplace lactation policies was not consistently associated with breastfeeding duration (Hilliard, 2017). The results were mixed, with Dabritz et al. (2009) indicating a significant association with any breastfeeding at six months, but Bai and Wunderlich (2013) reporting no significant association between workplace policies and EBF at six months. A study by Anderson et al. (2015) indicated that policies were not enough and that interpersonal communication might in fact be more important than written communication for achieving breastfeeding support. Anderson et al. (2015) suggest that success lies in interpersonal communication between employees and managers, as this is where the policies are explained, negotiated and implemented. Their study found that factors such as age, sex and power dynamics complicated the interpersonal communication, and that positive and open interpersonal communication strategies were required to enhance breastfeeding support at the workplace (e.g. open conversation and advocacy of breastfeeding). If policies alone will not change discouraging organizational attitudes towards breastfeeding mothers, education is necessary to steer these attitudes in a more positive direction.

The present study reveals that the provision of breastfeeding counsellors (n=1, 7.1%) and private space (n=2, 14.3%) is not common practice. Dodgson et al. (2004) mailed surveys to 19 maternity hospitals in Hong Kong. Similarly to our findings, participants noted that only a low 26% (n=5) of the hospitals had lactation consultants who were available to employees on an informal basis, as well as a private room with a lockable door for breastfeeding mothers. A more recent study (Hojnacki et al., 2012) explored company breastfeeding support in Michigan-based companies and similarly found that only 28% had access to lactation consultants. The study did indicate, however, a high percentage (78%) of companies having non-restroom space available for expressing. Similarly, two other studies found a high percentage (83%) of the business group on health employer members had a dedicated lactation space (Payton et al., 2019) and 81% of hospitals in New Jersey have a dedicated breastfeeding space (Bai, Gaits & Wunderlich, 2015). This is considerably higher than that reported by other studies: for instance, 34% among Colorado businesses (Dunn et al., 2004), and only 6% in Pakistan (Soomro, Shaikh, Saheer & Bijarani, 2016). Important to note is that Hojnacki et al. (2012) found that only 32% of workplaces had a designated space solely for breastfeeding or expressing. In Sydney, Australia, it was found that 19% of health service workplaces had designated space available solely for breastfeeding (Weber et al., 2011).

The main reason stated for not providing dedicated space for breastfeeding or expressing was the lack of space and infrastructure, which is a genuine problem in many workplaces. The Michigan based study found that many spaces available for breastfeeding was not dedicated and included areas such as unused conference rooms, employees or vacant offices, locker rooms or patient rooms on maternity floor in hospitals (Hojnacki et al., 2012). The *Business case for breastfeeding*, a United States Department of Health and Human Services Office of Women's Health project, provides useful resources for workplaces that need to overcome space challenges (United States Department of Health and Human Services Office on Women's Health, 2018b). The website provides space solutions and tips for any industry setting. It is important that workplaces receive support from DOH officials, who can assist them in creating a breastfeeding space within their workplaces (whether it be a designated or flexible private space), and refer them to resources for guidance on how to overcome the challenge of lack of space.

Other reasons for the failure to provide a private space might be linked to misconceptions about the cost involved, or a lack of knowledge about what breastfeeding support entails and what health and economic benefits flow from increased breastfeeding rates. The benefits of providing a working environment conducive to breastfeeding outweigh the costs. If breastfeeding is supported in the workplace, women are more likely to return to work, and return earlier, which contributes to retaining their job skills and reducing staff turnover (Brown, Poag & Kasprzycki, 2001; United States Department of Health and Human Services, 2008). Workplaces may, however, also view breastfeeding as a non-workplace issue, and mistakenly fear that providing support in terms of space might lead to decreased productivity amongst employees. In a study by Witters-Green (2003), employers believed that breastfeeding was not a workplace issues, and that breastfeeding mothers would miss more work, choosing to stay at home with their infants. Libbus and Bullock (2002) and Witters-Green (2003) showed that men were more likely than women to believe that breastfeeding interferes with productivity, although both males and females displayed an overall positive attitude towards breastfeeding. The provision of breastfeeding space and time is in fact a low-cost intervention that has been shown to reduce absenteeism and improve the work performance, commitment and retention of staff (Rollins et al., 2016).

Eight (57%) of the workplaces in this study expressed the desire to receive more information on how to support breastfeeding women at work. This may indicate a lack of knowledge of how to support breastfeeding at the workplace, but also a willingness to do so. There is an urgent need for advocacy among these categories of workplaces pertaining to the benefits of breastfeeding support for the

employee, workplace and greater society. When looking at this specific context, Du Plessis et al. (2015) found that within the area of the Breede Valley sub-district, advocacy regarding infant and young child nutrition was lacking, a situation that corresponds to the lack of advocacy about breastfeeding support in the workplace.

Almost 60% (n=8) of the workplaces indicated having occupational health programmes available. Many of the large manufacturing workplaces employ occupational health nurses. This cadre of staff should be more engaged in advocating breastfeeding support in workplaces, to both management and employees. Hilliard (2017) contends that occupational health professionals have a pivotal role to play in increasing breastfeeding duration by promoting breastfeeding support and accommodation in the workplace among both supervisors and co-workers.

Eight workplaces (57%) reported providing time for expressing at work, while the remainder (43%; n=6) did not. The high percentage of workplaces not providing time for expressing is concerning. The Code of Good Practice on the protection of employees during pregnancy and after the birth of a child (part of the Basic Conditions of Employment Act of 1997, amended in 2014) stipulates that arrangement should be made for employees who are breastfeeding to have 30 minutes twice per day for breastfeeding or expressing, for the first six months of the child's life. Yet the majority of workplaces in this survey indicated that they were aware of the Code of Good Practice, which again draws attention to what is either a failure of implementation (Martin-Wiesner, 2018) or an actual lack of awareness of the legislation. If observance of pertinent legislation is monitored, workplaces will be more focused on the implementation and practice of it. The monitoring of breastfeeding support can be included in site visits to workplaces by the Department of Labour officials inspecting conformity with other aspects of the maternity protection laws. The officials can enquire, for example, from mothers who have recently returned from maternity leave, about the implementation of breastfeeding break times. A survey conducted in SA found that 60% of organizations provided paid breastfeeding breaks, 16% provided unpaid breastfeeding breaks and 13% providing no breastfeeding breaks (Martin-Wiesner, 2018), figures somewhat lower than those reported in this study. In SA there are thus low levels of compliance with breastfeeding support laws compared with maternity leave laws, as seen from the survey results from Martin-Wiesner (2018). This means that only a few women, often in more prosperous large companies and organizations, enjoy the rights to which they are entitled (Martin-Wiesner, 2018). Similarly, the UNICEF case study of Bangladeshi mothers at work reported barriers associated with low levels of enforcement of

maternity protection and breastfeeding-related laws and policies (United Nations Children's Fund, 2018).

The percentage of workplaces in our study that indicated providing time for expressing breastmilk at work was 57%. Studies from Hong Kong (Dodgson et al., 2004) and Pakistan (Soomro et al., 2016) found a low percentage of workplaces offered breastfeeding breaks to working mothers (11% and 15%, respectively). In contrast, a study in Michigan found that a high percentage (73%) of companies provided breastfeeding time (Hojnacki et al., 2012). The 57% of workplaces in our study providing breastfeeding time, may have been over-reported, because of respondents confusing the provision of time for breastfeeding with routine breaks.

It is important that not only employers but also employees be educated about breastfeeding rights, so that they can demand that these be recognised by their workplaces. More media campaigns and social media awareness must be utilized to raise consciousness about women`s breastfeeding rights within society.

Numerous studies have cited employment as a barrier to breastfeeding. A study by Tsai (2013) found that a breastfeeding room with a dedicated space (OR 2.38) and the use of breastfeeding breaks (OR 61.6) were significant predictors of continued breastfeeding for more than six months, after mothers had returned to work (Tsai, 2013). With South Africa`s low EBF rate of 32% of infants under six months, it is important that more focus be placed on workplace support for breastfeeding in terms of providing private space, time and information.

Almost 65% (n=9) of the workplaces in our study reported providing paid maternity leave for at least three months, and 57% (n=8) unpaid maternity leave. The discrepancy in the reported numbers was due to some respondents selected both options in response to this question. In SA, mothers are entitled to four months' maternity leave, but companies are not under legal obligation to remunerate them during this time. Maternity leave remuneration is paid by the Department of Labour's Unemployment Insurance Fund (UIF) or the employer, should the employer make provision for this. Except for the public sector and large companies, the result is unpaid leave for most companies. South African mothers who contribute to the UIF have been eligible for 38% to 58% of their salary during the maternity leave period, an entitlement that recently changed to a set level of 66% (Republic of South Africa, 2018). A small-scale survey conducted amongst organizations in SA found that all the surveyed organizations (n=32) provided maternity leave (four months unpaid) of between four and six months, indicating a high degree of compliance with the maternity leave laws (Martin-Wiesner, 2018).

Paternity leave was also granted by most workplaces in this study. A new labour law amendment bill was signed by the president of SA on 27 November 2018 that allows fathers up to ten consecutive days' paternal leave when their child is born or when an adoption order is granted (Republic of South Africa, 2018). Prior to this amendment bill, fathers had to take family responsibility leave, which was limited to three days in private sector and five days for public sector employees. At the time the survey described in this study was conducted, the new amendment bill had not been approved and the paternity leave reported was regarded as part of the employee's family responsibility leave.

The interpretation and evaluation of the ESBQ tool has indicated a relatively positive perceptions, beliefs, attitudes and intentions among HRMs and company managers with regard to supporting breastfeeding in the workplace. Since employers' attitudes can have an influence on breastfeeding employees' decision making, this is a positive finding. It illustrates that further collaboration with these participants could potentially facilitate the development of strategies in terms of policy and practices at their workplaces for those wanting to seek to improve workplace support for breastfeeding.

This study findings indicate a strong intention to support breastfeeding among males. Due to the small sample size, no broad comparisons could be made. A study conducted in the United States in 2010 by Rojjanasrirat et al. on psychometric evaluation of the ESBQ found that females had significantly higher scores on attitudes, perceived behavioural control, subjective norms, and intention to support breastfeeding than males (Rojjanasrirat et al., 2010). Another study conducted in 2013 used the ESBQ tool during a pre- and post-intervention project of establishing a hospital breastfeeding support programme (Rojjanasrirat & Ferrarello, 2013). Managers' perception of their ability to support breastfeeding employees, their belief in respect of what others expected of them, their attitude towards breastfeeding and their intention to support breastfeeding employees, improved after the implementation of the programme.

From this study's sample it appears that the retail employment type had a low mean intention to support construct and achieved a low mean direct attitude construct. This may stem from profit-driven and time-on-task attitudes prevalent in the retail environment. The public sector sample achieved a high direct attitude score, but obtained a low perceived behavioural control score. This suggests that their positive attitudes are not matched by a commensurate belief in their ability to offer support. This may reflect both early success for the First 1000 days' campaign, and the need for managers to understand their responsibilities regarding the breastfeeding rights of employees.

4.5 Conclusion

The support for breastfeeding by employed women returning to their workplaces after maternity leave is inadequate, with few supportive breastfeeding practices. There is an urgent need to create advocacy at workplaces regarding the breastfeeding rights of women in the workplace and the benefits of breastfeeding support for employers, employees and society at large. Workplaces need to be educated on their role in this regard. Advocacy at workplaces could be framed in terms of creating a positive public image, or more importantly, through characterizing breastfeeding as a form of social responsibility and an investment in the future health of children, the future workforce. The cost benefit for the employer in terms of retaining staff, increased productivity and decreased absenteeism must also be emphasized. In addition, workplaces need guidance with the establishment of breastfeeding space and time for employers who want to increase support for breastfeeding. Workplace policies and practices to promote and support continued breastfeeding are vital. Breastfeeding policies need to be developed and enforced within workplaces. HRMs and occupational health nurses have an important role to play in encouraging and facilitating this process at workplaces. There is also a need for the WC Department of Health to extend the implementation of their formal breastfeeding policy to other government departments in the province. The Department of Labour must also monitor the legislated breastfeeding break time, to ensure compliance.

CHAPTER 5: EXPLORING BREASTFEEDING SUPPORT IN DESIGNATED WORKPLACES FROM THE PERSPECTIVE OF THE EMPLOYEES AND EMPLOYERS IN THE BREEDE VALLEY SUB-DISTRICT

5.1 Introduction

Breastfeeding is important for maternal and child health. The Lancet series on breastfeeding concluded that breastmilk makes the world healthier, smarter and more equal. The death of 823 000 children and 20 000 mothers each year can be averted through universal breastfeeding (Rollins et al., 2016). As UNICEF claims, though, breastfeeding is not a one-woman job; it requires government leadership and support from families, communities, health systems and workplaces to make it work. Support from these stakeholders is essential if a woman is to reach the WHO goal of six months of EBF.

Globally, mothers have identified work as one of the main obstacles to exclusive and continued breastfeeding. It is a major reason for not breastfeeding, or for ceasing to breastfeed early (Rollins et al., 2016). Women who are not employed are more likely to breastfeed than women who are employed full-time (Ryan et al., 2006). The support a woman receives in her workplace in terms of workplace arrangements can be critical to enable women to continue breastfeeding (International Labour Organization, 2012b). If women perceive a lack of support for breastfeeding at their workplace, they often turn to formula feeding.

The objective of phase two of this research was to explore employees' and employers' experiences and perceptions regarding breastfeeding support in designated workplaces in the Breede Valley sub-district, Western Cape Province. Knowledge of these experiences and perceptions should conduce to the development of focused strategies to improve workplace breastfeeding support.

5.2 Methods

The researcher used a qualitative multiple case study approach. With this approach the focus is on the issue (workplace breastfeeding support) and multiple cases is selected to illustrate the issue (Stake, 1995; Creswell, 2007). The multiple cases are selected to illustrate and provide a vehicle to better understand the issue (Creswell, 2007). The bounded cases in the study was the category stakeholders of employees, managers (middle and senior) and employed breastfeeding mothers within the boundaries of a designated workplace. Multiple cases were selected to show different perspectives of the issue from different stakeholders. Data collection was in the form of in-depth interviews with employers (human resource manager and/or company manager) and FGDs with employees and managers. This enabled the researcher to extract in-depth information about stakeholders' thoughts, opinions and perceptions about breastfeeding support in the workplace, as

well as about possible enabling and limiting factors that could affect employers' decisions to implement workplace programmes and practices.

The researcher developed a discussion guide to steer the FGDs and in-depth interviews, including a few brief introductory questions and probes to enhance the flow of the process. The aim was to use questions that would enable the interviewees to reveal what they felt to be relevant from their own experience, enabling the researcher to access their view of reality.

The researcher conducted all the in–depth interviews and FGDs. A trained research assistant assisted during the FGDs. The researcher and research assistant were both fluent in English and Afrikaans.

From the quantitative phase of the study, a list of designated workplaces was compiled. The list consisted of 38 designated workplaces in the Breede Valley sub–district. For the qualitative phase of the study, nine designated workplaces, three from each of the categories (retail, public and manufacturer/distributor) were purposively selected.

The nine selected workplaces were approached to gain approval and permission from the company chief executive officer (CEO) or workplace director to conduct the study. Once approval had been granted, the researcher proceeded to recruit the participants for the FGD mainly by identifying a contact person at each workplace who assisted with the recruitment. The researcher then contacted the managers to arrange the in-depth interviews as well as a suitable venue, time and date for the FGDs. Advertisements (Addendum C) were placed at each workplace to assist with the recruitment of participants for the FGDs. If any of the selected workplaces declined participation, another workplace was selected from the compiled list. Since the strategy to support, protect and promote breastfeeding is a DOH initiative, the researcher selected one DOH workplace, namely the Cape Winelands DOH district office. Two other public sector workplaces were selected, the Department of Education and the Department of Social Development. A pilot study was conducted at one designated workplace in the Cape Metropole district. One focus group discussion with employees and one in-depth interview were conducted with a Human Resources manager/senior manager.

Data from a short demographic questionnaire (Addendum W) was captured using Microsoft Excel 2016 and summary statistics were used to describe the variables.

5.2.1 Ethical Clearance

Ethics approval was obtained from the Health Research Ethics Committee, Stellenbosch University. Permission to conduct the qualitative study at the nine selected workplaces was sought from the

company CEO and was also requested from the directors of the three public-sector workplaces and the Western Cape Provincial Department of Health Strategy and Health Support Directorate, the Department of Education Research Directorate and the Department of Social Development Research, Population and Knowledge Management Directorate.

For the in-depth interviews and FGDs, written informed consent was obtained from all participants and separate written consent was requested to record the interviews. The reason for recording was explained and the consent form was also explained before signature. The consent forms were available in English, Afrikaans and isiXhosa. The in-depth interviews were conducted in English or Afrikaans depending on the language choice of the interviewee. None of the participants in the in-depth interviews was isiXhosa-speaking. The FGDs were conducted in the language understood by most of the participants. No isiXhosa translator was needed for the FGDs, since all participants expressed their choice of language as either English or Afrikaans. Participants were assured of the anonymous nature of the interviews and discussions, as well as of their freedom to withdraw from the study at any stage. Interviews and discussions could be terminated at the participant's request, even if questions remained. Confidentiality was ensured by keeping transcriptions password protected, removing all personal identification from records, and keeping the list of interviewees separate from interview data. Anonymity was ensured by referring only to codes and themes in the results reporting. It was agreed that the audio recordings would be destroyed at the end of the research project.

During the FGDs, participants were allowed to express their views freely and the researcher managed the group dynamics to encourage a relaxed atmosphere that was non-judgemental and non- critical. The focus group discussions took on average between 45 and 60 minutes. Refreshments were served during comfort breaks, in order to prevent fatigue. The participants also each received a parcel consisting of healthy snacks (e.g. fresh/dried fruits and yoghurt) as a token of appreciation for their participation in the study.

5.2.2 Data Analysis

A qualified person transcribed the data gathered from the in-depth interviews and FGDs. The Atlas ti 8.2.31 software program was used for the analysis of the data. After the interviews and FGDs had been transcribed, the researcher performed quality control checks on the data to ensure that the information had been captured accurately. The researcher worked through the different category transcripts for the cases systematically while applying open coding. For the first transcript, the researcher searched for meaning in context and through reading and re-reading, identified and

documented emerging themes. The emerging themes moved the transcribed responses to a higher level of abstraction. The listed themes were reviewed for any connections, patterns, tensions and possible sub-themes. The researcher then used the list of themes from the first transcript to orient the analysis of the subsequent transcripts, searching for substantiation, contradictions and additions (Smith & Osborn, 2008). Thematic content analysis was applied. Themes were formed using an inductive approach in terms of which the codes emerged from the data. To ensure that all emerging themes were identified and to check for inconsistencies, the text was read several times. The data was not verified by a second person, but the researcher's promoters engaged with the data through various discussions with the researcher around the developed themes and listed quotes and provided comment when appropriate.

Data from a short demographic questionnaire (Addendum W) was captured using Microsoft Excel 2016 and summary statistics were used to describe the variables.

5.3 Results

Seven employee FGDs (N=51), three middle managers FGDs (N=12) and eight in-depth interviews with human resource/company senior managers were conducted. Data saturation was reached by the fifth employee FGD and the sixth in-depth interview. Since the sixth and seventh employee FGDs and the eighth in-depth interview were already scheduled, the researcher went ahead with them. Thereafter no further data was collected.

5.3.1 Case 1: Employees' perceptions and experience of breastfeeding support in the workplace

The employees' demographics are displayed in Table 5.1, below. The mean age of the participants was 31 years (SD: 6.64). The majority of the employees were females (78%; n=40) employed as general workers (45.1%; n=23). Forty-seven percent (n=24) of the participants were employed in the manufacturer sector, 29.4% (n=15) in the retail sector and 23.5% (n=12) in the public sector. Eighty-eight percent (n=45) indicated that they had children, with 92.5% (n=37) of the females indicating that they had breastfed their children.

Table 5.1: Employees' focus group demographics

Variables	Employees N = 51	
	N	%
Age (Mean; SD)	31 (6.64)	
Gender		

Male	11	22.0
Female	40	78.0
Employment Type		
Retail	15	29.4
Public	12	23.5
Manufacturer	24	47.1
Position		
General Worker	23	45.1
Machine Operator	4	7.8
Deli Assistant	3	5.9
Cashier	2	3.9
Supervisor (retail)	1	2.0
Salesman	2	3.9
Buyer	1	2.0
Admin Assistant/clerk	5	9.8
Social Worker	6	11.8
Personnel Practitioner	4	7.8
Own Child		
Yes	45	88.0
No	6	12.0
Grandchildren		
Yes	2	4.0
No	49	96.0
Ever Breastfed		
Yes	37	72.5
No	3	5.9
Not applicable	11	21.6

From the employees' focus group data, three themes emerged: 1) breastfeeding and returning to work experience, 2) non-supportive work environment and 3) support for breastfeeding at work. The data is reported according to these themes.

Theme 1: Breastfeeding and returning to work experience

Emotional stress and guilt

When asked about the impact of returning to work on breastfeeding mothers' practices, many of the female participants shared their own experiences of breastfeeding and returning to work. Many employee participants indicated that the transition to work was difficult and challenging as it disrupted the breastfeeding routine that they had established during the maternity leave period.

> *When I needed to return to work, I felt that I had an understanding with the child. We know how it works now {referring to breastfeeding}. I have it under control and then I needed to go to work. {Public FGD}*

> *So it's very difficult for the baby. So it affect the baby during the week, because it's not going to be the normal like Saturday and Sunday you're staying at home, and then during the week. So it is very difficult. {Manufacturers' FGD}*

Linked to this a few mothers also described the maternal guilt they experienced for failing their child, as well as the emotional stress resulting from when the baby did not want to drink anything else but breastmilk, or when they did not have enough breastmilk and their child was unhappy.

> *….she don`t want to take the bottle, uhm, yes, so I brought other milk, and other milk. So you start crying with your child, because she will not drink it. So you think she is hungry and then it is a whole emotional thing. {Public FGD}*

A mother expressed her guilt and concerns relating to her child falling ill due to mixed feeding by the baby's caregiver, specifically in the context of HIV.

> *I felt I did an injustice to my child, because I really wanted to breastfeed for that six months. Because it is good for the child's development and all those things and only wanted to give the best to my child. Because I felt as if I failed my child, you know? {Public FGD}*

Theme 2: Non – supportive work environment

Lack of resources and support

The lack of resources at their workplace was mentioned by many employees– namely, designated space for expressing breastmilk and fridge facilities to store the expressed breastmilk. The lack of support in terms of providing space and time for expressing at work was raised consistently across all employee focus groups. Most participants cited the space used for expressing as a toilet, indicating that this was inappropriate for reasons of hygiene. Participants reported that they had to use their lunch and tea breaks and that they were generally not accommodated in terms of time for expressing breastmilk or breastfeeding. Reasons mentioned for the lack of support included a lack of means on the part of the employer to provide a breastfeeding space and resources, lack of space, a failure to promote breastfeeding among employers, and the fact that employees do not voice their breastfeeding needs to their employers.

Breastfeeding at work not a priority

When reasons were sought for employers' failure to provide breastfeeding mothers with suitable time and space, many of the employee participants claimed that support for breastfeeding in the workplace was not a priority for employers. They asserted that work, production, time and targets

were rather their employers' priorities. Employers tended to separate employees' work from their personal needs because they felt that employees got paid to work and therefore simply had to work.

> *Your personal life comes second and work is first. {Public FGD}*

> *I think the workplace feels that for eight hours of the day you belong to them. Although you a person with feelings and a life outside, they feel you do not have to bring that into the building. When you walk in here the morning then you need to earn your salary … the personal part, they cut themselves off from that. {Public FGD}*

Negative attitude

Many stated feeling uncomfortable at work with full and painful breasts, mainly because of being granted no time to express by unreasonable supervisors. From the discussion it was gathered that many participants experienced negative attitudes, and that staff and supervisors were unaccommodating when mothers returned to work. This was mainly as they felt they had already been away from work for an extended period and that time at the workplace was time that they needed to work.

> *Then they [supervisors] moan because you are taking too long in the toilet, but they know it's for an important thing. {Manufacturers' FGD}*

> *They [supervisors] tell you in your face "Hallo, huh-uh, you cannot go [to express milk]. Who will stand in your place or whatever?" {Manufacturers' FGD}*

> *Sorry nè, you were already not here for four months, now you still wanna go and breastfeed? You must be back now. It's time to work. {Public FGD}*

The lack of resources and support, breastfeeding not being a priority at work and negative attitude from staff and supervisors as noted above may explain why some of the employee participants stated that many employed mothers start planning ahead to give their child infant formula or start mixed feeding prior to returning to work, as they are aware that breastfeeding is not a common practice at workplaces.

> *That is a worry, uhm, already since the second month has passed … of your maternity leave. Because now you need to get, take the child into a routine of how he's gonna get his feeding. And then you already need to think about mix feeding. {Public FGD}*

Communication challenges

Many employees experienced various other challenges in the workplace relating to communication aspects between the employee and employer. Lack of communication after maternity leave from the employer, communicating their needs to their manager, and the lack of feedback or any action after discussing these needs with their employer was mentioned by a few employees.

> *I don't think they have though so far as to ask a mother that came from maternity, to sit and talk to them regarding this [Referring to breastfeeding support]. How is it? How's your experience? How are you experiencing this inside? {Manufacturer FGD}*

> *They will just say: "Yes we can look at it" {referring to employee's request /need}, and tomorrow it is all over and done {referring to no further action taken}. {Manufacturer FGD}*

Lack of trust and compassion

Workplace challenges mentioned were a lack of trust; unsympathetic employers who were not willing to listen, did not seem to care or show any interest in their employees.

> *They just want production, they don't worry about their people. {Manufacturer FGD}*

> *Mine will say, breastfeed at home and get done. That is what my team leader {referring to a male team leader} will say. Breastfeed at home and get done. {Manufacturer FGD}*

Linked to this was the unwillingness to accommodate and approve unpaid leave and maternity leave policies in certain public-sector workplaces proved problematic. For example, when mothers have to go on maternity leave a month before the birth of the baby, or when a baby is born prematurely, sometimes leads to the loss of leave benefits. The above challenges all indicate a lack of compassion towards employees returning from maternity leave.

Many employees mentioned the male-dominant environment and managers; as well as a lack of understanding of the needs of females from male supervisors and colleagues as challenges they experience.

> *Operators don`t understand. The foremen (male supervisors) don't understand. They are not women, they never had / conceived children. Understand? {Manufacturer FGD}*

> *No, that won't happen (referring to request for support from female employees), because males dominant inside {Manufacturer FGD}*

Employees from the health sector pointed to inconsistency between the department's breastfeeding policy and implementation and practice, stating that it was a disgrace to have the

policy in writing but fail to communicate it. Other challenges pertained to the promotion of 'the first 1000 days' and actual support for the first 1000 days.

> *… we put something in writing {referring to the government breastfeeding policy} and we cover ourselves in that sense, but it's not practice, it's not even known before it can become practice. {Public FGD}*

> *I think ultimately, we need to, as government, we need to decide as the Department of Health we speak about the first thousand days and we've realised the importance of the first thousand days, but we're not putting our money where our mouth's at. {Public FGD}*

From a legal perspective, a few participants mentioned the maternity leave allowance was seen as too short; also mentioned were challenges relating to the completion of Unemployment Insurance Fund (UIF) forms and the pay out of UIF benefits.

Theme 3: Support for breastfeeding at work

When asked about the role that the workplace must play to support breastfeeding, several participants felt that the workplace had an important role to play, that employers could do a lot to be accommodative and supportive towards breastfeeding mothers at work. A few employee participants' felt that breastfeeding was healthier than formula milk and that it is a "natural thing".

Motivators to providing breastfeeding support

Most of the employee participants believed that providing breastfeeding support would benefit the baby in terms of health. They demonstrated an understanding of the benefits of breastfeeding for the baby and spoke about the baby being less sick, improving the child's development and immunity and assisting with the bonding between the mother and baby. Participants also mentioned that breastfeeding support would lead to employees being more productive, less frequently absent as they would need less sick leave to attend to a sick baby, and more likely to stay in the job (employee retention). Other positive outcomes concerned the mother, who would be happy, emotionally stable and comfortable, as well as financially better off, as she would not need to purchase other milk for her baby.

Barriers to providing breastfeeding support

When asked about possible negative effects of breastfeeding support in the workplace, a few participants mentioned the potential misuse and exploitation of any extra time provided for employees:

So, there are people who exploit the system, but I mean, those are individuals. {Manufacturer FGD}

So, I will say I need to go breastfeed, but then I go and do something else. {Retail FGD}

Employee participants also raised issues pertaining to the negative attitudes of colleagues and conflict amongst colleagues, because of unhappiness over the provision of time for expressing milk. Some participants cautioned about the potential of decreased productivity from breastfeeding employees. One participant also cited guilt about taking more time from the employer after maternity leave.

I mean, they have already stood in for me for the time that I was not there [during maternity leave] and to now further inconvenienced everyone. {Retail FGD}

Factors influencing workplace breastfeeding support

Factors perceived as influencing support included employees' type of work, division of work, the personality and attitude of supervisors, and whether the employer would think they were losing financially from making time available for breastfeeding.

I*f the company will lose out {referring to financial loss} then it will not be allowed {referring to time to express breastmilk} {Retail FGD}*

So, the division, for me is the golden thing, which will allow you to do things {referring to time to express breastmilk or breastfeed} {Retail FGD}

Support required by employed breastfeeding mothers

In exploring the ways to best support breastfeeding mothers at the workplace, the following components of support were mentioned by many, developing a workplace breastfeeding policy, "call a friend" peer support and support from occupational health nurses, supportive staff and colleagues and communication with staff regarding their needs, their breastfeeding rights and available policies and benefits. Also being more accommodating to mothers after their maternity leave period, especially relating to physical work and providing the option to choose between four- or six-months' maternity leave. Furthermore, providing education and workshops or training to managers and male staff relating to needs of breastfeeding women at the workplace and the benefits of breastfeeding support. As well as structural support in terms of private room or space to express breastmilk and a crèche facility nearby their workplaces.

At a government and legal level, the following suggestions were made by a few employed breastfeeding mothers: providing extended six months' maternity leave, providing paid maternity leave for all, and legislating to oblige employers to provide space for breastfeeding women at work.

The provincial Department of Health is the only department with a written breastfeeding policy, and it was suggested by few that the policy be rolled out to other government departments. The government should set an example as an employer before the private sector was targeted. An innovative suggestion made by one participant to gain traction in setting up designated spaces was to provide a breastfeeding room competition between the districts.

5.3.2 Case 2: Managers' perceptions and experience of breastfeeding support in the workplace

To explore the support for breastfeeding in the workplace from the perspective of the employer, three (middle) managers' FGDs was held within the three workplace categories (retail, public and manufacturer), and eight in-depth interviews with the HRMs and company (senior) managers. The data from these discussions/interviews was separately analysed, but the results will be reported together as similar conclusions and themes emerged. The three main themes were: 1) role of the workplace in breastfeeding support 2) support for breastfeeding at work and 3) challenges to providing breastfeeding support at work. The participants' demographics for these two categories are displayed in Tables 5.2 and 5.3.

The mean age of the managers was 44 years (SD:8.44), compared to 46 years (SD:6.27) for the company managers. The ratio of male to female managers and company managers was approximately equal. Five (47.0%) of the managers were employed in the public sector, four (33.0%) in the retail sector and three (25.0%) in the manufacturing sector. Among the senior company managers, there were three (37.5%) in each of the retail and manufacturing sectors, and two (25.0%) in the public sector. Most of the managers (83.0%; n=10) and company managers (87.5%; n=7) indicated that they had children, with the majority having no grandchildren.

Table 5.2: Managers' focus group demographics

Variables	**Managers N=12**	
	n	**%**
Age (Mean; SD)	44 (8.44)	
Gender		
Male	5	42.0
Female	7	58.0

Employment Type		
Retail	4	33.0
Public	5	42.0
Manufacturer	3	25.0
Position		
Supervisor	4	33.0
Manager	8	67.0
Own Child		
Yes	10	83.0
No	2	17.0
Grandchildren		
Yes	2	17.0
No	10	83.0
Ever Breastfed		
Yes	7	58.0
No	0	0.0
Not applicable	5	42.0

Table 5.3: Company Managers' Demographics

Variables	**HR /Company Managers N=8**	
	n	**%**
Age (Mean; SD)	46 (6.27)	
Gender		
Male	4	50.0
Female	4	50.0
Employment Type		
Retail	3	37.5
Public	2	25.0
Manufacturer	3	37.5
Position		
General/Store Manager	3	37.5
Human Resource Manager	3	37.5
Risk Control Officer	1	12.5
Department Manager	1	12.5
Own Child		
Yes	7	87.5
No	1	12.5
Grandchildren		
Yes		
No	8	100
Ever Breastfed		
Yes	2	25.0
No	2	25.0

Not applicable	4	50.0

Theme 1: The role of the workplace in breastfeeding support

Generally, managers had positive perceptions relating to the role of the workplace in providing support for breastfeeding women. They acknowledged that they could do more, that they would make a plan to accommodate women if they received a request for support, and that there would be no resistance to any such accommodation. Also, they agreed that they had a big role to play and that employers should offer appropriate support if employees need it.

Amongst the retail and manufacturing managers' group there were some extracts revealing of negative perceptions relating to the provision of support at the workplace, as the following extracts indicate:

> *I think they get enough time in their four months to breastfeed ….{FGD retail middle manager participant (MMP), male}*
>
> *It will certainly have to happen in their lunch and tea time…. {FGD retail MMP, female}*
>
> *If she has four months' notice, then she can get her child on the bottle, then it will not be a problem later on, understand? {FGD retail MMP, male}*
>
> *Anyone wants their branch to perform, but now something like this comes in the workplace {referring to a woman wanting to express breastmilk at work} then at the end you will have to do your planning for the whole year around that person, understand? {FGD retail MMP, male}*
>
> *I won't say that the employer is responsible to still provide that time, uhm, you know, to give that time now. {Manager, manufacturer in-depth interview (IDI) to Lynette Daniels}*

Among two of the manufacturer middle management participants (MMPs), there was a perception that money and finance were not at issue, as described by one participant:

> *…space would be a problem that will be our first hurdle. The rest is easy, money is easy.*
>
> *So space, ja, space will be a challenge. But if the money is approved, the rest happens. It's as simple as that. {FGD manufacturer MMP, male}*

As far as general perceptions of breastfeeding at work are concerned, a few retail middle manager participants indicated that they did not see the need for it and that it was not a big issue as there was a natural tendency amongst their staff to put their babies on the bottle before returning to

work. Some managers claimed that it was a personal thing and one manager observed that the professional breastfeeding mother is better off than farm workers, who have to negotiate the time to express and whose babies need breastfeeding the most. Managers from the DOH had the perception that because of their position in the Department they had a responsibility to promote breastfeeding practices amongst colleagues, friends and families. A department manager held the perception that the employees were aware of the breastfeeding policy.

Gender and providing breastfeeding support

The perceptions of female managers regarding the provision of breastfeeding support were mixed. Some female senior manager participants seem to have a positive perception about breastfeeding support, with one viewing breastfeeding support as positive and more beneficial compared to allowing other activities such as smoking.

> *And some people take smoking breaks almost every hour. So that is, that is a huge impact on productivity and we allow that. So, for me I would either say that it is something which makes more sense and contributes more value, I would say. {Female, public IDI to Lynette Daniels}*
>
> *Because I mean at the end of the day, how can it be negative if you're doing something good for someone for the benefit of their kids? {Female, retail IDI to Lynette Daniels}*
>
> *But we can surely be able to create a place where someone can, a mother and baby be able to feel comfortable in, you know. {Female, public IDI to Lynette Daniels}*

This contrasted with the views that it was not fair towards the workplace that you get paid and "you sit and breastfeed", that employees need to sort out their child's feeding within the four months of maternity leave, and that they need to be ready to work after their maternity leave period is over.

> *The company cannot pay you if you are not doing your work and you sit and breastfeed. So, I, I, I, yes I don't think that it is uhm, fair towards the company. {Female, manufacturer IDI to Lynette Daniels}*

Some women managers had the perception that male manager would be less supportive in providing time for expressing.

> *I was thinking, well, maybe some men might be more support – you know, if they looked at their wife whom they'd seen in that experience, might be more supportive, but I also assume that men will be more uhm, anti-taking time off. {FGD public MMP, female}*

From the male managers one gained the impression that women sometimes too easily move over to formula milk as breastfeeding is too difficult. One male manager believed that breastfeeding was best, and that they preferred that their employees breastfed, while another felt it was a personal thing and that it was unlikely that his employees would discuss it with him.

Theme 2: Support for breastfeeding at work

From the discussions with human resource and company senior managers, it emerged that most managers and workplaces valued a supportive workplace environment and wanted to create an environment and culture of caring, of showing interest in their employees and focusing on staff wellness:

> *And I think if a person can run with this and I almost want to say if the employer becomes involved, I think it supports our thing of caring, because breastfeeding is the right thing. So, if we can encourage staff to breastfeed, it confirms that we show interest in them and their children`s health. And that speaks to the culture that we are trying to create. {Manufacturer IDI to Lynette Daniels}*

> *We believe in our staff. We want to give them and help them as far as possible. So, if there is a request, we can do it. Whatever needs to be done. And we will always help them, because we give people extra time. If there's needed, we help and support them, uh, as much as possible. So, we are willing to help them if there's a request or something that specific. {Retail IDI to Lynette Daniels}*

> *I just think that we are a company that's very, uhm, supportive of such things. So, if you have an employee that says, you know, I need to express my milk or take it or whatever, we will afford you the time to do that because, I mean, it's something that's just showing a bit of compassion for your staff. {Retail IDI to Lynette Daniels}*

Provision of breastfeeding space and time

The lack of designated space for breastfeeding at the workplace was consistently cited by the majority of middle and senior manager participants, with a few manager participants indicating that a sick bay office would be available for employees if needed and that only the administrative staff at their workplace could utilize their offices for expressing. The majority of middle and senior managers claimed to be lenient with regard to providing time for expressing; however, a few stated that time would not be an issue if it was done during the employee's lunch and tea time, with some

indicating that they would encourage that amongst their staff. The general feeling seemed to be that time would not be an issue, if the activity is planned and controlled.

Support services for breastfeeding employees

With regard to current, already existing supportive practices, most managers conceded the absence of such practices. Some mentioned the departmental breastfeeding policy, or available resources (e.g. the services of an occupational health nurse, a departmental cooler bag for the transport and storage of expressed breastmilk). In the manufacturing sector issues mentioned included the promotion of breastfeeding at their workplace clinics by the occupational health nurse, and being accommodative to women after maternity leave by only giving them day shifts to work within the first three months. It therefore seems that the supportive workplace culture that was described is not always realized in practice.

Positive outcomes of workplace breastfeeding support

The majority of manager participants believed that providing breastfeeding support would benefit the baby and mother in terms of the baby being healthy and the mother being emotionally happy, content, and satisfied that she is providing for her baby's needs. The managers also demonstrated an understanding of the benefits of breastfeeding support to the employer in terms of greater productivity and less absenteeism (mothers would take less sick leave to attend to a sick baby). Other consequences would include the retention of staff, the mother returning to work sooner, and the creation of a positive public image for the employer.

Negative outcomes of workplace breastfeeding support

Negative outcomes of providing breastfeeding support at the workplace, according to managers, mostly concerned the misuse of time by employees and unhappy colleagues with a negative attitude towards the provision of time to breastfeed/express.

> *If you do have people not understanding or not uh, positive feelings about breastfeeding then you will have, like, you know, people will be nasty and "oh you take off another half an hour" and what, what, what, and that can complicate the whole thing. So, it's very important that you do share the information with all, all the employees uhm, that they understand uhm, what it is all about, otherwise there will be bitchiness and nastiness. {FGD Public MMP}*

Factors influencing workplace breastfeeding support

Some manager participants reported a lack of baseline information on breastfeeding support needs, the workplace culture of productivity, time and giving your all to your workplace, male dominant

corporate services (which are responsible for the departmental environment and budgets), the employees' type of work (administrative/office-based vs being "on the road") that might influence the support that can be provided. The management and planning of the benefits were also mentioned as a factor by a few manager participants that would influence the support provided.

> *A lot of our environment gets determined by corporate services. We have a division named corporate services and it is managed by men. So it is men that don't think about the needs of women. {Public manager in depth interview to Lynette Daniels}*
>
> *It can have a negative impact on other workers, unless the whole story, if it's not managed right. {FGD Manufacturer MMP}*
>
> *Because the culture is you give your whole being in, in this work and that is absolutely the culture. So, uh, to now take time for yourself to express milk for your baby, it almost a non-entity, if you understand what I mean, in this culture. {Public manager, IDI with Lynette Daniels}*

Levels of support required for breastfeeding mothers

After further questioning, manager participants mentioned the following ways to best support breastfeeding mothers at the workplace. Developing a breastfeeding policy for workplaces, communication and open conversation with staff regarding their needs, their breastfeeding rights and policy benefits; including information about these rights and benefits in the orientation of new staff. Also being more accommodating of mothers after their maternity leave period, especially relating to physical work

Providing information, education and workshops or training to all level of staff, especially male managers, concerning the needs of breastfeeding women at the workplace and the benefits of breastfeeding support. Educating employers regarding the elements required for providing space at work and having supportive managers and sensitizing staff about breastfeeding and its benefits.

At a time and structural support level, peer support groups and a contact person for breastfeeding employees. Also, the provision of time and flexibility for expressing breastmilk at work, private room, designated space to express breastmilk and crèche facility on or nearby the workplace was mentioned.

At a government and legal level, the following suggestions regarding additional support were made, advocacy and awareness campaigns relating to breastfeeding support in the workplace, provincially-driven government breastfeeding policy and a best practice model for workplaces. Government to

provide six months maternity leave, a whole of society approach, education of society by creating more publicity through media regarding breastfeeding and breastfeeding support in the workplace. Furthermore, communication from Department of Labour regarding legislated breastfeeding rights and time.

Theme 3: Challenges to providing breastfeeding support at work

Lack of resources

The challenges raised by most of the management participants concerned lack of space and infrastructure in the workplace, and the problem of finance to create the space and the resources needed (e.g. a fridge). Issues were raised pertaining to the cost of creating a space/room and the uptake or utilization of the space. Also mentioned by one participant was the expense of space rental in malls, and male-dominant corporate services who are responsible for the budget for developing the spatial environment in government departments.

Infrequent request for breastfeeding support

Also cited was the lack of understanding of the needs of breastfeeding employees, and the failure to voice these needs to the employer. The majority of manager participants indicated that they never or rarely received requests for breastfeeding support from employees. They thought that employees might be scared to talk to their managers, especially if they were male; also, that employees tended to put their babies on formula before returning to work, and that their workforce consisted mainly of older women. The lack of promotion of breastfeeding rights and lack of knowledge and information about opportunities to continue breastfeeding were also mentioned.

> *I don't think there's, there's been such a lot of attention on uhm, your rights of, of being able to breastfeed in your workplace. I, I haven't seen a lot of media attention and things about that. {FGD Public MMP}*

Focus on production, targets and service delivery

Another challenge raised by retail middle managers was the sales environment and the busy retail periods. They indicated that the demands of clients and the need for staff to always be "on the floor" for service delivery made it difficult for them to provide extra personal time for breastfeeding employees. The potential outcome for unhappy customers was also mentioned. Some manager participants also felt that their workplace had to focus on productivity and targets, saying "time is money."

> *……..yes time is money and it is competitive and you need to get out the maximum, like productivity and that. {FGD Manufacturer MMP}*

The prioritizing of spatial needs was described as follows: "when one needs to decide between equipment and a nursery, for example, it would be clear that the answer will be equipment."

Communication of workplace policies and dealing with unsupportive attitudes

Challenges were also raised regarding communication of the Department of Health breastfeeding policy by one public sector middle manager:

> *Firstly, there must be a, a policy in place at every workplace, which uh, the Department of Health has one, it came out as an circular, it, it's got to be communicated to all levels of staff 'cause as, as this moment I'm sure there are staff that's not aware of that through all the levels of our department, but it is a manager's prerogative and also responsibility to, to see that all circulars are distributed right down to all levels of staff. {FGD Public MMP}*

There was also the problem of how to deal with unsupportive attitudes from employees as one participant explains.

> *It's one thing to have the policy; it's another thing to get people's attitudes to be supportive. {FGD Public MMP}*

5.3.3 Connections, contradictions, disparity in the data between case 1 and 2

Disparity in the data stemmed from the fact that the majority of manager participants valued a supportive workplace culture, while employee participants complained about employers not caring, not listening and not understanding. Employees claimed that their employer was unsympathetic towards them. This reflected an incongruity between expressed support from managers and the felt experience of employees.

Another contradiction in the data gathered from employees and manager participants related to the employees' expressing feelings that employers and managers are unsupportive, strict and unaccommodative with the provision of time for expressing in the workplace. They mentioned that they mostly used their lunch and tea time. The majority of the manager participants held contrasting opinions in that they believed themselves to be lenient with the provision of time, or claimed that if requested, they would be lenient.

Amongst the public department manager participants, there were responses about awareness of the breastfeeding policy that contrasted with the department's employees, who mentioned a lack of knowledge and a lack of communication of the Health Department's breastfeeding policy.

Employee participants also claimed that the reason for the lack of support in the workplace could be attributed to the employer's attention being focused on time, work, target and performance. This was voiced by MMPs as a challenge.

Both the managers and employee participants felt that there was a lack of knowledge about legislated breastfeeding time amongst employees, and suggested education and information in this regard.

5.4 Discussion

The aim of this phase of the study was to explore the support for breastfeeding in designated workplaces from the perspective of the employees and employers. Results from the FGDs revealed that employee participants perceived the workplace as unsupportive towards breastfeeding. The majority pointed to the lack of designated space for breastfeeding and being obliged to use the toilet space for expressing breastmilk. Using toilet spaces for expressing is of course unsanitary, but many women have no alternative. Weber et al. (2011) also found that women felt largely unsupported by managers and their organization to continue breastfeeding at work. The findings also revealed that employers are mostly unaccommodative with the provision of time and that employees have to use their tea and lunch breaks for expressing. Interestingly, manager participants expressed the view that they were lenient with the provision of time, although some stated that they would prefer it if the breastfeeding or expressing occurred during the employee's lunch and tea break and not during working hours. This is revealing of negative perceptions of breastfeeding support in the workplace. The lack of designated space for breastfeeding within these workplaces were noted by both employees and managers. One study found that only 36% of nonhospital employers in New Jersey had a dedicated space (Bai et al., 2015). This is comparable to research in Michigan, which found that 78% of companies surveyed had a private space for milk expression, but only 32% had a dedicated lactation space (Hojnacki et al., 2012). Similarly, another study conducted in the state of Michigan on the attitudes of managers towards breastfeeding support found a lack of designated facilities and privacy for accommodating breastfeeding (Chow et al., 2011). The Affordable Care Act implemented in the United states appears to have had a meaningful impact on increasing the availability of private spaces for milk expression at work (Payton et al.,2019). The act states that employees must be accommodated with private space and time to express breastmilk

at work when needed (Payton et al, 2019). On a state level, 34.3% of businesses surveyed in Colorado had a private space for milk expression at work before the Affordable Care Act (Dunn et al., 2004). Immediately after the Affordable Care Act enactment, national research indicated that only 45% of breastfeeding employees had access to a private room for milk expression (Kozhimannil, Jou, Gjerdingen, & McGovern, 2016).

Weber et al. (2011) reported findings from Australian health service workplaces indicating that flexible work options and lactation breaks, as well as access to a private room, were identified as the main factors that facilitated breastfeeding at work. It is believed that the provision of private space for expressing at work should ideally be linked to law and legislation, similar to the provision of breastfeeding time that is legislated in SA.

The provision of breastfeeding time in SA is legislated according to the Basic Conditions of Employment Act Code of Good Practice, which states that women with an infant younger than six months are entitled to two 30-minutes breaks during the working day to either breastfeed or express milk (South African Department of Labour, 1998). The lack of awareness of this provision among employers and employee participants was evident in our study. Interestingly, a survey conducted in SA showed that 12 organizations indicated that they provided education or sensitisation to the general workforce on the rights of women to breastfeed. However, 11 indicated that they did not (Martin-Wiesner, 2018). Most often when employees are unaware of their breastfeeding rights at the workplace, they do not request assistance with breastfeeding. There is thus a need for advocacy around employees' breastfeeding rights in the workplace. If women are empowered with their rights, they should confidently insist on these rights when returning to work.

Paragraph 5.12 of the Basic Conditions of Employment Act states that "arrangements should be made for pregnant and breastfeeding employees to be able to attend antenatal and postnatal clinics as required during pregnancy and after birth" (South Africa. Department of Labour, 1998). This is another entitlement that women should be made aware of, as they often experience challenges in this regard. It is therefore important that a broad approach to education and support be adopted when creating enabling workplace conditions for pregnant and breastfeeding mothers (Martin-Wiesner, 2018). Utilizing various sources such as social media, community health workers, dietitians, nutritionists, occupational health nurses and HRMs is needed to create more awareness around these issues in communities and workplaces. Educational material relating to maternity protection and breastfeeding breaks should be developed and distributed in communities. The implementation and practice aspects of the legalized breastfeeding breaks also need to be addressed by vigilant

monitoring on the part of Department of Labour officials. A small-scale survey of organizations in SA found that all surveyed organizations provided maternity leave of between 4 and 6 months (some of this unpaid), and that there was significantly higher compliance with the maternity leave laws than the breastfeeding break laws (Martin-Wiesner, 2018).

The lack of support and non-supportive work culture for breastfeeding in the workplace is at least in part attributable to the fact that workplaces focus on work, time, targets and production, and breastfeeding is not a priority. This point was made by both employee participants and manager participants. Similarly, Brown cited time and productivity as barriers to providing breastfeeding support (Brown et al., 2001). Lack of resources (e.g. lactation space) and breastfeeding not being a priority at work may explain why some of the employee participants stated that many employed mothers start planning ahead to give their child infant formula or start mixed feeding prior to returning to work. The pressure to get their babies onto a bottle before returning to work for breastfeeding mothers and the resulting emotional stress and anxiety is described in the literature (Desmond & Meaney, 2016).

Several positive and negative outcomes from providing breastfeeding support were discussed by employees and managers, with both groups having a good understanding of the potential positive effects of providing breastfeeding support. The findings in this study concur with those of Chow et al. (2011), that participants identified improved retention of employees and improved productivity as positive outcomes from providing breastfeeding support at the workplace. They nevertheless identified a knowledge gap amongst managers pertaining to specific health benefits (Chow et al., 2011).

Manager participants in this study reported that requests for breastfeeding support are never or rarely received from employees, suggesting that employees might be scared to communicate, perhaps finding it difficult to talk to male managers. This situation leads to the avoidance of necessary communication, and employees' needs are not conveyed to employers. Chow et al. (2011) also reported infrequent requests for breastfeeding accommodation from employees. Earlier studies by Dunn et al (2004) and Dodgson et al (2004) reported similar findings. In this study, challenges experienced by employee participants included making their needs known to employers, a lack of communication after maternity leave, and working in a male-dominated environment. Anderson et al. (2015) identify many characteristics that complicate interpersonal communication, in particular age, sex and position. There is clearly a need to enhance employees' and employers' ability to communicate. The United States Business Case for Breastfeeding provides some general

guidelines for improving employers' ability to support breastfeeding at work (United States Department of Health and Human Services, 2008). Advocacy and proactive interpersonal communication is required, by advocates such as dietitians, nutritionists, occupational health nurses and lactation consultants to workplaces. The advocates need repeatedly to bring to employers' attention the issue of breastfeeding support in the workplace and the benefits to the employee, employer and society (Anderson et al., 2015). It is important that workplaces understand the long-term benefits of providing breastfeeding support to employees. These benefits have been described in the literature as decreased absenteeism, increased employee morale, lower healthcare costs relating to infant illnesses (Cohen, Mrtek & Mrtek, 1995; Galtry, 1997; United States Department of Health and Human Services, 2008). Smith et al. (2013) found a trend of lower absenteeism among employees who exclusively breastfed for six months. For those returning to work at six months or earlier, among the exclusive breastfeeding group an average of four days had been lost from work due to infant illness since the child had been born, compared to seven days among those who did not exclusively breastfeed to six months. Among those who had not exclusively breastfed infants to six months, 22% reported one or more hospitalisations of the child. In comparison, only 9% of those who exclusively breastfed to six months reported hospitalisation (Smith et al., 2013). Workplaces should consider the implementation of a return to work consultation after maternity leave, facilitated by the employee's supervisor, occupational health nurse and/or the human resources manager of the organization. This will help to facilitate open conversation and dialogue about the topic.

Chow et al. (2011) conducted a qualitative study of managers' perspectives towards breastfeeding support in Michigan, and found that managers' gender and employees and managers' comfort level with breastfeeding influenced how open employees were about their breastfeeding support needs. Similarly to the situation reported in this study, manager participants in Chow et al.'s study received infrequent requests for breastfeeding accommodation and stated that employees might be uncomfortable about approaching male managers for support.

A study by Snyder et al. (2018) in the state of Nebraska reported that women in the production/transportation industry were the most likely to initiate conversation about their breastfeeding needs with their supervisors. In the South African context, women in the production/manufacturing sector might be less likely to communicate their needs, as many are employed part-time or on contract and might fear losing their jobs, or that their employer might form the impression that they are not committed to their work. In a qualitative study by Anderson

et al. (2015), participants were concerned that lactating employees might be perceived as less committed to their jobs if they asked for lactation breaks.

In the study by Chow et al. (2011), managers maintained that they would feel more comfortable if employees initiated the conversation on breastfeeding support. Others studies by Brown et al. (2001) and Dunn et al. (2004) also reported infrequent requests for workplace breastfeeding support, and indicated that companies would only provide such support if an employee demanded it. In this study, concern was expressed about the lack of baseline information about employees' needs.

Employment type was mentioned as a factor that might influence the provision of support, in that it could be easier to provide support for administrative workers than for employees who needed to be on the road. Snyder et al. (2018) concluded that workplace support for breastfeeding varies by employment type, and that women in the service industry and production/transportation industry reported receiving the lowest level of informal and direct support. Those in the professional/management bracket were most likely to receive informal and direct support upon returning to work. The literature indeed shows that women in professional occupations have higher rates of breastfeeding (Kimbro, 2006; Snyder et al., 2018). The longer duration of breastfeeding reported for professional women might be linked to the fact that their occupations provide more flexibility, and that they are generally more educated and prepared to demand their rights. It is therefore important that women in the manufacturing/production employment sector should be targeted for more support in the workplace to achieve their breastfeeding goals.

Another reason mentioned by manager participants for rarely receiving requests was the lack of knowledge and promotion of employees' breastfeeding rights. It was suggested by both manager and employee participants that employed mothers often planned ahead to mix feed or place their children on formula milk before returning to work. This results in little demand for breastfeeding support at work. Similar findings were reported by Chow et al. (2011). Some employees also said that they experienced a sense of urgency about moving their children onto formula milk, and felt emotional stress when their child did not want to drink the bottle. Similar findings were reported by Desmond and Meaney (2016). These occurrences can possibly be linked to employees' anticipating a lack of breastfeeding support in the workplace. This in turn can be linked to managers and society generally viewing formula feeding and breastfeeding as full equivalents, which draws attention to the lack of public knowledge of the unique composition and benefits of breastfeeding.

Breastfeeding has long been established as the optimal source of nourishment for infants. Breastmilk is more than just nutrients. It is a living fluid that provides a complex mix of hormones, antibodies and enzymes, unique to mother and baby, which cannot be replicated in formula milk preparations (Hoddinott, Tappin & Wright, 2008). A study by Witters-Green (2003) found that more than half of employers viewed formula-fed infants as just as healthy as breastfed infants. Breastfeeding contributes to the realisation of infants' and young children's right to adequate food and to the highest attainable standards of health. It is therefore important that it is protected, promoted and supported in all settings. Breastfeeding is a natural act, but also a learnt behaviour. The practice of breastfeeding has dwindled over the past few decades and formula feeding has become an accepted method of feeding infants, including in SA. There is therefore a need for breastfeeding to be normalized in South African society. A qualitative study conducted in Ireland found that some women felt that breastfeeding was misrepresented and that the Irish culture was not accepting of breastfeeding. These women indicated that normalizing breastfeeding would go a long way towards making society open to the practice of breastfeeding (Desmond & Meaney, 2016). Similarly, a mixed-method study of first-time African American mothers found that breastfeeding was natural, but not the cultural norm (Kim, Fiese & Donovan, 2017). Another study found that mothers faced difficulties due to breastfeeding being considered taboo within workplaces (Gatrell, 2007). The Lancet series similarly suggests that urgent commitment is needed from governments and health authorities to establish a new normal, where every woman can expect to breastfeed and to receive the necessary support to do so ("Breastfeeding: achieving the new normal," 2016).

In an attempt to address this, the "Normalise Breastfeeding" social media campaign in SA has lobbied government for legislated changes to further accommodate breastfeeding women at work and in public. They have called on establishments to show their support by posting "We support breastfeeding" posters in prominent places in the workplace ("Normalise Breastfeeding, South Africa Campaign," n.d.). Very recently a well-known family restaurant chain in SA made headlines by creating a policy that allows patrons to freely breastfeed in their venues. This is encouraging and other restaurants and retail settings should be encouraged to follow suit by adopting public breastfeeding policies (The Conversation, n.d.). The adoption of workplace breastfeeding policies by employers and acknowledgement and recognition of workplaces that take these bold steps are needed. The National DOH should consider creating workplace recognition programmes or incentives (e.g. by providing tax relief) to honour employers who support their breastfeeding employees.

This study's findings also highlight the fact that women experience the return to work as difficult and challenging. Many employees described negative and unsupportive attitudes on the part of co-workers and supervisors. The negative attitudes were believed to stem from the perception that employees returning from maternity leave had already received their maternity leave time and were expected to get on with their work. Smith et al. (2013) also identified a lack of support from co-workers and managers in Australian workplaces as a barrier to mothers' breastfeeding intentions. Many employee participants from this study viewed the return to work as an uncomfortable experience owing to the lack of space to express and the lack of time to express. Smith et al. (2013) similarly reported that the employee intention to breastfeed was hindered by time pressures.

Today many women struggle to balance work and family life. Breastfeeding can place additional strain on this balancing act if workplace support for breastfeeding is not forthcoming. The provision of time and space is in fact a low-cost intervention for working mothers who want to continue breastfeeding (Rollins et al., 2016). Employee participants in this study expressed both maternal guilt for failing their child and guilt for taking more time from their employer after the maternity leave period. Two other studies have reported feelings of guilt on account of not meeting the goals of mothering or of working (i.e. taking time away from work to express milk) among working breastfeeding mothers (Mlay, Keddy & Stem, 2003; Rojjanasrirat, 2004).

Manager participants were positive about the role of the workplace in supporting breastfeeding, indicating they had an important role to play in support of their staff. They were also positive towards the provision of breastfeeding support, indicating that they could do more, that they would make a plan if a request was received and that there would be no resistance. This undertaking was aligned with the value senior managers attached to a supportive workplace culture. There are however big discrepancies between the expressions of support by managers and the real-life supportive practices at these workplaces. Interestingly, the majority of manager participants indicated that there were no current supportive practices at their workplaces. Only the DOH has a written breastfeeding policy in place and few workplaces indicated the service of an occupational health nurse. The absence of supportive practices was also reported by employees at these workplaces. Smith et al. (2013) found that a supportive workplace culture is associated with higher proportions of employees having exclusively breastfed for six months.

Employees and managers also mentioned the limited awareness of the DOH breastfeeding policy. This finding shows that, even with policies in place, employees can experience a lack of support. It also draws attention to the importance of interpersonal communication about policies. Anderson

et al. conducted three focus groups with 23 businesses in a rural city in the Midwest United States. They claim that interpersonal communication may be more important than written communication for enacting breastfeeding support. Their findings indicated that even when employers were aware of breastfeeding support, interpersonal communication challenges hampered attempts to implement the support. For example, to use breastfeeding break times to express requires interpersonal communication and negotiation, even when formalized policies in support of these practices are in place. The participants indicated that interpersonal communication about workplace breastfeeding support can be absent, difficult to initiate and difficult to maintain (Anderson et al., 2015). These challenges can be further complicated by factors such as age, sex and position. Within the DOH, the formal breastfeeding policy and women's breastfeeding rights should routinely be communicated to all pregnant employees along with their maternity leave benefits. Furthermore, all public-sector employees need to receive a copy of the breastfeeding policy. This will help to bridge the gap experienced between policy and practice.

Interestingly, amongst the manufacturing middle manager participants group, there was a few perception that finances are not an issue at their workplaces. But this sentiment was not echoed by senior managers in these workplaces. This indicates that middle managers might not be aware of financial challenges at their respective workplaces, since they do not always function at a strategic level.

Chow et al. (2011) found that managers in the state of Michigan viewed breastfeeding as positive compared with other activities, such as smoking, which corresponds with our findings. If provision can be made for smokers at work, the provision of breastfeeding breaks for a limited period can surely be accommodated at workplaces, with far-reaching benefits compared to smoking breaks. The view that professional breastfeeding mothers were "better off" than farm worker mothers was expressed by a manager. Farm workers need to negotiate their time and space with their employer, and it was thought that their babies need breastfeeding the most. Although this consideration is valid, the Lancet series reports that the benefits of breastfeeding span populations living in high-income, middle-income and low-income countries and communities. Breastfeeding provides short-term and long-term health and economic and environmental advantages to children, women and society generally (Rollins et al., 2016).

Employee and manager participants identified information and education regarding breastfeeding as urgently needed for the support of breastfeeding mothers by employers, employees and society as a whole. Establishing peer-support groups was also mentioned, similar to recommendations by

Johnson et al. (2015). The participants in the Johnston et al.'s study thought that peer-based support combined with individual support would be most powerful and effective. Increasing paid maternity leave to six months, in line with South Africa's EBF recommendation, was also suggested to support breastfeeding mothers. A similar comment was voiced in a qualitative study in the Breede Valley sub-district relating to capacity and commitment to infant and young child feeding (Du Plessis, 2015). This is an important consideration that needs to be lobbied for. Return to work is often the reason for early cessation of breastfeeding, and the literature indicates that the longer a mother delayed her return to work postpartum, the more likely she was to breastfeed for at least four months (P for trend 0.001). Mothers were less likely to breastfeed for at least four months if they returned to work for financial reasons (RR 0.86, 95% CI 0.80–0.93) (Hawkins, Griffiths, Dezateux & Law, 2007). Another aspect that needs to be addressed is expanding the DOH's breastfeeding policy to other departments. This process can be facilitated by DOH officials along with the Department of the Premier, which can call for action across all government departments in the Western Cape Province.

5.5 Conclusion

It is acknowledged that a multi-pronged approach is required to increase EBF rates in SA. Much more attention and focus, however, needs to be placed on the workplace setting. Advocacy is needed for creating an enabling workplace environment for breastfeeding, and increasing knowledge and awareness of the benefits of breastfeeding and the breastfeeding rights of employees.

SA appears to have a good set of laws in place protecting the rights of breastfeeding women, but the provision of a flexible or permanent, private, hygienic space for mothers to express at work should be promoted. This study has shown that the legislated breastfeeding breaks are absent or at best poorly implemented at workplaces. This appeared to be due mainly to widespread ignorance of the breastfeeding laws and rights on the part of both employers and employees. The Department of Labour needs to be actively involved to monitor the implementation of legislation regarding breastfeeding breaks. If these legislated rights are universally recognized at workplaces and adequately monitored, they could have a substantial impact on breastfeeding duration and exclusivity rates amongst employed breastfeeding women.

The gap between a written breastfeeding policy and its practice was also evident in this study and much more emphasis needs to be placed on the communication of such policies.

In the next chapter, the experience of employed breastfeeding mothers at designated workplaces will be explored.

CHAPTER 6: EXPLORING THE EXPERIENCES OF EMPLOYED BREASTEFEEDING MOTHERS AT DESIGNATED WORKPLACES

6.1 Introduction

Breastfeeding is one of the most natural, protective and cost-effective practices a mother engages in with her infant (Weber et al., 2011). Both UNICEF and WHO recommend that mothers should breastfeed exclusively for six months and continue breastfeeding for two years and beyond (World Health Organization, 2003). The work environment presents major challenges for breastfeeding mothers through the physical separation of the mother and baby during a crucial time, thus interrupting the established breastfeeding process and routine. The transition period of returning to work is therefore a critical time to provide support for the continuation of breastfeeding amongst employees.

The benefits of providing breastfeeding support in the workplace include the likelihood that women will return to work earlier. This contributes to maintaining work skills and reducing staff turnover, as well as lower rates of absenteeism because breast-fed babies are healthier (United States Department of Health and Human Services, 2008; Smith et al., 2013). But the full benefits of breastfeeding will not be realized if workplaces remain unsupportive of breastfeeding mothers (Kosmala-Anderson & Wallace, 2006).

The aim of this phase of the research was to explore the experiences of employed breastfeeding mothers who exclusively or predominantly breastfed their children from birth for any period up to six months. By exploring the experiences of these employed breastfeeding mothers, their enablers and support needs can be identified to make it possible further to support them in the workplace.

6.2 Methods

The recruitment of employed breastfeeding mothers mainly involved using a community fieldworker with experience in qualitative research. The researcher also made personal contact with individuals in the Worcester area to enquire about employed mothers who met the inclusion criteria. Advertisements were displayed in communities in Worcester area. The fieldworker completed the community recruitment form for mothers who were interested in participating in the FGD. These mothers were contacted to make arrangements (date, time and venue) for the FGD.

Permission to conduct the study was obtained from the Health Research Ethics Committee of Stellenbosch University (S17/04/089). Written informed consent was obtained from all participants who participated in the study as well as consent to audio record the discussion. Each participant received a copy of the consent form.

The researcher conducted all the FGDs in Afrikaans, which was the language preference of the majority of participants. The issue of confidentiality was discussed with all participants at the start of the FGD. Participants were asked to keep all information discussed during the focus group as confidential.

The researcher developed a discussion guide (Addendum L) to direct the FGDs, which included a few brief introductory questions and probes. During the FGDs participants were encouraged to express their views freely. The researcher attempted to use wording that would enable the interviewees to reveal the particularity of their own experience and perspectives. Participants also completed a short one-page demographic questionnaire before the discussion commenced. The participants will be referred to as employed breastfeeding mother participant (EBMP).

The FGD was held at a central venue in the town of Worcester on Saturdays, one of them after hours. The fieldworker assisted mothers with transport to the venue and helped out during the FGDs. Refreshments such as juice and muffins were served at all FGDs. The participants also each received a food gift card to the value of R150 and were compensated for their transport costs. They were required to sign for receipt of the food gift card (Addendum X). One pilot focus group discussion was conducted with employed breastfeeding mothers residing in the Cape Metropole district, but its results were not included in those reported below.

A qualified person transcribed the information gathered from the FGDs. After transcription, the researcher performed quality control checks on the data to ensure that the information had been captured accurately. The Atlas ti 8.2.31 software programme was used for analysis of the data. The researcher went through the transcripts systematically while applying open coding to the text. To ensure that all emerging themes were identified and to check for inconsistencies, the text was read several times.

6.3 Case 3: Results and Discussion

Five FGDs (n=24) were conducted with employed breastfeeding mothers. One of these was conducted with employed breastfeeding mothers who were health care professionals. From the focus group data, four themes emerged: 1) breastfeeding motivation and attitude, 2) combining breastfeeding and work, 3) workplace breastfeeding support services and 4) breastfeeding

challenges. The participants' demographics are displayed in Table 6.1, below. Their mean age was 27 years (SD:4.71), with the majority employed as general workers (70.8%; 17) in the manufacturing sector. The majority of employed breastfeeding mothers did not have grandchildren.

Table 6.1: Employed breastfeeding mother participants' demographics

Variables	**Employed Breastfeeding Mothers (n = 24)**	
	n	**%**
Age (Mean; SD)	27 (4.71)	
Employment Type		
Retail	2	8.3
Non-Profit Organization	2	8.3
Manufacturing	14	58.3
Government Health	4	16.7
Other: outsourcing, finance	2	8.3
Position		
General worker	17	70.8
Receptionist	1	4.2
Community Health worker	2	8.3
Medical Officer	1	4.2
Pharmacist	1	4.2
Information Clerk	2	8.3
Grandchildren		
Yes	2	8.3
No	22	91.7

Theme 1: Breastfeeding motivation and attitude

Value and belief in breastfeeding

From the discussions, it was apparent that the motivating factors for these mothers to breastfeed was the value and belief they placed in the benefits of breastfeeding as the best nutrition for their child in terms of having a healthy baby and bonding with the child. Some mothers mentioned the financial benefits associated with breastfeeding as their motivation for breastfeeding. During one of the FGDs some EBMPs shared the view that they were apprehensive to give anything but breastmilk, as they knew that they would receive a negative response from clinic sisters when attending the baby clinic. All the professional mothers indicated that there was never any choice for

them but to breastfeed, and viewed breastfeeding as something they had to do, as they worked in a health-orientated environment and were aware of the benefits of breastfeeding.

> *I think for me, there was no alternative. I knew all the benefits of breastfeeding and it was never in my mind that I will give my child a bottle. When I had my baby shower, everyone gave bottles and I said: but why are you giving me bottles? I am going to breastfeed my baby. It was always a given that I would breastfeed him. {FGD, professional mother, EBMP}*

Commitment and planning for breastfeeding

These professional EBMPs showed commitment to making breastfeeding work, by planning their schedules to either express at work or go home to breastfeed their infants. The non-professional EBMPs also showed commitment, by breastfeeding their infant before they went to work and upon returning home. The majority of the employed breastfeeding mothers indicated that the decision to breastfeed was made while they were pregnant. A few indicated they made the decision when their child was born. All participants had a good understanding of the term "exclusive breastfeeding".

Two other studies also found returning to work while breastfeeding and sustaining breastfeeding requires commitment of the mother (Froh & Spatz, 2016; Burns & Triandafilidis, 2019). A study by Rojjanasrirat (2004) explored the breastfeeding experiences of women who returned to work after childbirth and found that mothers who felt positive about breastfeeding continued breastfeeding while working. Similarly to our findings, these mothers displayed commitment to breastfeeding, describing both the personal value they attached to breastfeeding and their belief in its benefits. Desmond & Meaney (2016) also found that women who chose to combine breastfeeding and work were very passionate about it. It is therefore essential to help mothers to develop a belief in the advantages of breastfeeding and a positive attitude towards breastfeeding. Women should consistently be exposed to accurate breastfeeding information from various stakeholders, health care providers, peers, family, co-workers, community health workers and occupational health nurses, and the advantages of breastfeeding should be emphasised to all women. A positive attitude and a belief in the benefits of breastfeeding have been shown to be predictors of successful breastfeeding for working mothers (Roe et al., 1999). A UNICEF (2018) review also described personal traits such as commitment, assertiveness and a strong belief in the importance and benefits of breastfeeding amongst mothers who successfully combined breastfeeding and working (United Nations Children's Fund, 2018). Other personally traits describe in the literature in Ireland

relates to being determined or stubborn, with the participants describing that these traits assisted them to overcome any obstacle they faced (Desmond & Meaney, 2016).

Theme 2: Combining breastfeeding and work

This theme will be discussed under the subthemes emotional stress, maternal guilt, and enabling factors for combining breastfeeding and work

Emotional stress

The EBMPs indicated that the return to work was difficult and challenging. This was because their children did not want to drink anything else but breastmilk. Some EBMPs indicated that their babies only wanted breastmilk from the breast and would not accept expressed breastmilk from a bottle, which they found hugely challenging.

> *Mine is a big challenge till today. I go home every lunch time to breastfeed my child. I don't have a choice, because she drinks nothing else {referring to breastmilk}. {FGD professional, EBMP}*

These EBMPs also indicated that they were worried about whether their children were getting enough breastmilk at home, saying that returning to work had interrupted their breastfeeding routine and affected bonding time with their child. Participants in Ireland spoke about a sense of urgency to get a feeding routine established with most indicating that the infant feeding routine was the most important at the time of their return to work (Desmond & Meaney, 2016). The majority of non-professional EBMPs indicated feeling uncomfortable at work with full and painful breasts, with some explaining that this was due to work pressure and supervisors' not providing them with the time they needed to express. The participants in Rojjanasrirat's study (2004) similarly complained that their workload and pressure of time created stress in the workplace.

In contrast to our study finding, a recent retrospective survey of women's return to work experiences in Nebraska found that the majority of the women felt supported by their employer and satisfied with their return-to work-experience (Snyder et al., 2018). In a quantitative study in Australian workplaces, when employees were questioned about their experience of breastfeeding at work, 58% found it to be very positive or positive, 23% were neutral and 21% found it to be a negative or very negative experience (Weber et al., 2011).

Maternal Guilt

One EBMP indicated feeling very guilty about taking more time from her employer to breastfeed her child, while experiencing pressure from her colleagues to work and put in the hours.

> *I myself struggled with guilt until my husband at a point told me: "It's not about you. It's not about whether you feel like you're working one hundred and fifty percent of the time. This is about [child's name omitted] and him getting the best care that he can, that we can give him, the most love that we can give him. Your work even allows for this, so it doesn't matter what your colleagues think, whether they're happy with it or not. {FGD professional, EBMP}*
>
> *So, they still put pressure on you. Even though they are supportive, and they say all the right things, but every second day when there is a situation, then it's a "please, just for today". So, at some stage I was, even with your request, I'm sorry, my child has to feed. {FGD professional, EBMP}*

Similar findings were reported in the literature regarding women who felt guilty about taking extra breastfeeding break times (Wyatt, 2002; Mlay et al., 2003; Rojjanasrirat, 2004; Burns, 2019).

Enabling factors for combining breastfeeding and work

Regarding the support that enabled EBMPs exclusively or predominantly to breastfeed, the main support consistently mentioned by all was the immediate family of mothers, grandmothers, siblings and spouses. The participants explained that the support mainly took the form of helping with household duties, encouragement, motivation and advice. Amongst the professional EBMPs, their spouse surfaced as their biggest supporter in terms of encouragement and motivation. The professional EBMPs explained that they had talked with their husbands about the importance of breastfeeding from the start and why they wanted to do it, which resulted in support and encouragement.

> *you can do it … you're doing the right thing. So he was all the way, like, he was sold out. I think he also, from what I've spoken about before about breastfeeding, he was sold that it's the way to go. {FGD professional, EBMP}*

EBMPs also mentioned support from the clinic in terms of pamphlets on breastfeeding and breastfeeding information in the *Road to health* booklet, the hospital's ensuring that the baby was breastfeeding well before discharge, and hospital referral for further clinic-based support. One mother mentioned that she had had support from a work colleague in terms of advice.

These findings regarding practical and emotional support from husbands and partners during maternity leave and after returning to work are consistent with a qualitative study conducted in Ireland (Desmond & Meaney, 2016). The participants claimed that the support network of partners,

family and health professionals helped them with both initiating and sustaining their breastfeeding experience (Desmond & Meaney, 2016).

Theme 3: Support for breastfeeding at work

In general, EBMPs stated that the workplace had a role to play in being more accommodating and making it more comfortable for mothers at work. Some indicated that it was especially important as their workplace employed many females.

Similarly, in a quantitative study that determined the experiences and views of employees in four large public-sector organizations in England concerning breastfeeding support at work, the majority of participants (91%) indicated that their employer should do more to support breastfeeding employees (Kosmala-Anderson & Wallace, 2006).

This theme will be further discussed under the subthemes breastfeeding supportive practices, reasons for no support and support needed by EBMPs.

Lack of breastfeeding support practices

Support practices refers to services, resources, benefits/allowance, interventions that support a breastfeeding mother to breastfeed or express breastmilk. Regarding supportive practices at their workplaces, the majority of EBMPs indicated that there were no such practices, with some saying that their workplace was strict and that they had accepted that they "cannot do those things", referring to expressing during working hours. A study by Gatrell (2007) some breastfeeding women perceived their work environments as hostile towards breastfeeding. Snyder et al. (2018) concluded that workplace breastfeeding support varies by employment type and that women in the service and production/transportation industry appear to be at a disadvantage compared to other employment types. The authors found that mothers in the professional/management sector were the most likely to receive informal (verbal encouragement) and direct support (flexibility, policies etc.) for breastfeeding when returning to work. This result can be associated with the findings of Kimbro (2006) that women in the professional occupations had higher rates of breastfeeding.

Reason for no breastfeeding support

When asked the reason for the lack of support in terms of providing time and space, the EBMPs mentioned that the workplace prioritised work, production, time and money; also, that the employer probably suspected their employees would take advantage of them. It seemed to the EBMPs that their employers believed that their employees were well and did not need support. Another reason mentioned was that the employers were selfish and would not support employees,

if they did not also benefit and gain themselves. The lack of knowledge on the part of the employer about the breastfeeding rights of employees at the workplace was also mentioned, as well as the suspicion that employers simply did not care.

> *The work is very selfish, so they won`t do anything for you … even uh, uh, uh expressing you must do in your own time.*

When delving into the reason for no support, factors relating to an unsupportive workplace culture were mostly raised. Although employers were unsupportive in general, few EBMP`s indicated having support from managers, supervisors and colleague in terms of encouragement and being allowed time to express. This draws attention to the importance of creating supportive workplace cultures where there is trust, where employees and managers care about one another and provide guidance and support for each other, and where employees feel valued as people. Smith et al. (2013) found that a supportive workplace culture was associated with higher proportions of employees having exclusively breastfed at six months.

Support needed by employed breastfeeding mothers

Several supportive needs were identified from the discussion with breastfeeding mothers, to support successful return to work and breastfeeding. Flexible times for breastfeeding and providing the time to express, the provision of information to staff and breastfeeding women regarding policies and their rights. Also, crèche facility nearby work, supportive staff, colleagues and managers and private room, space to express breastmilk. Accommodating mothers after their maternity leave period, especially in respect of physical work and shifts and the provision of resources, e.g. holders to express, expressing machines, availability of a nurse. Other support mentioned was communicating or having a meeting with senior management relating to support for breastfeeding in the workplace and the departmental employees signing to indicate that they had received information about the breastfeeding policy.

The education of the older generation in communities with regard to breastfeeding best practices was identified as important and something for which support was needed. The following additional support measures were identified by these mothers for actioning at governmental level. Legislation or at least a recommended policy for the provision of space for expressing breastmilk at work, provision of resources e.g. breast pads for less fortunate women, holders for expressing. Also, the Departmental promotion of women's breastfeeding rights, the government placing a high priority on support for breastfeeding at the workplace and providing extended, six months' maternity leave.

Theme 4: Breastfeeding challenges

Lack of breastfeeding space and time at work

One mother explained that the workplace itself was the biggest challenge to breastfeeding, because you are physically away from your child for eight to nine hours. Challenges in the workplace included a lack of space and time, and a lack of communication about the topic.

In all the focus groups it emerged that no designated space for breastfeeding was available at their workplaces, with some participants explaining that they had to use the toilet. One professional EBMP said that she expressed in her car at first, before requesting support from her supervisor. In addition, a few professional EBMPs with their own offices indicated that they could utilize their offices to express, while another EBMP indicated that they had female-only locker rooms, which she could utilize. A professional EBMP working in a hospital setting remarked that the hospital where she worked was breastfeeding friendly, yet she felt that they were not sufficiently breastfeeding friendly towards employees, as there was no dedicated space available to them for expressing or breastfeeding.

With regard to the provision of time, most EBMPs indicated that they used their lunch time as they would not be allowed to go and express at any time. Only one EBMP positively indicated that space and time was provided for her to breastfeed her child at a nearby crèche on the farm where she is employed, but this was only during her lunch break time. One professional EBMP from the health sector also described her experience of requesting time, which was only granted after a few battles. In this case she was allowed to go home to breastfeed her child. This happened after she discovered that her place of work had a breastfeeding policy in place, which she was not made aware of. Amongst the professional EBMPs, the lack of knowledge about their breastfeeding rights and legislated time for breastfeeding at work also come up during the discussion. It appears that most mothers who participated in the FGDs were unaware of their breastfeeding rights.

> *We did not know that there is a law that states: that we can get a half an hour extra for breastfeeding and so…. {FGD professional employed mother}*

The lack of time and space provision can be linked to a general lack of knowledge of the benefits of breastfeeding in the workplace on the part of the employer. Employers might also think that the provision of space for expressing at work would incur more cost to the employer, and that the provision of time might be perceived to influence staff productivity. A lot more advocacy is needed at workplaces to demonstrate the benefits of providing breastfeeding support at the workplace for the employee, employer and society. The absence of space for health care employees to express at

work is particularly disappointing: one would have presumed that health care facilities, where the benefits of breastfeeding should be well known and understood, would have provided a higher level of support for their breastfeeding employees.

Some EBMPs indicated using a toilet cubicle to express, which is unhygienic. But in two studies employers viewed a toilet as an acceptable space for breastfeeding or breastmilk expressing (Brown et al., 2001; Witters-Green, 2003). Also, the ILO maternity protection recommendation, 2000 (No 191), recommends that where practicable, provision should be made for the establishment of facilities for nursing under adequate hygienic conditions at or near the workplace. The provision of breastfeeding breaks was mostly not allowed, with the majority of EBMPs from the retail and manufacturing sectors indicating having to use their lunch and tea time. The non-professional mothers experienced greater challenges with taking breastfeeding breaks. The professional EBMPs appeared to be allowed more flexibility to take the time, corresponding with findings by Rojjanasrirat (2004) that professional women had more control over their schedules. The author indicated that the type of profession, number of working hours and the nature of the work environment impacted the individual's ability to develop a plan to breastfeed at the workplace. Our findings show that EBMPs are unaware of the legislated breastfeeding breaks that they are entitled to, according the South African BCEA 1997 Section 87(1)(b) Code of Good Practice on the protection of employees during pregnancy and after the birth of a child. If women were aware of their rights, they would presumably demand their rights and not utilize their lunch and tea times for expressing. The relevant shop stewards and occupational health nurses are in a unique position to create more awareness around breastfeeding rights and maternity protection at these workplaces.

Unsupportive workplace culture

There were also reports of unsupportive supervisors and staff, who would not allow employees to express or became irritated when asked about this. It was also said by a few participants that supervisors did not understand and mistrusted you. Moreover, fellow staff were unsupportive in terms of watching your activities (e.g. utilizing the toilet for a long period) and then reporting you to the supervisor.

> *If I tell our supervisor, I cannot pack the boxes anymore, my breast are full then he will tell me, then he tells me you cannot tell me this, the boxes must go on the roller, so ….*

Other challenges at work included being scared to communicate with supervisors, knowing what their answer would be, telling you that you are replaceable and making you afraid to lose your job. Johnson et al. (2015) observed that African American mothers expressed frustration at not getting

the appropriate support for breastfeeding at work without jeopardizing their job. In general, the workplace was perceived as very strict. All these elements are indicative of an unsupportive workplace culture.

Froh & Spatz (2016) reported that many women felt supported at their workplace, however some believed that the work environment and culture was not supportive. A qualitative study investigated the barriers to returning to work for breastfeeding mothers in Ireland and found that many mothers did not disclose to their employers that they were breastfeeding. They also did not enquire about being assisted to continue breastfeeding after their return to the workplace, as they perceived a lack of support from their employers (Desmond & Meaney, 2016). The absence of such requests from employees, as noted by managers in our study, can similarly be linked to the perceived lack of support for breastfeeding in the workplace. On the other hand, a few mothers in professional positions recalled their experiences of requesting help in terms of time and space to breastfeed, and all of them reported a positive outcome, with support being forthcoming.

The results of this study are consistent with findings in the literature identifying the problems faced by breastfeeding mothers as lack of space, lack of breastfeeding time and lack of employer/co-worker support (Wyatt, 2002; Desmond & Meaney, 2016). Desmond and Meaney similarly found that the attitudes of colleagues and the stigma attaching to extended breastfeeding were mentioned as problematic by some women. Many mothers said that they were not comfortable with being forthcoming about their decision to continue breastfeeding due to fear that they would be the subject of gossip and negative attention at their workplaces (Desmond & Meaney, 2016).

Challenges within the DOH included a lack of knowledge and communication of the departmental breastfeeding policy, and lack of support from management relating to informing colleagues and staff of department policies.

> *We did not know that there's a policy, that you can get time to express. Up and till now there is a lot of people that gives birth in our environment that does not know. So that was also a challenge for us. {FGD professional, EBMP}*

> *So then I went to speak to HR and they said, no, that there is such a policy. Then obviously my next question was, but you knew this, you knew what my problem was, the main reason why I didn't want to come back, why did nobody tell me about the policy? Anyway, "No, sorry. Oh no, yes. Of course, no, it applies to you. No, you must take your time." So then in retrospect, "No take the ..." So that was a challenge. {FGD professional, EBMP}*

Smith et al. (2013) found that in Australian workplaces where mothers knew about a breastfeeding policy, 61% exclusively breastfed at six months; while in workplaces where employees were unsure or there was no policy, only 34% exclusively breastfed (p=0.016). Another study also found that working mothers in England were generally unaware of policies to enable breastfeeding at work (Kosmala-Anderson & Wallace, 2006). This emphasizes the importance of communicating existing policies. Breastfeeding policies in organizations must be communicated to employees when maternity leave benefits are discussed with them. Human resources departments need to play a more prominent role in ensuring the communication of maternity-related policies.

A professional EBMP indicated that she felt victimized by her male colleagues:

> *The other problem was, I ... Okay, maybe it's a strong word, but there was a bit of victimization from my colleagues as well. Because why are you taking half an hour now? Like, where are you going? No, there's a breastfeeding ... But that's not fair, like especially when you're on call and you say …. {FGD professional, EBMP}*

Older generation beliefs

Family members' misconceptions and the older generation's beliefs about infant feeding, and an insufficient supply of breastmilk, were identified as challenges by many EBMPs. Mothers from the professional group indicated that it was important to stand your ground to address family members' infant feeding beliefs. A few professional mothers discussed specific challenges emanating from the beliefs of their mothers-in-law, with one mother describing a confrontation with her mother-in-law thus:

> *So, I say, I told my mother in law straight, mommy you had your chance. This is my child and I will raise him as I feel fit. And then she left me. But if I did not stand my ground, then I would have ten to one, given all those Dutch medicines and purchase all the medicines, wasted a lot of money, that the child don't even drink. {FGD professional, EBMP}*

An observation from this study was that professional EBMPs were more likely to voice their needs to supervisors and to stand up to family members about their infant feeding practices and beliefs. In contrast to the researcher's observation that professional EBMPs were more likely to voice their needs, a recent study reported that women in the production/transportation industry were most likely to initiate conversation about their breastfeeding needs to their supervisors (Snyder et al., 2018). This once again highlights that a more assertive manner or personality is needed to overcome family and workplace challenges. A greater focus needs therefore to be placed on non-professional

mothers to be more assertive and to voice their needs and stand put to family members relating to their infant feeding decisions. The UNICEF review similarly described assertiveness, amongst other things, as an important personality trait of mothers who successfully combined breastfeeding and work (United Nations Children's Fund, 2018).

The education of the older generation in communities on breastfeeding best practices is needed. In the discussion, the mothers described that combining breastfeeding with household duties, and always being physically ready to breastfeed (which had a bearing on the type of clothing to wear), as among the challenges they experienced.

While employed breastfeeding mothers are working, they also need to think about the care of their infant by expressing at work. At home they often need to assume care of their baby, including breastfeeding, as well as assuming responsibility for household duties, care of other children and the role of wife or partner. This has been described as a role overload for these mothers (Greenberg & Smith, 1991). Often when the work-life balance becomes too challenging for working mothers, breastfeeding is unfortunately the role that is most often given up. Working breastfeeding mothers therefore need a lot of support from family and their spouses to maintain a healthy work-life balance. Fathers and partners especially need to be educated on how to support breastfeeding mothers when they return to work by assisting with household chores, caring for older siblings, burping the baby after a feed, changing nappies, bathing the baby, and ensuring that the mother gets enough rest (World Health Organization, 2013).

Many young mothers must face pressure from the older generation relating to infant feeding practices and they need to be able to voice the reasons clearly as to why they are going against these beliefs. This again brings up the personal trait of assertiveness that needs to be developed amongst mothers, especially young mothers, which will assist them to negotiate and overcome difficulties they may experience at work and at home. One way is to educate mothers to prepare well in advance what they want to communicate to their family members about, for example, giving other fluids to an infant under six months or introducing solid food before six months. A study conducted in Worcester on the factors influencing the feeding practices of primary caregivers of infants (0–5.9 months) concluded that mothers seemed ill equipped to negotiate infant feeding practices with role-players at home (Goosen, McLachlan & Schubl, 2014).

A study conducted in Southwest Nigeria by Agunbiade and Ogunleye (2012) reported that a number of participants felt pressure from their grandmothers to discontinue EBF (Agunbiade & Ogunleye, 2012). A qualitative study in Ireland found that some women participants had relationship

breakdowns over the lack of support from family members, particularly in respect of mothers-in-law. The perceived negative response to breastfeeding from family members offended some women, which led to difficulties and strain in their relationships. Women found peer support to be very helpful when family support was lacking (Desmond & Meaney, 2016).

General Challenges

A professional EBMP thought that there was a lack of foresight regarding the importance of breastfeeding on the part of government, and other professional EBMPs cited the lack of practice of rooming-in in private sector hospitals, and paediatricians recommending the introduction of solids at four months.

> *And I was at the paediatrician, and when she was about 4 months and then they told me that your child can now start to eat porridge. I thought to myself, but there is no way. {FGD professional, EBMP}*

According to global and South African public health recommendations, infants should be introduced to solid food at six months. Infants at six months are developmentally ready for solid food and it is essential that mothers are consistently provided with correct information by all health care personnel. Mothers who receive misleading, contradicting advice from health care professionals may be less likely to exclusively breastfeed, and it is a fact that many mothers rely heavily on the advice they receive from health care professionals. An Irish study similarly found that the information provided by health care professionals varied greatly, and many women received inconsistent or conflicting advice (Desmond & Meaney, 2016). In SA, La Leche League support groups and social media networks are available to breastfeeding mothers who need support and advice relating to breastfeeding. Mothers need to be educated about the appropriate resources and support networks that are available to them.

6.4 Conclusion

Given the rising percentage of women entering the workforce and the low levels of breastfeeding, the workplace is an area where advocacy around breastfeeding support is urgently required. The workplace and employers have a pivotal role to play in creating a breastfeeding enabling environment, via facilities and policies to adequately support and encourage women to breastfeed when returning to work.

The study found that employed breastfeeding mothers who were able to combine employment with breastfeeding had a strong belief in breastfeeding. Therefore, employees need to be educated

regarding their breastfeeding rights, and the benefits of breastfeeding must be emphasized during education sessions.

Education at the workplace is vitally important to address the unsupportive attitudes and culture that persists in many of workplaces. The supportive role of fathers also needs to be emphasized when education is provided around breastfeeding. It is essential to include male employees and supervisors at all levels of organizations in the education and advocacy sessions presented. This will assist in the development of a supportive workplace culture. In addition, fathers and partners will gain breastfeeding knowledge and the confidence to support their partners and become breastfeeding advocates.

The non-professional EBMPs in this study seemed to have greater challenges in the workplace than the professional EBMPs. Therefore, advocacy needs to be channelled towards and prioritized for the manufacturing and retail employment sectors. At workplaces within the DOH, communication of the existing breastfeeding policy needs to be strengthened.

CHAPTER 7: PROCESS DESCRIPTION OF THE DEVELOPMENT AND VALIDATION OF A PRACTICE MODEL TO SUPPORT BREASTFEEDING AT DESIGNATED WORKPLACES

7.1 Introduction

Resuming work is often considered an obstacle to continued EBF. Several factors may influence the duration of breastfeeding once the mother returns to full time employment, for instance, workplace support in terms of providing breastfeeding time and space, support at home and in the community, the attitudes of employers and colleagues towards breastfeeding employees and employment conditions and workplace arrangements. For many mothers, the lack of workplace support for breastfeeding makes working incompatible with breastfeeding (International Labour Organization, 2012b).

The creation of an enabling workplace environment for breastfeeding can assist mothers to continue breastfeeding. Enabling interventions operate to remove structural and societal barriers that interfere with a mother's ability to breastfeed optimally (Rollins et al., 2016). Globally, workplace support for breastfeeding is increasingly seen as a cost-effective investment to increase employee morale, minimize absenteeism and reduce turnover (International Labour Organization, 2014; Rollins et al., 2016). Workplace interventions like providing lactation rooms and breastfeeding breaks are low-cost interventions (Rollins et al., 2016) that can improve the duration and continuation of breastfeeding globally and in SA. A growing number of women in their childbearing years take up employment, and it is therefore essential that support for breastfeeding in the workplace is reinforced. To date, in SA, there is no model to guide employers in supporting breastfeeding and EBF in the workplace. The aim of this phase of the study was therefore to develop and validate a practice model to support EBF in designated workplaces in the Breede Valley sub-district.

7.2 Methods

To draft the practice model, the researcher employed the following methodology:

7.2.1 Analysed and interpreted the findings of phase one and phase two of the study. Thereafter the main issues arising from each phase were highlighted for inclusion in the model.

7.2.2 Reviewed the evidence base regarding workplace breastfeeding interventions and breastfeeding outcomes.

7.2.3 Integrated programme theory and program logic models to draft the practice model.

7.2.1 Identifying the main elements from phase one and phase two for inclusion in the practice model

Phase one, the online survey, revealed that supportive practices in designated workplaces were limited and inadequate. Providing a private space for breastmilk expressing and having a written breastfeeding policy were uncommon practices. The provision of breastfeeding time and promotion of breastfeeding amongst the employees were also not commonly practiced, although breastfeeding time is legislated according to the Basic Conditions of Employment Act, Code of Good Practice on the Protection of Employees during Pregnancy and After the Birth of a Child Section 5.13 (South African Department of Labour, 1998). The reasons given by employers for not providing lactation time included their having received no requests for this from employees, being unaware that it was mandatory that time be provided, and being under time pressure for production purposes. Needs identified by managers related to a space regulatory framework, communication, education and information. From phase one of the study the following issues were taken up in the practice model: the provision of breastfeeding time and private space, education and communication.

As discussed in Chapters Five and Six, phase two revealed the absence of private space and time for expressing breastmilk to be major challenges for women returning to work. The lack of communication between employer and employees regarding their needs, policies regulating their return from maternity leave, as well as unsupportive attitudes on the part of staff and co-workers were highlighted. The managers mentioned that requests for breastfeeding support at the workplace were rarely received and that employees did not express their needs. This appeared to be attributable to a lack of promotion of breastfeeding rights at the workplace and lack of breastfeeding knowledge, among other factors. The employed mothers who successfully combined breastfeeding and work had a strong belief in the benefits of breastfeeding and this motivated them to continue and combine breastfeeding with work. Therefore, the provision and promotion of breastfeeding time and space as well as communication (conducting a return to work consultation after maternity leave) were included in the practice model. Also included in the model were addressing unsupportive attitudes and increasing belief in breastfeeding among employees by enhancing knowledge of the benefits of breastfeeding and breastfeeding rights through education. Conducting a needs assessment amongst women to assist managers with planning and coordination was also taken up in the practice model.

7.2.2 Review of the evidence regarding workplace breastfeeding interventions and breastfeeding outcomes

The researcher conducted a critical review of the literature in the field of workplace breastfeeding support interventions and breastfeeding outcomes. A search was conducted on PubMed using the following key words:

(breastfeeding OR breast feeding OR lactation) AND (work OR workplace OR employment) AND (intervention OR support) AND (duration OR continuation OR exclusive OR rates).

The literature consulted included published articles from 2008 through 2019 listed in PubMed. The PubMed search article titles was assessed. Sixteen selected article abstracts and full text were further screened of which seven were excluded (two was qualitative studies, three was systematic reviews and two were excluded as the main outcomes measured were not breastfeeding duration, continuation and exclusivity). This yielded a total of nine articles included. Amongst the material a recent review article on worksite lactation accommodation (Hilliard, 2017) was found. The Hillard (2017) review article was reviewed and five similar articles as yielded by the selected PubMed search article was found. One additional article as part of the Hillard review was added to the summary table.

See Table 7.1 for a summary of the articles reviewed. Each article is summarised by author/s, year of publication, number of participants, employer type, objectives of the study, study design and methods, results and limitations.

Table 7.1: Summary of studies examining the effect of workplace breastfeeding interventions/support on breastfeeding outcomes (duration, continuation, exclusivity)

Author	Year	N	Employer	Objectives	Study design & Method	Results	Limitations
Balkam, Cadwell & Fein	2011	128	1 Large Public Sector (USA)	To evaluate the impact of individual services offered via a Corporate Lactation Programme (CLP) on the duration of any BF and EBF	Survey of participants in an established Corporate Lactation Programmes (CLP) in 2005. Any female employee who used at least 1 component of the CLP was mailed a questionnaire based on questions from the Infant Feeding Practices II Survey and the 2000 Census. Significance was tested using χ2 and logistic regression. For results, associations were presented in text either as p < .05 or NS. **Accommodations Assess**: prenatal and return to work BF classes, telephone lactation consults with Lactation Consultant (LC), return to work consultation with LC, and space	**Associations with any BF at 6 months:** Maternal Education: not significant (NS) LC telephone support: NS **LC return to work consultation:** **p < .05** Space: NS Number of services utilized: NS **Associations with EBF at 6 months:** Maternal Education: NS LC telephone support: p < .05 **LC return to work consultation:** p < .05 Space: NS Number of services utilized: p < .05	Homogeneous sample No comparison group May not be a representative sample Recall bias
Bai & Wunderlich	2013	113	Higher education Health care Government Media Corporate Retail	To assess current lactation accommodations in a workplace environment and to examine the association between the different	A cross sectional survey was conducted with employees of a higher-education institution and clients of an obstetric hospital in New Jersey. Factor analysis identified dimensions of workplace support. The dimensions were correlated with the duration of EBF using	The analysis identified 4 dimensions of BF accommodation: break time, workplace environment, technical support, and workplace policy (WP). **Associations with EBF at 6 months**:	Homogeneous sample Accommodations were grouped into categories and not considered individually Participants were self-selected.

				dimensions of support and the duration of EBF	Pearson's r correlation analysis. The Workplace BF Support Scale and the Employee Perceptions of Breastfeeding Support Questionnaire. Surveys were emailed to all female faculty and staff of childbearing age in the spring and fall of 2010. BF duration was assessed for 4 dimensions of workplace lactation support, which were identified using principle component method factor analysis. Dimensions were workplace environment, technical support, break time, and workplace policy. **Accommodations assessed** Lactation Breaks (LB), support, space, onsite child care (CC), equip, workplace policies (WP).	**Workplace environment:** frequency (how common) of BF in the work environment, supervisor and peer support, and quiet space other than a bathroom (r = .26, p =.01). **Technical support**: availability of equip and onsite child care (CC) r = .71, p = .01). **Break time:** frequency and duration of Lactation Break (LB), flexibility, and co-worker support not significant for EBF (r = .05, p = .52). **Workplace policies** (WP): length of maternity leave and a WP addressing BF (r = .13, p = .24) **Technical support (r = 0.71, P = .01) and workplace environment (r = 0.26, P = .01) were significantly associated with the duration of EBF.**	
Dabritz, Hinton & Babb	2009	201	Various employers in Yolo County, California (USA)	6 months BF outcomes for mothers returning to work or school	Cross-sectional interviews conducted with mothers between May 2006 and June 2007 when their infants were 6 months of age. Mothers reported on various determinants of BF and BF behaviours at 2 days, 2 weeks, 2 months, and 6 months. Significance was tested using ANOVA, χ2, and polytomous logistic regression. **Accommodations assessed:**	Difference in number of women almost exclusively, partially, and not BF at 6 mo. **<u>Percent at 6 mo:</u>** **Almost EBF**: Part Time (62%) and Full Time (38%) **Partially BF**: Part Time (43%) and Full Time (57%) **No BF**: Part Time (41%) and Full Time (60%) p = .025 (S) **Almost EBF**: aware WP (79%) unaware WP (21%)	Participants recruited or self- referred Recall bias Inaccuracy & categorizing BF duration as it was reported by participants in various units Homogeneous sample

					space, LB, knowledge of WP, support	**Partially BF:** aware WP (61%) unaware WP (39%) **No BF**: aware WP (61%) unaware WP (39%) p = .036 (S) **Almost EBF**: support (94%) no support (2%) **Partially BF**: support (65%) no support (11%) **No BF:** support (68%) no support (11%) p = .018 (S) BF Breaks: p = .22 (NS) Space: p = .094 (NS)	
Sattari, Serwint, Neal, Chen & Levine	2013	130	Physicians from Johns Hopkins University School of Medicine and the University of Florida College of Medicine	To identify work-related predictors of BF duration among physicians	Cross-sectional survey design. Survey developed to assess work environment variables that may be predictors of physician BF behaviours. Used mixed linear models to identify predictive variables for BF duration controlling for demographics. **Accommodations assessed:** support, LB (meaning no make-up of missed call for time needed to express milk), space	Mean BF duration in mo (SD) for all participants: 9.91 (6.34). BF duration was longer for those with LB than those without (10.1 mo vs. 8 mo, p = .043). Each 1 unit increase in collegial support increased BF duration by 1.3 [0.366, 2.25] mo (r = .19, p = .011). Each 1 unit increase in support from division chief increased BF duration by 1.1 [0.263, 1.90] mo (no r reported, p = .010) Those that perceived lack of support for BF at work had 3.5 [−6.77, −0.145] mo decrease in duration (no r reported, p = .037).	Recall bias Limited sample pool Not an experimental study

						Each increase in score for availability of time for LB was associated with a 1.1 mo increase in BF duration (r = .29, p < .0001). No significant association between space and BF duration (p values and duration not reported).	
Alvarez, Serwint, Levine, Bertram & Sattari	2015	29	Law students and lawyers educated at the University of Florida		Cross-sectional survey design. Adaptation of the physician survey used by Sattari et al. (2013). Survey assessed duration of any and EBF and presence of several potential workplace barriers to and facilitators of BF. Responses from women with more than 1 child were not included in analysis. Significance tested using **Accommodations Assessed:** Support Space LB	Average BF duration in months (SD) for all mothers: 9.71 (9.10) EBF duration in months (SD) for all mothers: 3.53 (2.59) **Associations with EBF:** Support (r = .402, p = .031) LB (r = .462, p = .030) For lawyers, duration of EBF correlated with the support level at work and the sufficiency of time at work to express milk **Associations with any BF:** Support (r = .448, p = .032) LB (r = .493, p = .044) Space (r = .504, p = .039) The duration of BF correlated with the support level at work and the sufficiency of time and availability of appropriate places at work to express milk. Mothers who reported a more supportive work environment and greater availability of time	Selection bias Not representative of general population Recall bias Participants of different ages—older participants may not have had access to the same work environment as younger participants.

						to express milk at work breast-fed their infants for longer & supplemented them later. Lawyers who reported more access to appropriate space for milk expression at work were able to breast-feed longer.	
Kozhimannill, Jou, Gjerdingen & McGovern	2016	550 respondents who affirmed employment at the time of the postpartum survey	Data are from Listening to Mothers III, a national survey of women ages 18–45 who gave birth in 2011–2012. (USA)	To examine the association between these accommodations and BF outcomes, including any EBF at 6 months postpartum and overall BF duration.	Cross sectional survey of women who were employed full- or part-time at the time of survey. Using two-way tabulation, logistic regression, and survival analysis, we characterized women with access to breastfeeding accommodations and assessed the associations between these accommodations and BF outcomes.	40% had access to break time & private space. Women with both adequate break time and private space were 2.3 times (95% CI 1.03, 4.95) as likely to EBF at 6 months and 1.5 times (95% CI 1.08, 2.06) as likely to continue EBF with each passing month compared to women without access to these accommodations. Women with private space breastfeed for 1.36 months longer than women with no break time or private space, and those with both accommodations breastfeed for 0.44 months longer.	Retrospective self-report data Susceptible to recall and social desirability bias, particularly with BF intention and duration. Data lack information on employer type, size & maternal occupation category
Tsai	2013	715	Working mothers employed in an electronics manufacturing plant in Tainan Science Park	To explore the impact of breastfeeding-friendly support on the intention of working mothers to continue BF	A structured questionnaire survey was administered. Questionnaire content included female employee demographics, employment characteristics, continued breastfeeding behavior after returning to work, access to lactation rooms	A higher education level (odds ratio [OR]=2.66), lower work load (8 work hours/day) (OR=2.66), *lactation room with dedicated space (OR=2.38), use of LB (OR=61.6), and encouragement from colleagues (OR=2.78) and supervisors (OR=2.44) to use*	Cross sectional study, only associations not causation Self- reported measurements Selection bias, non-response

			in Southern Taiwan			*LB were significant predictors of continued BF for more than 6 months after returning to work.*	
Yimyam & Hanpa	2014	24 women before implem and 31 after	Thailand	To develop a BF support model in the workplace and to compare BF rates at 6 months before and after implementation of the intervention	Interviewing employed women using a semi structured questionnaire, about their BF practices within 6 months postpartum. Interviews with workplace administrator and head of work sections & field notes from observation of the BF support campaigns.	BF rates at 6 months after implementation of the BF support campaign were significantly higher than rates before, both for EBF and any BF at levels.004 and.033, Respectively	Cross sectional Homogenous No comparison group
Heymann, Rauba & Earleb	2013	182 member states	Member states of the United Nations	We conducted multivariate regression analyses to test the association between national policy on breastfeeding breaks and national rates of EBF among women with children less than 6 months of age.	An analysis was conducted of the number of countries that guarantee BF breaks, the daily number of hours guaranteed, and the duration of guarantees. To obtain current, detailed information on national policies, original legislation as well as secondary sources on 182 of the 193 Member States of the United Nations were examined. Regression analyses were conducted to test the association between national policy and rates of EBF while controlling for national income level, level of urbanization, female percentage of the labour force and female literacy rate.	In multivariate models, the guarantee of paid BF breaks for at least 6 months was associated with an increase of 8.86 percentage points in the rate of EBF ($P < 0.05$).	

Scott, Taylor, Basquin & Venkitsubramanian	2019	Female employees who had breastfed in the past 3 years (N = 165).	Large integrated health care system.	Examined the association between key workplace BF support characteristics, job satisfaction, and BF outcomes	Cross-sectional survey. The Employee Perceptions of BF Support Questionnaire (EPBS-Q) measured organization, manager, and Co-worker support for BF. Regression analyses tested the association between workplace support factors and BF duration, BF exclusivity, and job satisfaction	**Managerial support** increased the odds of prolonging EBF [OR] 1.47; [CI] 1.03–2.09). **Organizational support** increased the odds of EBF by nearly twofold (OR 1.80; CI 1.05–3.09). No significant associations were found between workplace support factors (organizational, managerial, and co-worker support) and overall breastfeeding duration.	Homogenous participants data may underestimate BF duration and EBF duration. Cross-sectional design limits causal inferences about the relationship between perceived workplace support and BF outcomes.

BF = Breastfeeding WP = Workplace Policy EBF = Exclusively breastfeeding CLP = Corporate Lactation Programme LC = Lactation Consultant LB = Lactation Breaks NS= Not significant

To summarize the above review table of the literature it can be stated that workplace breastfeeding interventions and support services are responsive to breastfeeding outcomes and practices in terms of increased rates of breastfeeding duration, continuation and exclusivity. There is a lack of randomised control trials relating to breastfeeding support in the workplace as most studies extracted from the search reflected cross-sectional surveys. Important to note was that not all studies consistently found significant associations with all breastfeeding interventions and breastfeeding outcomes assessed. This can be attributed to possible confounding variables that may have been present e.g. lack of family support, cultural and maternal belief of the mother, the mother`s low self – efficacy for breastfeeding. The implementation of the workplace accommodation could also be a confounder relating to for example the adequacy of the accommodation provided and the communication and or marketing of the accommodation. Most of the studies reviewed assessed a few lactation accommodations available.

A comprehensive workplace breastfeeding support programme significantly increased breastfeeding rates at six months after implementation of the programme for EBF and any breastfeeding ($p = 0.04$ and $p = 0.033$ respectively) (Yimyam & Hanpa, 2014). One study found that the number of services utilized in a corporate lactation programme was significantly associated with EBF at six months (Balkam et al., 2011).

Predictors of continued breastfeeding for more than six months after return to work related to the three elements of dedicated lactation space (OR=2.38), time to use lactation breaks (OR=61.6) and breastfeeding support in the form of encouragement from colleagues (OR=2.78) and supervisors (OR=2.44) to use the breastfeeding breaks (Tsai, 2013). Each increase in the availability of time for lactation breaks, collegial support and supervisor support were associated with 1.1 month ($p<0.0001$), 1.3 month and 1.1 month ($P = 0.011$) increase in breastfeeding duration respectively. Those with a perceived lack of workplace support for breastfeeding were associated with 3.5 months decrease in breastfeeding duration ($p = 0.037$) (Sattari et al, 2013).

In general Scott et al (2019) found managerial support (OR= 1.47) increased the odds prolonging EBF and organizational support (OR=1.80) increased the odds EBF by nearly twofold. The duration of EBF were significantly associated with the support level at work and sufficient time for lactation breaks (Alvarez et al., 2015). Also, technical support ($r=0.7$, $p=0.01$) in terms of the availability of equipment, onsite day care and workplace environment ($r=0.26$, $p=0.01$) in terms social support by peers and supervisors, quiet space other than a bathroom and the frequency of breastfeeding in the

workplace showed significant positive correlations with a longer duration of EBF (Bai and Wunderlich, 2013).

7.2.3 Integration of programme theory and program logic models

A programme theory describes how and why a programme is supposed to work (Wilder Research, 2009). The process of developing a programme theory promotes evidence-based thinking and provides a clear understanding of how change will occur. It also describes the beliefs and assumptions that underlie the choice of activities, thereby making the results more credible (Wilder Research, 2009). The following steps were followed to develop the programme theory:

7.2.3.1 Describe programme goal

Step 1 involved thinking through the outcomes that the researcher aimed to achieve through the programme, by reflecting on some of the following questions (Wilder Research, 2009):

- In what ways would you like the lives of participants to be different or improved after receiving the service/activities? How will you know if you have accomplished your goals? How will participants' knowledge, attitudes, feelings or behaviours be different?
- In what ways would you like the workplace to be different or improved as a result of your programme activities? How will you know if you have accomplished your goals? How will the workplace be different?

Through reflecting on the above questions, the practice model goal was determined as:

To increase the breastfeeding duration and exclusive breastfeeding rates amongst employees by creating enabling workplace conditions for breastfeeding

7.2.3.2 Selection of programme activities, review of change mechanism and the evidence

Step 2 involved a process in which the researcher answered three questions for each selected activity (Wilder Research, 2009).

1. If the activity is provided, then what – realistically – should the result be for participants?
2. Why do you believe the activity will lead to this result? (In other words, what is your assumption about how this kind of change occurs? Are you drawing from an established theory used by others?)

3. What evidence do you have that the activity will lead to this result (such as previous results from your own or other programmes, published research, or consistent feedback from participants)?

The same three questions were repeated for each activity or service provided. Table 7.2, below, documents the development of the programme theory, using the three questions articulated above.

Table 7.2 Programme Theory Development

Activity	**IF the activity is provided, THEN what should be the result for participants?**	**WHY do you believe the activity will lead to this result?**	**WHAT evidence do you have that this activity will lead to this result (data from your own or other programmes, published literature, etc.)?**
Access to and promotion of private space and flexibility (time) to express breastmilk at work	Employees will be aware of opportunities/services available ⇓ Employees will feel supported and more comfortable to utilize service ⇓ Increased motivation and self-efficacy to combine breastfeeding and work ⇓ Increased intention to combine breastfeeding and work ⇓ More breastfeeding employees utilize available service ⇓ ***Increase breastfeeding continuation rates of employees and exclusive breastfeeding rates of employees***	The lack of support for breastfeeding in the workplace in terms of space and time is a known barrier in the literature and in South Africa in practice. Mothers often start to mix feed or to provide formula milk when returning after maternity leave, as they anticipate a lack of support in the workplace and that they will not be able to continue breastfeeding. This was evident from the results of the qualitative phase of this research. If support is provided in terms of time and space the employed mother will be motivated and have increased self-efficacy to combine breastfeeding and work and this will increase her intention to combine breastfeeding and work and lead to increase utilization of breastfeeding accommodation at work. This will ultimately influence breastfeeding duration, continuation and EBF rates amongst employees.	**The Theory of Planned Behavior (TPB)** (Ajzen, 1991) states 3 categories of beliefs guide human action-oriented behaviours: • the outcomes of performing the behavior (behavioural beliefs (what you feel, think and importance of the behaviour = **attitude**), • the expectations of significant others (peers, supervisors) in relation to the behaviour (referent beliefs, how others view the behaviour = **subjective norm**) and • the presence of factors that facilitate or hinder the behaviour (control beliefs = **perceived behavioural control**) The TPB recognises that intention is affected by the attitude, subjective norm and perceived behavioural control. The TPB recognizes intention and perceived behavioural control as immediate determinants of behaviour, which in this case relates to increased breastfeeding duration and exclusivity rates. Perceived behavioural control affects actual behaviour not only directly, but also affect it indirectly through behavioural intention. (Kozhimannil, Jou, Gjerdingen & Mc Govern, 2016) – After the passage of the Affordable Care Act in the USA this study found that participants having access to both space and time, were 1.5 times more likely to continue breastfeeding with each passing month compared to women with no access and 2.3 times likely to breastfeed exclusively at 6 months (Alvarez et al., 2015) – The duration of breast-feeding correlated with the support level at work and the sufficiency of time and availability of appropriate places at work to express milk

			Associations with any BF: Support (r = .448, p = .032) Lactation Breaks (r = .493, p = .044) Space (r = .504, p = .039) **Associations with EBF:** Support (r = .402, p = .031) Lactation Breaks (r = .462, p = .030) (Tsai, 2013) – A lactation room with dedicated space (OR=2.38), use of lactation breaks (LB) (OR=61.6), and encouragement from colleagues (OR=2.78) and supervisors (OR=2.44) to use LB were significant predictors of continued breastfeeding for more than six months after returning to work (Heymann et al., 2013) – In multivariate models, the guarantee of paid breastfeeding breaks for at least six months was associated with an increase of 8.86 percentage points in the rate of EBF ($P < 0.05$) (Sattari et al., 2013) – BF duration was longer for those with Lactation Breaks than those without (10.1 mo vs. 8 mo, p = .043). Each increase in score for availability of time for LB was associated with a 1.1 mo increase in BF duration (r = .29, p < .0001). There was no significant association between space and BF (Dabritz et al., 2009) – Providing room and breastfeeding breaks to express increased breastfeeding rates at 6 months by 25% (Basrowi, Sulistimo, Adi, & Vandenplas, 2015) – The presence of a dedicated breastfeeding facility or space was found to increase EBF practice almost threefold, by an odds ratio of 2.74 and a 95% confidence interval of 1.34-5.64 ($p<0.05$) (Wallenborn, Perera, Wheeler, Lu, & Masho, 2019) – After adjusting for confounders, there was a statistically significant direct effect between self-efficacy, breastfeeding

			intention, and breastfeeding duration. A statistically significant indirect effect of workplace support on breastfeeding duration through self-efficacy in attaining breastfeeding goals was observed.
Breastfeeding Education (Advocacy) to ALL staff	Increase breastfeeding knowledge of ALL staff ⇓ Positive attitudes toward breastfeeding / supportive positive attitude toward breastfeeding mothers at the workplace ⇓ Increased breastfeeding intention ⇓ Increased utilization of available BF accommodation ⇓ **Increased breastfeeding duration, EBF**	If employees were more aware and have more exposure to the benefits of Breastfeeding for the mother, baby, employer and society as a whole, they would be more knowledgeable and most likely show more supportive/ positive attitudes towards breastfeeding and employed breastfeeding mothers. It is important that the education must capture employees' attention and they must comprehend the message.	The Theory of Planned Behavior (TPB) by (Ajzen, 1991) recognises that intention is affected by the attitude, subjective norm and perceived behavioural control. Also that intention and perceived behavioural control are immediate determinants of behaviour (increased breastfeeding duration and exclusivity rates). Perceived behavioural control not only affect actual behavior directly, but also affect it indirectly through behavioural intention The extended TPB for Breastfeeding (TPB – BrF) for women employed more than half time. Duckett et al. (1998) further elaborate on the TPB by stating that both behavioural intention and attitudes are the most important determinant of behaviour (increased breastfeeding duration) (Behera & Anil Kumar, 2015) – Breastfeeding education (OR 2.68, 95% CI 1.27, 5.65) had a significant relationship on EBF intention. Breastfeeding education was positively associated with knowledge, attitude and subjective norm, but inversely related with perceived control (all $p< 0.05$). High knowledge (OR 116.87, 95% CI 35.24, 387.56), positive attitude (OR 3.18, 95% CI 1.46, 6.62), supportive norm (OR 2.61, 95% CI 1.54, 4.77) and greater perceived control (OR 5.37, 95% CI 1.22, 16.61) among pregnant women had potential effects on their EBF intention Greater breastfeeding knowledge was found to be significantly associated (OR 5.84; 95% CI 3.62, 9.42) with stronger EBF intention. Similarly, positive attitude towards EBF (OR 2.99; 95% CI 1.53, 6.17), supportive subjective norm (OR 1.45; 95% CI 1.09, 3.94) and greater perceived control (OR 1.39; 95% CI 1.03, 2.89) had a significant effect on the respondent's higher intention for EBF. Correlates with the TPB, which hypothesises that EBF intention is affected by the

			attitude, subjective norm and perceived behavioural control for EBF. (Srinivasan, Graves & D'Souza, 2014) – 40 participants completed questionnaires both before and after a BF education course; data from these participants were used for paired analysis. Mean scores for attitudes increased significantly from 77.4 before the course to 83.0 after the course (P < .001). Mean scores for knowledge also increased significantly from 150.2 before the course to 159.2 after the course (P < .001) (Bernaix, Schmidt, Arrizola, Iovinelli & Medina-Poelinez, 2008) – The study aimed to test an educational intervention, designed to improve the lactation knowledge, attitude and belief of NICU nurse. Knowledge scores increased from pre intervention measurement to the 3 month post intervention measurement, difference not significant. Findings suggest that this educational intervention was effective for improving NICU nurses' lactation knowledge and attitudes, and that these improvements were maintained over time (Siddell, Marinelli, Froman & Burke, 2003) – A significant increase (P < .001) occurred in NICU nurses' breastfeeding knowledge after the education session. Findings suggest that an educational intervention has potential for improving NICU nurses' knowledge and certain attitudes about breastfeeding. (Haroon et al., 2013) – A Systematic review of the literature indicate that breastfeeding education and/or support increased EBF rates and decreased no breastfeeding rates at birth, <1 month and 1-5 months. Combined individual and group counselling appeared to be superior to individual or group counselling alone
Interpersonal Communication session with all staff while pregnant and	Employees will feel supported and cared for ⇓	The lack of communication with employees after the maternity leave is often a challenge as identified by the employees in the qualitative phase of	**The TPB by Ajzen 1991** states that behaviour is a function of intention to perform the behaviour. In addition to attitude and subjective norm, the TPB postulate a link between factors that hinder/facilitate (e.g. return to work

again after returning from maternity leave (Return to work consultation)	Employees more comfortable to discuss and negotiate their needs ⇓ Employees feel motivated and their belief in their own ability (self-efficacy) to combine breastfeeding and work ⇓ Increased intention to combine breastfeeding and work ⇓ ***Increased breastfeeding duration and exclusive breastfeeding continuation***	this study. Also, the failure to express needs to the employer was identified as a challenge by the managers in the study. The opportunity to engage in open interpersonal (face-to-face) communication with the employer/manager will provide employees with the opportunity to express their needs and would show them that their employer has an interest in them. The employees would feel motivated and have self-efficacy to combine breastfeeding and work and this will lead to increased intention to combine breastfeeding and work. This will ultimately assist with the continuation, duration and maintenance of breastfeeding.	consultation) = self-efficacy, control belief and intention to perform the behaviour. (Anderson et al., 2015) – Interpersonal communication may be more important than written communication for enacting breastfeeding support. Positive and open interpersonal communication strategies may improve the success of workplace breastfeeding support (Balkam et al., 2011) – Participation in a return-to-work consultation with a lactation consultant was positively related to any breastfeeding at six months and significantly related to longer duration of exclusive breastfeeding (Kim, Shin & Donovan, 2019) – *A systematic review of studies conducted in the United States concluded amongst others that a r*eturn to work consultations were significantly associated with duration of EBF (40% versus 17% at 6 months)
Peer support/ mentoring group	Mothers will feel motivated, encouraged and supported to continue breastfeeding and work ⇓ Increased breastfeeding self-efficacy to combine breastfeeding and work ⇓ ***Increased breastfeeding duration and exclusive breastfeeding amongst employees***	Workplace social support action in terms of a peer support mentoring group will encourage and motivate mothers to breastfeed and lead to affirmation of her breastfeeding efforts. This will most likely facilitate the success and maintenance of breastfeeding by increasing the mother`s self-efficacy to combine BF and work and lead to increased rates of continued breastfeeding, longer duration of breastfeeding and higher EBF rates.	(Tsai, 2013) – Encouragement from colleagues (OR=2.78) and supervisors (OR=2.44) to use lactation pumping breaks were significant predictors of continued breastfeeding for more than six months after returning to work (Vari, Camburn & Henly, 2000)– Social support interventions that incorporate professionally mediated peer support (PMPS) for improved breastfeeding outcomes were compared with no special breastfeeding support. The breastfeeding outcomes of duration, completeness, satisfaction, and EBF were compared at 6 weeks postpartum among an experimental group that received PMPS, and among younger community (YC) and older community (OC) groups that received no special breastfeeding support. **The PMPS group exclusively breastfed for a significantly longer duration than the YC group.** PMPS can improve the early breastfeeding outcomes of duration of EBF. The PMPS

			group had a significantly higher mean 5.42 (n19) weeks of EBF (Arlotti, Cottrell & Lee, 1998) – This research examined the effect of peer support on breastfeeding duration and EBF in a population of low-income women during the first 3 months postpartum. Participants in the peer counsellor group (n = 18) exhibited higher rates of EBF across time than those without a counsellor (n = 18), and more EBF was associated with longer duration overall (Britton, Mccormick, Renfrew, Wade & King, 2007) A Systematic review (RCT comparing extra support for BF with usual maternity care) concluded that additional professional support was effective in prolonging any breastfeeding, but its effects on EBF were less clear. Additional lay support was effective in prolonging EBF while its effects on duration of any breastfeeding were uncertain (Bai and Wunderlich, 2013). Workplace environment that included supervisor and peer support, quiet space other than a bathroom and the frequency of breastfeeding in the workplace showed significant positive correlations (r=0.26, p=0.01) with a longer duration of EBF. *Scarcity in research relating to breastfeeding peer support in the workplace setting and breastfeeding outcomes*
IN GERNERAL: Workplace support programmes and interventions	Improved breastfeeding duration and exclusive breastfeeding rates	Workplace breastfeeding support programmes and interventions will lead to increased motivation, self-efficacy and intention to combine breastfeeding and work, in turn leading to increased breastfeeding duration and exclusivity rates	(Sinha et al., 2015) – Interventions delivered in the work environment were associated with an increased probability of EBF in the intervention group but results not statistically significant (RR: 1.28, 95%CI 0.98 – 1.69) (Yimyam & Hanpa, 2014) – Breastfeeding rates at six months after implementation of the breastfeeding support programme were significantly higher than rates before, both for EBF and any BF at levels .004 and.033, respectively

			(Balkam et al., 2011), (Ortiz et al., 2004), (Cohen & Mrtek, 1994) – Workplace lactation programmes have a positive impact on the duration of breastfeeding

7.2.3.3 Description of the practice model programme theory

By reviewing the literature in Table 7.1, the researcher could explain underlying linkages and secure evidence of the mechanism of change that would lead to improved breastfeeding duration and EBF rates amongst employees. The process involved moving continually between theory and practice to develop the practice model programme theory. The programme theory can be described as follows:

If workplaces provide a supportive/enabling breastfeeding environment in terms of space, time and support (education, peer support, communication), it will increase employees' breastfeeding knowledge, foster positive attitudes towards breastfeeding and breastfeeding employees, increase motivation and self-efficacy to combine breastfeeding and work, increase the intention to combine breastfeeding and work, and lead to the increased utilization of available breastfeeding accommodation. This will ultimately increase breastfeeding duration and exclusive breastfeeding rates amongst employees.

This programme theory is visually depicted in Figure 7.1, below.

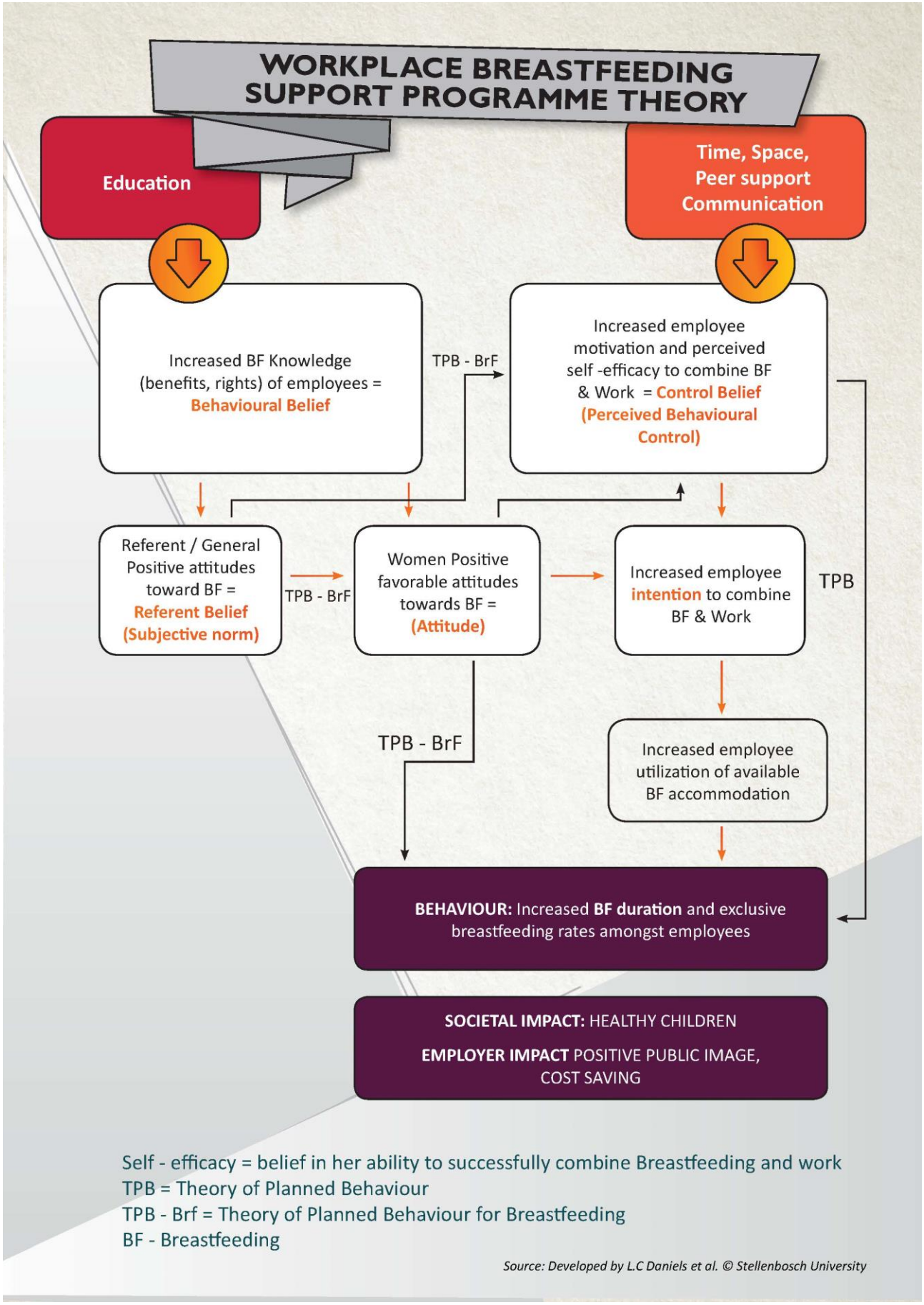


Figure 7.1: Practice model programme theory

The practice model programme theory for increasing breastfeeding duration and exclusivity rates, as depicted in Figure 7.1, relies on working mothers' attitude towards breastfeeding and the uptake of the available breastfeeding accommodation (space and time) at the workplace. The uptake of the available breastfeeding accommodation in turn depends on a working mother's intention to combine breastfeeding and work. Intention is conversely influenced as follows:

- At an individual level, the working mother's belief in her ability to successfully combine breastfeeding and work (self-efficacy) and her motivation to do so = control belief
- At an individual level, the working mother's attitude towards breastfeeding and increased breastfeeding duration = behavioural belief
- At the interpersonal level, the support she receives from workplace supervisors, peers and co-workers = referent belief.

Programme theory is based on the Theory of Planned Behaviour (TPB) (Ajzen, 1991) which states that three categories of belief guide human action-oriented behaviours:

- the outcomes of performing the behaviour (**behavioural beliefs** – what you feel, think, and the importance of the behaviour = **attitude**),
- the expectations of significant others (peers, supervisors) in relation to the behaviour (**referent beliefs**, how others view the behaviour = **subjective norm**) and
- the presence of factors that facilitate or hinder the behaviour (**control beliefs** = **perceived behavioural control**).

Behavioural beliefs produce a favourable or unfavourable attitude toward the behaviour. Referent beliefs result in a subjective norm (felt social pressure to act); and control beliefs give rise to perceived behavioural control (i.e. one perceives one has the resources available to practice the behaviour). The TPB recognizes that intention is affected by attitude, subjective norm and perceived behavioural control. Also, the TPB recognizes intention and perceived behavioural control as immediate determinants of behaviour, which in this case relates to increased breastfeeding duration and exclusivity rates. Perceived behavioural control affects actual behaviour both directly and indirectly through behavioural intention (Ajzen, 1991). See Figure 7.2, below.

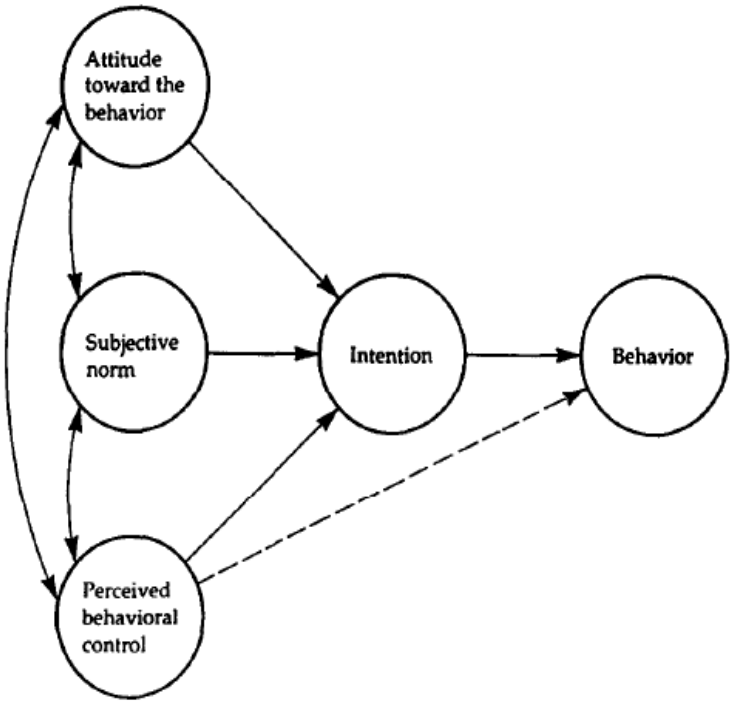


Figure 7.2: Theory of Planned Behaviour (Ajzen, 1991)

These three belief constructs (control belief, referent belief and behavioural belief) are embedded within the practice model. Ajzen's insights inform the extended TPB for Breastfeeding (TPB – BrF) for women employed more than half time, as formulated by Duckett et al. (1998). Duckett et al. (1998) elaborate on the TPB by stating that both behavioural intention and attitudes are the most important determinants of behaviour (increased breastfeeding duration). The authors also found that referent belief and attitude were predictors of perceived behavioural control, and that the impact on intention of perceived behavioural expectations from specific others (referent belief) and others as a whole (subjective norm) was mediated by attitude and perceived control (Duckett et al., 1998).

7.2.3.4 Develop programme logic model

A logic model is a commonly used tool for illustrating an underlying programme theory. A logic model uses short phrases to represent issues explained in more detail in the programme theory.

The following components are usually included in a programme logic model (W. K. Kellogg Foundation, 2004; Wilder Research, 2009; Knowlton & Phillips, 2013):

- Inputs: any resources or materials used by the programme to enable its activities
- Activities: any services or treatments provided by the programme

- Outputs: amount of activity provided, described in quantifiable terms
- Outcomes: any characteristics of the participants that, according to the programme theory, are expected to change as a result of the participants' receiving services
- Impact: the ultimate intended change

The first version of the practice model (Addendum Y) offers a visual representation of the programme theory. A graphic designer assisted with the drafting and refining of the practice model. The model flows from left to right, starting with the model inputs and responsibilities/ activities that should emanate from the employer. The various components are explained in the following paragraphs.

Inputs

The elements listed include human, financial and organizational resources. Financial resources comprise funding for printing posters, pamphlets and signage. Human resources include human resources managers, occupational health nurses, dietitians, nutritionists and facilitators for peer support at the workplace. Organizational resources include private space (permanent or flexible, clean and comfortable), a chair, table and refrigerator, needs assessment questionnaire, access to websites with promotional breastfeeding education material, and videos and international industry-specific solutions for space and time challenges.

Activities

The listed activities in the first version of the practice model mainly stemmed from the analysis in phases one and two of the study, which included the following:

- providing the legislated time/flexibility (at least 1 hour) to express at work
- promotion of the available time and space to all staff in the workplace
- education to all staff and specific sessions for pregnant employees at work
- interpersonal communication during pregnancy and after the return from maternity leave and
- peer support /mentoring groups.

In keeping with the Mother Friendly Workplace Initiative by the World Alliance for Breastfeeding Action (WABA), the activities depicted in the practice model span the elements of Time, Space and Support. Action across all three elements is important to improve breastfeeding duration amongst employees. Under Support three activities were listed: interpersonal communication, education for

all levels of staff, and peer support and mentoring groups within the workplace. The literature indicates that breastfeeding support programmes that include multiple components and are implemented at multiple levels (employee, employer and workplace) are the most effective (Hirani & Karmaliani, 2013).

Outcomes

The five listed activities are intended to lead to short-term, early changes (i.e. creation of a supportive breastfeeding environment, increased breastfeeding knowledge, increased motivation and self-efficacy to practice EBF and combine breastfeeding and work), which in turn set in motion changes in the medium term (i.e. increased intention to combine breastfeeding and work, increased utilization of breastfeeding accommodation, positive attitudes towards breastfeeding and breastfeeding employees). This is expected to result in the long-term outcomes of increasing breastfeeding duration and exclusivity rates for the first six months of babies' lives among employees.

Outputs

Outputs quantify the services provided and describe what the specific activities will produce.

Impact

Impact is the fundamental intended or unintended change occurring in organizations, communities or systems as a result of programme activities within seven to ten years. The term necessarily carries this implication of extended time (W. K. Kellogg Foundation, 2004).

The first version of the practice model was supported by an additional one-page information sheet providing guidance as to the inputs and activities that the employer must provide and perform. It is believed that the greater the extent of support elements (interpersonal communication, education, peer support) implemented the greater the resultant outcome will be. However, to address the evident challenge of unfavourable attitudes towards breastfeeding found in these workplaces, the education of staff at all levels was deemed relevant and necessary.

The practice model for increased breastfeeding duration and exclusivity rates should be accompanied by the following critical factors.

- Commitment and buy-in from company management to providing the input and activities within the workplace
- Strong leadership in the workplace to create enabling conditions
- Effective planning and coordination to create flexibility in breastfeeding employees' schedules
- Inter-sectoral collaboration between workplaces and Department of Health nutrition officials to obtain educational materials and share expertise
- Adequate resources and capacity must be available to create a private space
- Those who provide the education and support must be adequately trained in breastfeeding benefits and management
- Human resources managers, occupational health nurses and managers are to engage in interpersonal communication with employees
- Breastfeeding misconceptions must be addressed in the workplace environment through the education of all staff
- Advocacy relating to the developed practice model in workplaces will address the lack of support for breastfeeding in workplaces.

During the literature search, a theory of change was found for improving breastfeeding practices through improved workplace interventions. It was developed by UNICEF in 2018 (United Nations Children's Fund, 2018). The developed practice model programme theory described in this thesis has similarities to the UNICEF theory of change, but adds the element of education to address the unfavourable and unsupportive attitudes found in many workplaces.

The following explains how the four elements of an enabling environment as indicated by Gillespie et al (2013) and Du Plessis, McLachlan and Drimie (2018) were incorporated into the developed practice model:

- Knowledge and evidence, as indicated in the programme theory framework (Table 7.2)
- Capacity and resources, as the education of pregnant employees, all staff and supervisors is included under activities
- Politics and governance, as breastfeeding support in workplaces must begin with good organizational governance and must be advocated as such to designated workplaces
- A people-centred approach, as the model builds on the issues and challenges raised by the participating workplaces in phase two of this study.

7.3 Delphi technique

The Delphi technique was used, a group facilitation technique that seeks to obtain consensus among experts through a series of structured questionnaires, referred to as rounds (Hasson, Keeney & McKenna, 2000). It is an iterative multistage process, designed to transform opinion into group consensus. It is a flexible approach that is commonly used within health and social sciences (Hasson et al., 2000). A modified Delphi was chosen for this research, using only two rounds of email questionnaires, due to considerations of time and the possibility of sample fatigue.

The advantage of the modified Delphi process is that it allows the researcher to gather the opinions of a panel of experts without having to bring them together physically, thereby saving time, cost and effort. The process is also free from social pressure and individual dominance. It is therefore conducive to independent thinking and the gradual formulation of judgement. The disadvantage of the Delphi technique is that it can be time consuming. In the case of this study, the process of completing two rounds of Delphi and analysis took three months.

7.3.1 Composition of expert panel members

The researcher compiled a list of experts in the fields of infant feeding, breastfeeding, human resources management (private and public sectors), academia, child health and behavioural and organizational development. Participants were contacted via email and invited to take part in the study as an expert panel member. A covering letter was sent to all (Addendum AA). Sixteen experts were invited and 11 of them (69%) participated in the first and second Delphi rounds. Of the 11 expert members, ten were female and one male. Four of the expert members were from the academic/research sector and three were International Board-Certified Lactation Consultants. The remaining expert members comprised a provincial health department official, a nutrition specialist, one human resource practitioner from the private sector and one from a provincial organizational development department. The composition of the expert panel is given in Addendum N.

7.3.2 Delphi Round One

All correspondence was done via email. During the communications, experts were blind copied to ensure their anonymity. After signing a confidentiality agreement and completing the informed consent form (Addendum AA and AB), the expert panellists were provided with a protocol synopsis, an introductory information document (Addendum AC), the Delphi round one questionnaire (Addendum AD) and version one of the developed practice model (Addendum Y). Quasi-anonymity

was maintained, in that the expert panellists were known to the researcher and possibly to one another, but their judgements and opinions remained strictly anonymous (McKenna, 1994).

The round one questionnaire consisted of open-ended questions relating to the following elements of the developed practice model.

- Inputs
- Activities
- Outputs
- Outcomes (short, medium, long-term)
- The linkages/connections between inputs, activities, outputs and outcomes
- Strengths
- Weaknesses
- Achievability/realistic to implement
- Challenges
- Design, use of wording, etc.
- Recommendations and improvements.

Participants had one to two weeks to return the questionnaire for round one. Each expert panellist was assigned a code when the round one questionnaire was returned. The researcher applied content analysis techniques to the open-ended input, grouping similar items together and summarizing the comments received. These were discussed by the research team. Thereafter the practice model was amended according to the input and comments received. A summary of round one feedback and amendments following round one was developed (Addendum AE). Part of the Delphi process is that the responses from each panellist must be anonymously fed back in a summarized form to all the panellists.

The comments and inputs received from the expert panellists were addressed as far as possible. A summary of the amendments made to version one of the practice model is listed here.

INPUTS

- Delete dietitians/nutritionists, occupational health nurses and include trade union shop stewards, lactation consultants and breastfeeding counsellors.
- Included funds for a lactation consultant.
- Included the identification of a workplace breastfeeding champion and training of the workplace champion.
- Items listed for the lactation room (e.g. chair and table) were removed and covered under a theme with the name of ‘space resources.’
- Other international toolkit resources were added.

- Inclusion of the text *"Compliant to Regulations 991"* was added as a footnote to the education material
- Inclusion of the South African '100 percent breastfed' videos under the inputs.

ACTIVITIES

- Some of the listed activities for employers are linked to legislative and compliance issues and are therefore mandatory to provide. The heading was adjusted to read responsibilities/activities by employer. The items linked to legislation were highlighted in blue and were also designated in text as *"legal obligation to provide".*
- The period for how long the legislated breastfeeding time should be provided was specified as "until the child is 6 months old".
- The provision of antenatal education sessions to pregnant employees by the employer was removed and changed to the provision of time for pregnant women to attend antenatal clinics/visits.
- Peer support and mentoring group was changed to state facilitation or referral to peer support group or mentor.
- Added the legislated activity of "provision of maternity leave for four months."
- Explicitly included men in the category of those for whom education should be provided.
- Changed the wording lower and mid-level staff to ALL male and female staff at all levels of the organization.

OUTPUTS

Feedback mechanism for breastfeeding mothers was added.

OUTCOMES

- Added decreased absenteeism as a long-term outcome.
- Added increased morale and improved staff wellness and better work-life integration as a long-term outcome.

GENERAL

- More images were included under impact.
- Some words under the outcomes heading were made bold.
- The orange and red colours were changed to green and blue shading.
- "Developed by: LC Daniels et al." was added on all pages.

INFORMATION SHEET

- Included a brief introduction covering aspects such as for whom the model was developed, issues of monitoring the activities, an indication of which activities would be easier to implement, etc.
- Details of professional breastfeeding support were included. The websites of La Leche League Leaders and lactation consultants were added.
- A link to South African Regulations 991 pertaining to the marketing of breastmilk substitutes was added.
- Information was added relating to the space that needs to be provided, e.g. safe environment, rooms should be well ventilated, close proximity to mother`s workplace or office.
- The resources for the breastfeeding room were divided into two sections, an “essential list” and a “desirable list”. A reference for the breastfeeding room list was included.
- Resources from the International Labour Organization were added.
- Added reputable social media resources under activity 6.
- Included relevant information for the added activity 7, “Provision of maternity leave for 4 months”.
- Added a note that employers have a legal obligation to perform activities 2 and 7.

The revised, second version of the practice model can be viewed in Addendum AG.

7.3.3 Delphi Round Two

In Delphi round two, the improved, second version of the model was sent out to the experts, with a summary of round one feedback (Addendum AF). The researcher developed a set of questions mostly using scoring/ranking techniques to gain consensus on the amended practice model inputs, activities and outcomes and the connections between them. The round two questionnaire consisted of ten questions relating to the importance of the input and activities used in the model on a one-to-five rating scale. Also, ten four-point Likert-scale statements and four four-point rated questions were included. The expert panellists were asked to complete the scoring/ranking questionnaire, with space provided for additional comments. After each Delphi round the expert panellists were thanked for their participation.

7.3.4 Delphi Round two analysis of rating

After receiving all the completed round two questionnaires (Addendum AH), the researcher analysed the scoring and summarized the comments received. A summary of these comments can be viewed in Addendum AI. The analysed scores are displayed in Figure 7.3 and Table 7.1, below.

To determine the importance of the inputs, a mean score and mean percentage score for each stated input were calculated. Inputs and activities were judged less valid if there was less consensus on their importance. For the input and activity variables, as indicated in Figure 7.5, a mean score of 70% (3.5 out of 5) was deemed to be valid for inclusion in the practice model. Thus the funding for a lactation consultant was removed from the inputs in the practice model as it scored 67% (3.35/5). A written breastfeeding policy statement as well as the provision of maternity leave benefits were both added to the model, as both scored an overall percentage of 93% (4.65/5).

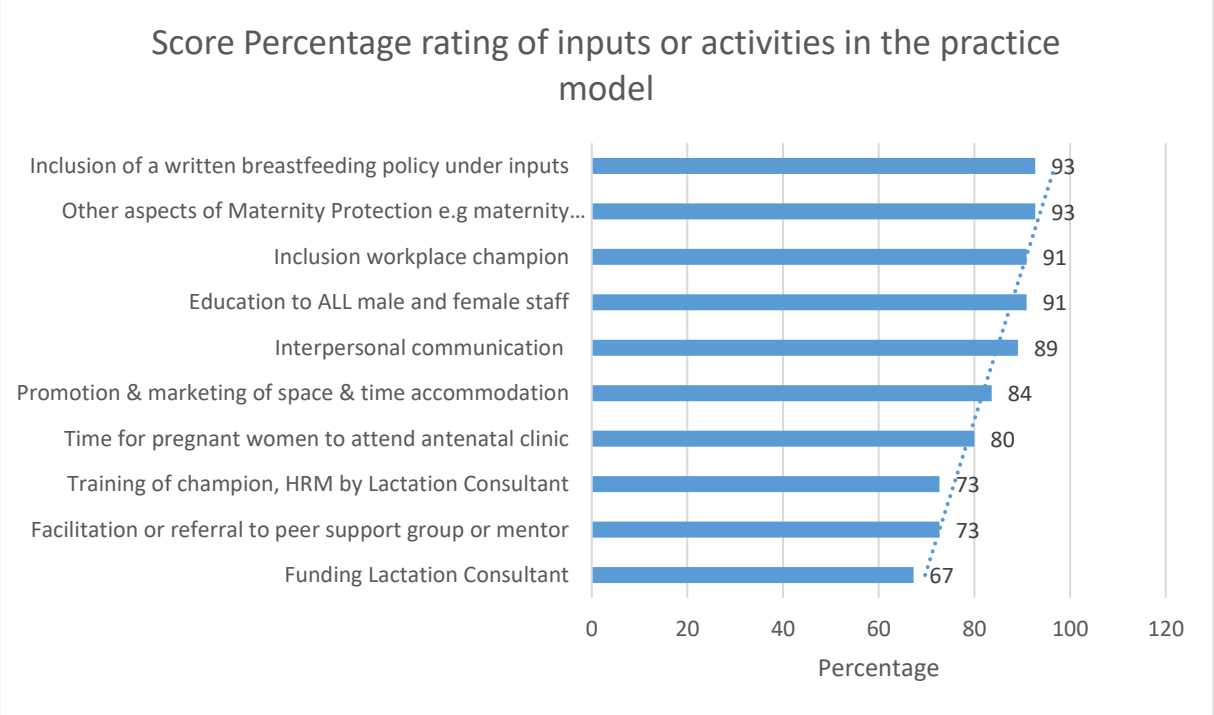


Figure 7.3: Score percentage rating for the inputs and activities in the practice model

Consideration must also be given to the level of consensus to be recognized when using the Delphi method. A universally agreed proportion does not exist for Delphi (Hasson et al., 2000). It was decided that 80% agreement (i.e. at least 9 out of 11 experts) would be the level of consensus required. The 80% figure was that recommended in the literature (Green, Jones, Hughes & Williams, 1999). As seen in Table 7.1, all statements achieved 80% agreement among the panellists. For the statements on the four-point Likert scale relating to the understanding, appropriateness and achievability of the model content, a median score was also calculated. Most statistics used in Delphi studies are measures of central tendency (means, medians and modes). Generally, the use of median and mode are favoured (Hsu & Sandford, 2007). The calculated median scores all reflect a positive rating of all the variables, ranging from agree to strongly agree. The median score for wording, images, colours and overall design also registered a positive score of good and excellent.

Table 7.3: Delphi round two scoring

Scale: ***1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree***	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**010**	**011**	**% Agreement**	**Median score**
The model is clear and understandable	4	4	4	3	3	4	3	3	3	4	3	**100%**	**4**
The inputs are appropriate	4	2	4	3	4	4	3	4	3	3	3	**91%**	**3**
Provisions in the model is cost-effective (not asking for too much from the employer)	3	4	4	2	3	3	3	4	3	4	2	**82%**	**3**
All activities have sufficient and appropriate resources	4	3	3	4	3	4	3	4	3	4	4	**100%**	**4**
The outputs are appropriate	4	4	4	4	4	4	3	4	3	3	2	**91%**	**4**
Outcomes are written as change statements (things increase, decrease etc.)	4	4	4	3	4	4	3	4	3	4	4	**100%**	**4**
Outcomes achievable	4	4	3	4	4	4	4	4	3	3	3	**100%**	**4**
The impact is clearly illustrated	4	4	3	4	4	4	4	4	3	4	4	**100%**	**4**
The benefits for the workplace are clearly illustrated	3	4	3	4	3	4	4	4	3	3	2	**91%**	**3**
The linkages displayed between inputs, activities and outcomes are clear	4	4	4	4	3	4	4	4	3	3	3	**100%**	**4**
Scale: ***1 - Poor, 2 – Fair, 3 – Good, 4 – Excellent***	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**010**	**011**	**% Agreement**	**Median score**
Use of colours	4	3	4	3	4	3	3	3	3	4	2	**91%**	**3**
Use of wording	3	2	4	3	3	4	3	3	3	4	3	**91%**	**3**
Use of images	3	3	4	4	3	3	2	3	3	4	3	**91%**	**3**
Overall design	4	3	4	4	4	4	3	2	3	4	3	**91%**	**4**

The analysed data and additional comments received were discussed with the research team after which the practice model was amended to craft version three of the practice model (please see Addendum AI).

7.4 Validation of practice model

The validation of the practice model entailed presenting version three of the model to the nine participating workplaces after the two rounds of modified Delphi technique. The HRMs, managers and occupational health nurses of the nine participating workplaces were invited to attend a focus group discussion in February or March of 2019. The FGDs were conducted in English or Afrikaans,

whichever was the language spoken by the majority of participants. The FGDs were held at Stellenbosch University Rural Clinical School, in Worcester, which had a private venue available and was conveniently situated for the participants.

Refreshments were provided during all the focus group discussions. Participants were welcomed by the researcher and given the opportunity to introduce themselves. Ground rules for the discussion were stipulated. Informed consent (Addendum AJ) was obtained from all the participants and a short demographic questionnaire was completed. A focus group/interview discussion guide (Addendum AK) had been produced by the researcher and included questions on their opinion of the model elements, challenges they anticipated and any changes they would suggest to the model.

Due to logistical reasons attaching to securing senior ranking managers from the public sector to attend the FGDs, it was deemed necessary also to conduct in-depth interviews. A secured copy of the practice model was emailed to all participants prior to the discussions to enable them to engage with its content. Coloured copies and an enlarged version of the model were available at all the discussions.

All the FGDs and in-depth interviews were transcribed, and the researcher performed quality checks on the transcribed data. The Atlas ti programme was used to analyse the data. To ensure that all themes were identified and to check for inconsistencies, the text was read several times. The researcher took extra care to remain true to the data and reflect the participants' exact words or phrasing. The data was not verified by a second person, but the researcher's promoters engaged with the data during all phases of the study and provided comments. The researcher made notes of the main themes that could be established around the key concepts. The analysis can therefore be described as mainly deductive (having a pre-prepared structure), but also partly inductive, in terms of which emerging themes were built and developed.

Four FGDs (N=15) and one in-depth interview were conducted. The scheduling of more in-depth interviews was unsuccessful, despite several attempts. Data from a short demographic questionnaire (Addendum W) was captured using Microsoft Excel 2016 and summary statistics were used to describe the variables. Demographic characteristics of the participants can be viewed in Table 7.4.

Table 7.4: Participant demographics from validation phase focus group discussions

Variables	**(n = 16)**	
	N	**%**
Age (Mean; SD)	42.4 (10.7)	
Employment Type		
Retail	3	18.8
Manufacturing	5	31.2
Public	8	50.0
Position		
Occupational Health nurse	2	12.5
Human resource practitioners/managers	5	31.2
Managers (general, logistic, department, risk control)	6	37.5
Social workers	2	12.5
Personal assistant	1	6.3

7.5 Results of the validation of the practice model

Three main themes were established through the various stages of development, namely 1) perceptions of developed practice model, 2) challenges to implementation of the practice model and 3) suggested changes to the model.

Theme 1: Perceptions of developed practice model

Model and Design

The participants felt positive about the model, describing it as clearly set out and easy to follow. They claimed that provided a holistic picture of what breastfeeding support in the workplace can entail.

> *It is clearly set out and it is understandable, and it is nice if you see there`s a "provide hygienic space and resources" and if you read further along then you get what they mean with hygienic space and resources. So, it is just the beginning and then it gives more explanations. So, it is actually understandable for someone that does not know a lot of breastfeeding laws … so it helps a person a lot. It is very insightful. {HR manager, retail, female}*

> *So, I am very impressed, I must say, with the flow of the model. The layout is good, definitely…. {Employee wellness, public, female}*

Overall, participants were positive about the colours and felt that the presentation was "nice and bright". A few participants felt that the model would be the "perfect tool to use" for a training session. They regarded the model as informative and insightful, even for someone who did not know much about the topic. According to the participants, the model provided a basic guideline of how to implement breastfeeding support in the workplace. One participant viewed the model as a best practice model to be implemented.

> *It's an incredible model … but we know that we must make place for breastfeeding, we know that there are certain laws, but we don't necessary do it and we don't know how. So this is actually the how …. {HR manager, manufacturer, male}*

Another participant had the view that businesses that cared for their employees would be eager to implement this model.

> *No, it can work. May I share this information? {Risk Manager, manufacturing, male}*

A different participant felt that implementation of the model would give the employees a sense of being supported, as well as reassure them that their employer cared about them and was interested in their wellbeing and that of their children.

Tiered approach to implementation

The tiered approach to implementing this model was positively perceived by most participants. They felt that this was the best way to approach implementation and that workplaces would be more open to a step-by-step approach. A few participants felt that even if only two or three of the six activities were implemented, this would at least be a start and make the workplace environment so much better for breastfeeding employees.

> *… for management to get into the idea… if it's in steps then I think they will be more open to the idea. {HR manager, manufacturer, female}*
>
> *A person must work very gradual and wise for something to have longevity … they must make small changes …. {Manager, public, female}*
>
> *I see it as a car with gears. Your first gear that you make everyone aware, and then the ladies that come forward, then you go over to another gear and then you delve deeper. {Risk Manager, manufacturer, male}*

Model outcomes and impact

The majority of the participants felt that the benefits to the workplace are clearly portrayed in the model and that they could identify the important elements from the model without having to read everything. One participant felt that the benefits to the workplace as more indirect, and that the proposed action was a very good tool to retain staff and reduce absenteeism.

In the model a statement is made that investment in breastfeeding is a social responsibility. Many participants felt that workplaces must strive to improve communities. One participant commented that malnutrition would be reduced if children were breastfed, while another stated that children would have better bonding experience with their mothers and a better overall outcome in life if breastfeeding was promoted and practiced. Yet another remarked that it was a positive, good statement to make as breastfeeding has so many benefits for society, while others. It was also seen as a strong statement.

Three-page information sheet

Some participants felt at first glance that there was a lot of information to process. Others considered the information sufficient. Most participants appreciated the degree of detail in the information sheet and described it as informative, clearly set out and reader friendly.

> *So I think that it's good that the explanations is there. Because we are being told: "consult people", but then you are, where should I begin, who must I look for, who else must I approach? {HR manager, retail, female}*
>
> *It's a lot but that's the idea, that it explains this. {HR manager, retail, female}*

One participant indicated that she was particularly pleased with the web-links that are provided in the document.

> *I think the layout is good. Like I said, it gives you a brief, but also an in-depth description of what is expected or what is meant by that specific bullet. {Employee wellness, public, female}*

One participant was of the opinion that the second page of the information sheet was too densely written.

Inputs and activities by employer

Commitment by leaders

The participants viewed support, commitment and buy-in from leaders as critical for this plan and model to succeed, stating that without it, the initiative would fall apart.

Breastfeeding policy statement

Most participants were positive about providing a workplace breastfeeding policy statement, claiming that it was important to have, it was the right thing to do, and a lot of effort must be placed on its development. They were of the opinion that issues raised during the focus group discussion – e.g. liabilities and expectations after the six months – need to be clearly addressed in the workplace breastfeeding policy.

> *I just think the policy must then talk to all these issues that we have mentioned. And because it's something new, there must be a lot of effort and time going into such a policy. Because I don't think it's just like a normal thing. Because it's quite unique. {HR manager, manufacturer, male}*

Educate

Participants agreed that males also need to be educated on the importance of breastfeeding. It was mentioned that males are most often the managers, line managers and supervisors within workplaces. A participant from the public sector believed that males could share the information provided to their spouses and partners. She noted that young males would most probably be shy in the beginning, but using as an example the first "1000 days" workshop that was held, men who attended were very interested after the session. One participant felt that women employees needed to be educated, while and male employees must be informed, claiming that education should be differentiated from information. Another participant felt that the education of senior management should be prioritized. A few participants felt that the education sessions would fit in well with the wellness programmes at their workplaces.

Providing pregnant women with the time to attend antenatal classes/clinics was not seen as a challenge, as most participants indicated that provision for this was made under the employees' annual sick leave allowance.

Interpersonal Communication

Participants did not foresee any problems with interpersonal communication, although one participant felt that many supervisors were not trained to engage with personnel, as this was more of a soft skills area.

Peer support, Promotion and Maternity leave

Participants also did not foresee any challenges relating to the peer support referral process, the suggested promotion aspect (space, time and policy) and maternity leave provision, and they felt that all these activities would be achievable.

Theme 2: Challenges to the implementation of the practice model

Commitment

There were mixed opinions about commitment, with one participant anticipating that it would be a challenge in the male-dominated environment (manufacturing) that she works in.

> *You need the commitment from the leaders or the management team to buy into this model, to have things in the workplace like that. So, I think that is aimed .... Most of them at our company are men so they don't usually understand the importance of breastfeeding and things like that. So, I think that to me will be a challenge. {HR manager, manufacturer, female}*

Many of the public sector participants believed that management would be committed as implementing the model holds benefits for both employees and the workplace. One participant was concerned that it would take a lot to convince her management and felt that the needs assessment would determine whether they would adopt the model and start implementing it. Most participants were of the opinion that it would be achievable and were positive that if a decision was taken, planning, piloting and implementation would take place.

One middle manager from the public sector was not convinced that management at the workplace would prioritize breastfeeding support, as a lot of the employees were working outside the offices. She conceded that she might be wrong, as there was a big focus on the "1000 days" at their workplace. A senior manager from the same workplace believed that management would be committed, volunteering their preparedness to table this topic to management.

> *You know we are a male-dominated department, strangely, but the people in management is mostly men. So, these men do not think of the needs of breastfeeding mothers. So this is something that I think from myself, I can make a commitment to say, but this is something that I will, how can I say? – promote or …. I am not sure what the right word is, to put it on the table. {Manager, public, female}*

A manager from the retail sector was positive about their branch's commitment and did not foresee challenges, but was of the opinion that involvement and commitment from the company as a whole might present a challenge.

> *I think the commitment will be there. I don't foresee any challenges for us because we do have the opportunity to delve into this and almost create awareness within this environment …. But if you look at the bigger picture, the company itself, it is where we need to involve our leaders even to go bigger within the company. So that will be a challenge because there's different areas that we need to go into to get all the guys involved in terms of the leadership groups. {General manager, retail, male}*

Champion

A participant from the public sector workplace felt that the identification of a champion to take the matter forward would be a challenge for the workplace; but in the interview conducted with a senior manager this was not deemed to be a specific challenge.

> *No, it will not be a problem (referring to the identification of the workplace champion). I think as this fits into our belief that breastfeeding are important for babies … and I think there is already a lot of people that will be champions for this. {Manager, public, female}*

Provision of legislated breastfeeding time

Across the focus group discussions, the participants were not all aware of the legislated breastfeeding break time and were of the opinion that there was little public awareness around this issue. In one focus group a participant was unclear about the meaning of the word "legislated". In the same focus group discussion, the provision of the legislated break time to employees was viewed as a challenge, especially if the company employed many women. The strong focus on production and service delivery in the retail and manufacturing sectors was again evident and was the main reason for the perceived challenge. Interesting to note was that the participants in the focus group discussion became less vocal on this specific challenge, when the meaning of word legislated was clarified amongst the participants. One participant was unclear as to whether the legislated breastfeeding time was paid or unpaid time.

> *Because I think that is also if they get paid for that or not, but it's still productive time. We're in manufacturing, so every minute counts. {HR manager, manufacturing, female}*

> *So, if we have that three in our environment, each person gets an hour break, it's going to have a big impact on our service. If we do that two 30 minutes plus you get an extra hour, plus you get two extra 15 minutes with that. So, it means it's two hours, two and a half hours out of the working time. So that's gonna be a lot of hours and that is times three. So that's gonna be a challenge for us. {General manager, retail, male}*

Provision of space

Many participants were of the view that the provision of space would be a challenge within their work environments, though some said that it was something they could work around by using dividers, retail changing rooms, etc., and others indicated they would just need to sit down and plan for different options. A participant from the public sector mentioned that the provision of a sick bay had recently been mentioned as a "must have" at their office and that a breastfeeding private space could ideally be incorporated within this space.

Liability /Other concerns Raised

Some participants raised liability issues relating to storing and maintaining expressed breastmilk at the workplace and whether they would be liable if something happens to the infant expressed breastmilk.

> *With a cooler, storing of the milk, if the person takes the pack home, is it gonna be fresh? So, there's a lot of things that we need to consider here when we have that. So, will the company then be liable if the milk isn't fresh anymore and the child gets sick? {General manager, retail, male}*

Another participant felt that he did not want any problems relating to litigation issues and that while they would provide the employees with time and space, the mother would need to provide her own cool storage.

Another issue raised was what the procedure would be for the mother, after the infant had reached six months and the mother still required time to express breastmilk. The participants felt that both these issues had to be clearly addressed in the workplace breastfeeding policy to be developed.

Theme 3: Suggested changes to the model

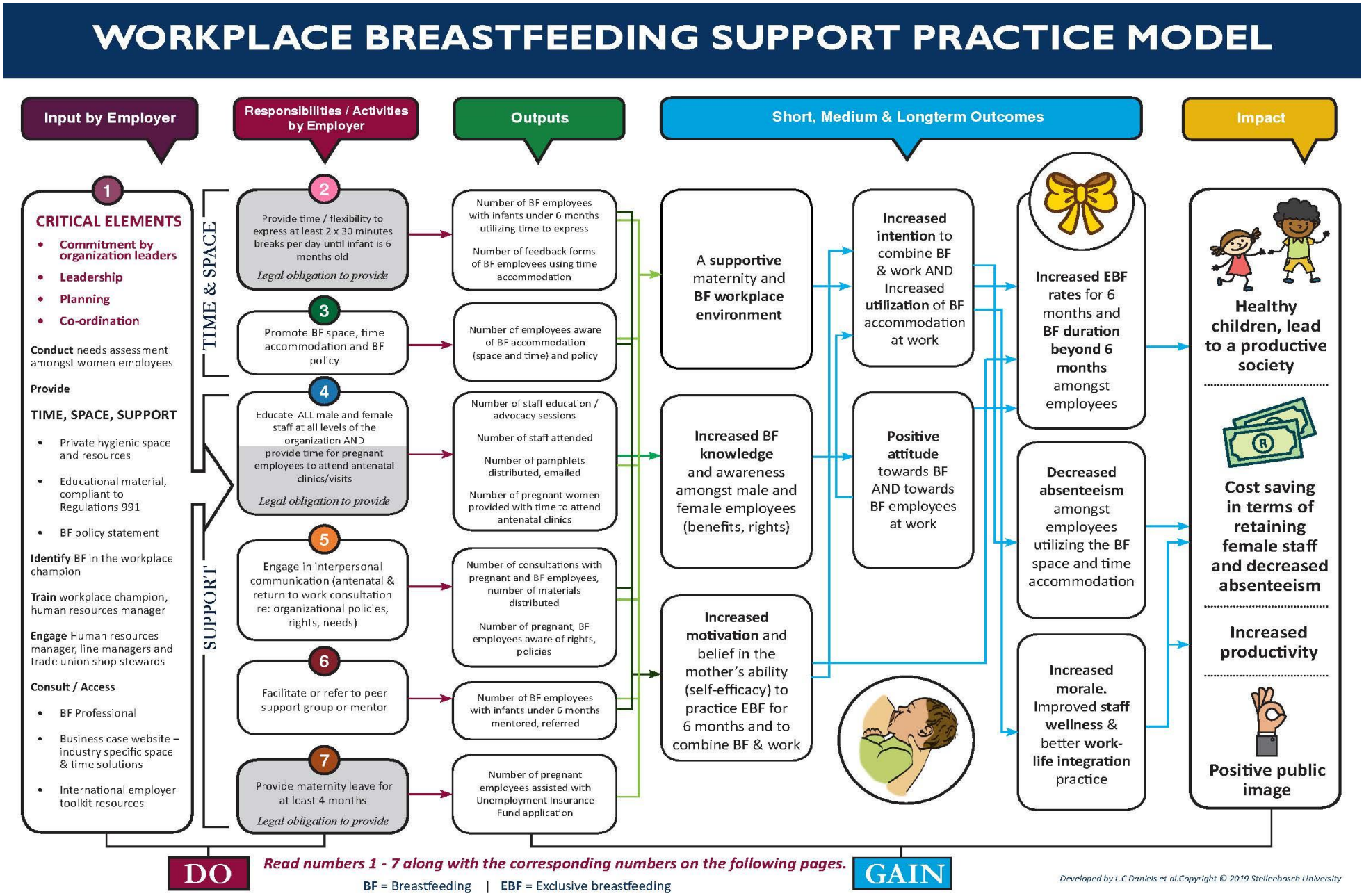
The following changes to the practice model was suggested by the participants:

- To change the colour of the children's faces so that it represents the diversity of the South African population

- Highlight the benefits more by putting into bold face words such as increase, decrease and positive
- Add “engage line managers” under engage input
- Incorporate different shades of green arrows so that the linkages are projected more clearly
- Use a lighter shade of blue for the legislative blocks as the darker shade is a bit difficult to read
- The numbering 1 to 7 in the model to correspond with the same colour of the numbering used in the information sheet, which would make the linkages easier to identify
- Include a statement on the model that indicates that the numbering 1 to 7 must be read in conjunction with the responding number in the information sheet
- Under consult/access, include next to “Business case” that it is a website
- Also include absenteeism under the “impact cost saving” section
- Include two elements of education for women employees and informing male employees as an activity

After analysis of the FGDs and interviews, most of the above changes were incorporated into the final model. The issue relating to gender difference in education versus information was not incorporated, as the researcher felt that males and females needed to be treated in the same way and receive the same education. The final version of the practice model can be viewed in Figure 7.4, below. A PDF file of the final practice model can also be viewed at the following link:

https://drive.google.com/open?id=13za7-v6MqGaFmeiHwAfOCYZymZYO4hU2



WORKPLACE BREASTFEEDING SUPPORT PRACTICE MODEL

GENERAL INFORMATION

- The model was developed as part of a PhD research study, based on a mixed method approach *© Stellenbosch University* [1]
- The model is relevant for workplaces that employ more than 50 employees (designated workplaces) and is applicable to all permanent, contract and part time employees at designated workplaces. Smaller workplaces can, however, adopt or adapt aspects of the practice model.
- If employers are not able to implement all the listed activities from the start, piloting a few activities should be considered.
- Responsibilities / activity 2, 3, 5 and 7 are considered easier / quicker to implemented, while activity number 4 and 6 might require more time to plan, co-ordinate, gain relevant information and implement.
- It is important that the listed activities and outputs be monitored by the organization and that quality improvement plans should be developed to address concerns.
- Investment in breastfeeding is a social responsibility.
- The provision of workplace breastfeeding support facilities should form part of a service benefit of the organization and should be marketed as an employee-value proposition.
- The practice model must be established and viewed as part of an employee work-life balance/integration practice.
- Leadership, planning and co-ordination, strong engagement and intersectoral collaboration will be required within these workplaces, as critical elements for the implementation of the practice model.

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- A basic, once-off needs assessment should be conducted amongst women employees. This will assist management with planning on how to address the reported needs.
- The breastfeeding room can be a permanent or flexible space solution (e.g. office space, retail changing room, conference room). A walled-off corner can be constructed to enclose a smaller space in a bigger room.
- Permanent space Ideal size: minimum of 2.1m x 2.1m.[2] Close proximity to mother`s workplace or office, safe environment, clear from dangerous waste products and chemicals. Room must be well ventilated with screens/ blinds/curtains where there are windows to ensure privacy.
- The room can be basic or advanced, based on the workplace resources and staff needs.

- **Essential list for a breastfeeding room[3]:**
  - Clean, private lockable room
  - Comfortable chair and small table
  - Cool storage: e.g. personal cooler bag or box or use public refrigerator for milk storage
  - "Lactation room" / "Knock before you enter" signage
  - Close proximity to a sink / Hand sanitizer
  - Electrical outlet
  - Waste bin
  - Printed educational resources

- **Desirable list for a breastfeeding room[3]:**

  In addition to the essential list for a breastfeeding room, the room can have:
  - Small refrigerator for milk storage provided by the employer
  - Room has a washbasin with clean running water and soap
  - Scheduling system or communication paper outside the door

- Funding will be required for printing educational material, pamphlets and posters. Educational pamphlets could be emailed to employees (if service is available) and or printed.

[1] Daniels, LC et al. Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley sub- district, Western Cape Province, South Africa.
[2] AIA best practices Lactation/Wellness Room Design. Website: http://www.cphi.upenn.edu/assets/usercontent/documents/0908_Lactation%20Room_English.pdf
[3] National Business Group on Health by Center for Prevention and Health Services. Investing in Workplace Breastfeeding Programs and Policies (An Employers Toolkit) https://www.businessgrouphealth.org/pub/?id=f2ffe4f0-2354-d714-5136-79a21e9327ed

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- The Western Cape Department of Health (DOH) website https://www.westerncape.gov.za/first-1000-days/resources/ is available to access the DOH breastfeeding educational materials for free: "First few days", "expressing", "cup feeding" pamphlets to use during education sessions, peer support and interpersonal communication sessions.
- The National Department of Health website: https://sidebyside.co.za/booklets/ has a breastfeeding in the workplace booklet for employers and employees which provides information relating to setting up a breastfeeding room, women`s breastfeeding rights in the workplace, guiding steps to become a breastfeeding friendly workplace and a developed "do not disturb" signage and "breastfeeding friendly" workplace signage. A breastfeeding poster, breastfeeding questions and answer booklet and breastfeeding support sticker is also available for download.
- South African appropriate breastfeeding health education videos and printed material are available in three languages (Afrikaans, English and isiXhosa) for mothers at the following website: https://100percentbreastfed.co.za/
- A breastfeeding policy or policy statement endorsed by management must be developed. A template of a workplace breastfeeding policy is available at https://sidebyside.co.za/booklets/
- A breastfeeding in the workplace champion must be identified.
- The champion needs to be trained. A breastfeeding professional (e.g. experienced dietitian, professional nurse with infant feeding training, lactation consultant, breastfeeding counsellor) can train the identified champion and or human resources manager at the workplace to ensure the sustainability of the programme.
- Human resources manager and or champion or occupational health nurse (if available) under the employee health and wellness programme should initiate the support process. They will be responsible for the policy development process, communication and planning and co-ordination of inputs and activities. They should consult the expertise of a breastfeeding professional to initiate discussion on the topic and to collectively start to plan implementation of the practice model activities.
- Trade union shop stewards should be included during discussions regarding the planning and implementation. They can assist with the communication and promotion of employee benefits and rights amongst employees.
- Funding for the initial startup phase for the service of a breastfeeding professional (e.g. lactation consultant) who can work with the organization can be considered. Breastfeeding professionals (e.g. community dietitian, professional nurse with infant feeding training, breastfeeding counsellors) are available for providing support and advice. The breastfeeding professional can assist with training and provide focused input for the identification of a workplace breastfeeding champion/ peer support facilitator, identification of suitable space solution and provide guidance to the human resources manager and company management. They can also assist with the initial education sessions of ALL male and female staff within the organization and set up guidelines for the education sessions.
- South Africa has recently established the association, Lactation Consultants of Southern- & Africa at www.lacsa.org.za. A lactation consultant can also be found at https://www.ilca.org/why-ibclc/falc. La Leche League (LLL) Leaders are experienced breastfeeding mothers, trained and accredited by LLL. An LLL Leader can be found at https://www.lllsa.org/contact
- An employer`s toolkit, Investing in Workplace Breastfeeding Programs and Policies of the National Business Group on Health by Center for Prevention and Health Services is available at https://www.businessgrouphealth.org/pub/?id=f2ffe4f0-2354-d714-5136-79a21e9327ed Examples of employer assessment forms, feedback forms for breastfeeding employees and feedback forms for supervisors and colleagues of breastfeeding employees are available in chapter 8, which can be adapted according to need.
- The United States Department of Health and Human Services Office on Women`s Health, the business case for breastfeeding was designed as a toolkit with comprehensive resources to help employers create breastfeeding-friendly workplaces. The document, "Easy steps to supporting breastfeeding employees, provides human resources managers, members of the wellness team with an integrated approach to implementing a cost-effective lactation support program https://www.womenshealth.gov/files/documents/ The business case for breastfeeding website https://www.womenshealth.gov/files/documents/bcfb_easy-steps-to-supporting-breastfeeding-employees.pdf also provides cost-effective time and space tips and solutions for any industry setting that workplaces can explore.
- The International Labor Organization website http://mprp.itcilo.org/allegati/en/m10.pdf has a module relating to: "Breastfeeding arrangements at work" which provides specific suggestions to employers regarding how to support breastfeeding in the workplace.

2

*Section 87 (1) (b)Basic Conditions of Employment Act, Code of Good Practice on the protection of employees during pregnancy and after the birth of a child, 5.13 states that arrangements should be made for employees who are breastfeeding to have breaks of 30 minutes twice per day for breastfeeding or expressing milk each working day for the first six months of the child's life. This time is over and above the employee's lunch and tea time website: https://www.labourguide.co.za/workshop/1248-14-code-of-good-practice-on-the-protection-of-employees-during-pregnancy-and-after-the-birth-of-a-child/file

Figure 7.4: Final workplace breastfeeding support practice model

It is important that the practice model be piloted at different kinds of workplace and the outcomes measured before and after implementation. A participatory action research study was conducted in Thailand and similarly set out to develop a workplace breastfeeding support model for employed lactating mothers (Yimyam & Hanpa, 2014). This study compared breastfeeding rates before and after implementation of the breastfeeding support campaign. The Thailand model was also based on the three core elements of time, space and support.

The process undertaken to develop the Thailand model included the creation of a breastfeeding support committee, breastfeeding support activities and educational materials for breastfeeding support campaigns in the workplace. Similarly, our practice model incorporates engagement with trade unions, human resources managers, line managers and consulting breastfeeding professionals. The implementation of the Thailand model consisted of breastfeeding education and support by nurses, midwives and/or lactation consultants as part of the breastfeeding support campaign at the workplace. Breastfeeding education and support from health professionals started from the third trimester of pregnancy and continued during hospitalisation, after giving birth, during the four- to six-week post-partum follow-up visit, one-two weeks before resuming employment, and continued after the mother's resuming employment through at least six months. Similarly, the aspect of breastfeeding education for all levels of male and female staff was included as an activity in our practice model. It was less extended process of education than that offered by the Thailand model, but our practice model additionally included facilitation and/or referral to peer support groups as part of the support.

In Yimyam and Hanpa's (2014) participatory action research study, a breastfeeding support committee was setup, consisting of representatives of administrative personnel, employed lactating workers and nurses in the workplace. They worked collaboratively with the research team to develop a model of breastfeeding support (Yimyam & Hanpa, 2014). The Thailand model provided a manual for combining breastfeeding with employment to employed lactating mothers. Pamphlets on the benefits of breastfeeding and how to prepare for breastfeeding were distributed to all pregnant workers. Posters for promoting breastfeeding were prominently displayed in the workplace. Breastfeeding support and workplace campaigns included the breastfeeding corner, breastfeeding conditions, environments and resources such as flexible working conditions, breastfeeding breaks, breast pumps, refrigerator, sink, table, comfortable chairs and other necessary equipment for milk expression (Yimyam & Hanpa, 2014).

The Thailand model proved to be effective, as the breastfeeding rates after implementation were significantly higher for both EBF and any breastfeeding at six months, at levels of 0.004 and 0.033 respectively. The employed lactating mothers had a positive psychological experience from combining breastfeeding with work, and members of the committee reported positive attitudes towards breastfeeding and themselves felt good about supporting lactating workers (Yimyam & Hanpa, 2014).

A study was Garvin et al (2013) in Southeastern Virginia aimed to assist workplaces in developing lactation support using the Business Case for Breastfeeding resource toolkit. This one-year project educated 20 businesses about breastfeeding support in the workplace and engaged 10 businesses to implement the Business Case for breastfeeding. The aim was to assess sustainability via documented policy and environmental changes as well as integration of the lactation support programme into the businesses infrastructure. The results indicated out of 17 businesses that engaged with the project 14 significantly increased their stage of change, development of a lactation support programme, written policies and physical and social environment changes ($p<0.001$). A brief follow-up also indicated that all 14 businesses sustained the program eight months after the program ended with increased stages of change, policy enforcement and physical environment ($p<0.05$). This resource toolkit provided an effective approach in assisting and maintaining lactation support programmes in workplaces across several cities in Virginia. Similar to this study there is also potential to conduct a similar research in the South African context. By providing workplaces with education and training relating to the developed practice model and assessing the progression of the stages of change, physical and social environment with the aim to determine if the approach would be effective in establishing support in the workplace.

In our study, liability issues relating to the storing and maintaining of expressed breastmilk at the workplace were mentioned. Two other studies also found these concerns (Brown et al., 2001; Chow et al., 2011). The UNICEF Bangladesh and Kenya workplace breastfeeding case study, similar to the practice model activities, included interpersonal communication, pre-maternity leave and a back-to-work preparatory consultation. Workplace dialogue was included to sensitize employees and promote available breastfeeding breaks and space accommodation. The lessons learned from the Bangladesh case study were about the importance of involvement from leadership as well as commitment from the business to initiate the programme (United Nations Children's Fund, 2018).

The practice model starts off by identifying the critical elements. Leadership and commitment were considered amongst the important elements for the practice model to succeed.

7.6 Conclusion

The aim of this phase of the study was to develop and validate a practice model to support EBF in designated workplaces in the Breede Valley sub-district, Western Cape, SA.

The practice model was positively perceived by the majority of participants in the validation phase of the study. They viewed it as informative, well designed and easy to follow, even for someone who does not know a lot about the topic. The model was viewed as an ideal tool, if accompanied by some training in its use. Participants were positive that implementation of the model was achievable. The tiered approach was perceived as the best way to approach implementation.

Commitment on the part of organization leaders, an important element mentioned in the model, was viewed as critical for the model to succeed. There were mixed opinions regarding commitment; a few participants mentioned commitment as a challenge they foresaw in the male-dominant environments in which they worked. Others stated that their workplace would commit to something like this, as it stands to benefit both employees and their employer. It is therefore essential that organizational commitment be developed for successful breastfeeding support.

CHAPTER 8: DISCUSSION OF MAIN FINIDNGS

8.1 Introduction

The purpose of this chapter is to discuss the research process and to synthesize the main findings in order to answer the research question. The main conceptual conclusions are presented.

8.2 Summary of study aim and design

As indicated in the introductory chapter, it is reported that globally only 37% of infants younger than six months of age are exclusively breastfed (Victora et al., 2016). The WHA has set global targets to increase the rates of EBF in the first six months of life to at least 50% by 2025 (World Health Organization, 2014). In SA the EBF rate for infants under the age of six months has increased over the past decade, but remains low at 32%, which is well below the WHA targets (Statistics South Africa, 2017). For a mother to reach the WHO recommendation of six months EBF, she needs a supportive environment that protects and promotes breastfeeding at home, work and in her community.

Globally, mothers have identified work as one of the main barriers to exclusive and continued breastfeeding and the leading motive for not breastfeeding or for the early cessation of breastfeeding (Rollins et al., 2016). There is, however, evidence that workplace breastfeeding support programmes are able to contribute to increased breastfeeding duration rates (Dodgson et al., 2004; Bai & Wunderlich, 2013; Yimyam & Hanpa, 2014). Employed breastfeeding women are in need of support, as the cessation of breastfeeding is greater among working women (Lewallen et al., 2006). Also, those returning to work have a shorter duration of breastfeeding than those who are not employed (Libbus & Bullock, 2002; Witters-Green, 2003; Dunn et al., 2004; Ryan et al., 2006). The increasing number of women entering the South African workforce highlights the need for extended support to mothers in the workplace, to enable them to sustain their breastfeeding practices and in doing so improve the EBF and continued breastfeeding rates in the country.

This research set out to assess the workplace environment as a setting to support breastfeeding. According to our knowledge, there is no employer-specific model for designated workplaces in SA to guide employers in creating an enabling environment for breastfeeding.

The following research aim and objectives were formulated for this study:

Aim: To develop a practice model to support EBF in designated workplaces.

Objectives:

- To assess current breastfeeding support practices in designated workplaces

- To explore employers' and employees' experiences and perceptions regarding breastfeeding support in the workplace
- To explore the experiences of employed mothers who exclusively or predominantly breastfed their children from birth for any period up to six months
- To develop and validate a practice model to support EBF in designated workplaces by drawing on the results of the research.

As detailed in Chapter Three, an explanatory, sequential, mixed-method research design was deemed relevant to achieve the research objectives. The research was conducted in three distinct phases. Phase one employed a quantitative, descriptive, cross-sectional study design with an analytical component. This was followed by a qualitative, multiple case study approach (phase two). Phase three involved the development and validation of a practice model to support EBF in designated workplaces.

This research was conducted in designated workplaces in the specific setting of the Breede Valley sub-district. Designated workplaces were selected since the literature indicates that larger institutions are more likely to provide flexible options and day care facilities, and to employ written breastfeeding policies (Dunn et al., 2004). Furthermore, women's workplaces can be an ideal setting for the promotion and encouragement of breastfeeding through implementation of workplace lactation programmes and interventions (Kim et al., 2019).

Worcester, the capital of the Breede Valley sub-district, was selected because of the variety of workplaces in the town that have links with employment at local, regional, provincial (e.g. governments departments) as well as national levels (retail stores and large commercial food companies). This setting was therefore deemed ideal for the development of the practice model. The research focused on workplace breastfeeding support for mothers in formal employment and did not include employed mothers working in the informal sector.

In phase one, an online survey was conducted that collected mainly quantitative data. The online survey was developed by the researcher and was based to a large extent on the Employer Support for Breastfeeding Questionnaire (ESBQ) (Rojjanasrirat et al., 2010). A list was compiled of all the designated workplaces in the Breede Valley sub-district in each of the three workplace categories namely: 1) private business sector, including producers (farmers), manufacturers and distributors; 2) private business sector, including traders (retail shops); and 3) public sector. HRMs and/or the company manager (director, Chief Executive Officer, senior managers) at these three workplace categories were selected because they were in a position to provide information on company

policies. They could also report on any barriers or enablers experienced or foreseen for breastfeeding support within their setting. The link to the online survey was emailed to the HRMs and/or the company managers of the 38 designated workplaces. A 36.8% response rate was achieved (14 /38) for the online survey.

In phase two, nine workplaces were purposively selected (three workplaces in each of the three workplace categories) from the compiled list of designated workplaces. At least one in-depth interview was conducted at these nine workplaces with the company manager and/or human resources manager and one FGD were conducted with employees. Within the workplace categories, one middle manager FGD was held. A total of seven employee FGDs, three middle-level manager FGDs and eight in-depth interviews were held. In addition, four FGDs were conducted with employed breastfeeding mothers from designated workplaces, who had exclusively or predominantly breastfed their infants for any period up to six months.

The analysis of phases one and two, the exploration of evidence-based knowledge as well as the programme logic model and programme theory approaches informed the development of the practice model in phase three. A similar methodology was used in a study that developed a practice model to evaluate the effectiveness of comprehensive primary health care in local communities (Lawless, Freeman, Bentley, Baum & Jolley, 2014). A modified Delphi technique was used, in terms of which the practice model that had been developed was sent to 11 experts in the field of nutrition, human resources and industrial psychology to provide input. Two Delphi rounds were conducted. After receiving the input from the two Delphi rounds and making amendments to the model, it was subsequently presented to the nine participating workplaces during four FGDs and one in-depth interview. This provided workplaces with the opportunity to give input and feedback on the model. After this process was concluded, the practice model was amended and finalized. A graphic designer assisted the researcher with the development and refining of the practice model.

The results presented here provide insight into the workplace environment relating to breastfeeding support. The personal and professional perspectives of the participant employees and managers offer distinctive information about the unique challenges they are experiencing as well as solutions to improve the situation. This research, relating to breastfeeding and breastfeeding promotion and support at the workplace, is anchored within the “first 1000 days” concept and the nutrition-specific intervention framework (i.e. addressing the immediate causes of undernutrition) (Black et al., 2013). The research sheds light on the processes needed to develop a practice model to support breastfeeding.

8.3 Reflection on main study findings

8.3.1 Breastfeeding support practices in designated workplaces

The study revealed that the promotion of breastfeeding among employees, onsite crèche facilities, breastfeeding counsellors, the provision of designated space for expressing and workplace breastfeeding policies were uncommon practices in designated workplaces. Other studies similarly found that only a small percentage of workplaces had breastfeeding counsellors (Dodgson et al., 2004; Hojnacki et al., 2012) and private space for breastfeeding available (Dodgson et al., 2004; Dunn et al., 2004; Soomro et al., 2016). Two other studies similarly found a low percentage (22%) of workplaces in Indonesia (Basrowi et al., 2015) and 19% of workplaces in Sydney Australia (Weber et al., 2011) had a dedicated breastfeeding space available to mothers. Payton et al (2019) in contrast found a high percentage (83%) of Pennsylvania workplaces had a dedicated breastfeeding space. This recent study evaluating workplace support amongst employers in two Pennsylvania cities, similarly found only two employers (9%) had onsite day-care facility (Payton et al., 2019). Previous research indicates that a larger proportion of hospitals (37.8%) have on-site day-care options as compared to non-hospitals (0%) in state of New Jersey (Bai et al., 2015).

The literature indicates that provision of these breastfeeding support practices and services does have an impact breastfeeding outcomes and practices. One study found telephone support and a return to work consultation with a lactation consultant was significantly ($p < 0.05$) associated EBF at six months (Balkam et al., 2011). Findings from a New Jersey study revealed the presence of onsite childcare promoted longer duration of EBF (Bai & Wunderlich, 2013).

The presence of a dedicated breastfeeding facility in Indonesia was found to increase EBF practice almost threefold, by an odds ratio of 2.74 and a 95% confidence interval of 1.34-5.64 ($p<0.05$) (Basrowi et al., 2015). Also a United States based survey revealed that women with breastfeeding break time and private space were 2.3 times (95% CI 1.03,4.95) as likely to EBF at six months and 1.5 times (95% CI 1.08, 2.06) as likely to continue to breastfeed exclusively with each passing month compared to women without access to these accommodations (Kozhimannil et al, 2016). Results from the same survey revealed that employed women, provided with isolated space to express breastmilk at work, increased the duration of breastfeeding by 1.36 months (Kozhimannil et al, 2016). It is therefore important that these uncommon amenities discussed above, need to be actively advocated for in all South African workplaces and abroad.

The findings on the lack of workplace breastfeeding policies correspond with international research findings (Dunn et al., 2004; Hojnacki et al., 2012, Bai et al., 2015; Payton et al., 2019) and another South African based survey where 16% (n=5) of organizations indicated having a breastfeeding policy (Martin-Weisner, 2018). The effect of workplace policies on breastfeeding outcomes were examined in two studies with different results. Workplace policies (r =0.13, p =0.24) that included a policy regarding breastfeeding and the duration of maternity leave showed statistically insignificant correlations with EBF duration (Bai & Wunderlich, 2013). One earlier study in 2009, however found that workplace policies was significantly associated with any breastfeeding at six months (p=0.036) (Dabritz et al., 2009).

The provision of the legislated breastfeeding break time was not optimally implemented, indicating a lack of awareness of the legislated breastfeeding break time and/or a lack of implementation. Studies from Hong Kong (Dodgson et al., 2004) and Pakistan (Soomro et al., 2016) similarly found a low percentage of workplaces offered breastfeeding breaks to working mothers (11% and 15%, respectively). In contrast, a study in Michigan found that a high percentage (73%) of companies provided breastfeeding time (Hojnacki et al., 2012). When relating breastfeeding breaks with breastfeeding outcomes the literature revealed one study by Bai and Wunderlich (2013) showing no significant association (r=0.05, p= 0.52) with breastfeeding duration. Two studies (Sattari et al., 2013, Alvarez et al., 2015,) however did find a significant positive association (r=0.29 and 0.493, p= <0.01 and p = 0.044 respectively) with total breastfeeding duration.

Among the reasons mentioned for not providing breastfeeding break time in the open-ended comments section of the online survey were: no request received from employees, breastfeeding is not a priority at the workplace, time pressures at work and lack of awareness that it was mandatory to provide breastfeeding break time. Brown et al. (2001) similarly found that providing workplace breastfeeding support is not accorded a high priority, and that employee demand was the motivator for the provision of such services. Bai and Wunderlich (2013) found that participants reported that breastfeeding in general (either at home or at work) was not common in the workplace, reporting a low mean score (3.63; SD, 1.98) for this variable. The challenge of no request received from employees for breastfeeding support also come up during the qualitative discussions with middle and senior managers. Bai and Wunderlich (2013) expressed the need that lactating women need to learn how to express their needs to employers, whereas employers need to know how to accommodate these needs.

Breastfeeding support in designated workplaces is limited and inadequate, with few supportive breastfeeding practices present. There is a need to create a sense of urgency among employers through advocacy regarding the benefits of breastfeeding support, their roles and responsibilities and women's legislated breastfeeding rights. A lack of targeted communication and advocacy campaigns has been cited as a barrier to the successful scaling up of nutrition actions (Haddad, Nisbett, Barnett & Valli, 2014). Scaling up the promotion of the value of breastfeeding support at designated workplaces emerged as a priority for the Breede Valley sub-district. By focusing on the workplace, substantial investment can be made in improving the breastfeeding practices of employed mothers in the sub-district.

8.3.2 Employers' and employees' experiences and perceptions regarding breastfeeding support in the workplace

One of the main themes that emerged from the employee's discussion was the non-supportive work environment for breastfeeding. This was in terms of the following aspects: the lack of resources in terms of designated space and providing breastfeeding time and breastfeeding not being a priority as the workplace focus was on productivity, time and targets. Also, negative attitude from staff and supervisors, a lack of compassion and trust from the employer and communication challenges emerged under this theme. The lack of providing breastfeeding space and time was voiced consistently across all the FGDs. This is also described in the literature by Desmond and Meaney (2016).

Concurring with the responses from employees, most managers acknowledged the absence of practices supporting breastfeeding. The supportive practices cited by manufacturing companies included the provision of an occupational health nurse and being accommodative in terms of employees not working night shift. In the public sector, the DOH breastfeeding policy was mentioned. Other than these measures, no additional support for breastfeeding practices was reported.

From the conversation with senior managers, it became apparent that they valued a supportive workplace culture, which was in contrast to what employees voiced. There was therefore a marked disparity between the expressions of support from managers and the felt experiences of employees. The literature indicates that having a supportive workplace culture is associated with higher proportions of employees continuing to breastfeed at six months (Smith et al., 2013). Furthermore, a recent study found that managerial support increases the odds of prolonging EBF, and organizational support increases the odds of EBF nearly twofold (Scott et al., 2019). The general

consensus in the literature among lactating mothers is that a supportive workplace environment is essential to their breastfeeding success (Bai & Wunderlich, 2013; Smith et al., 2013; Sattari et al., 2013; Tsai, 2013).

An Australian based study by Weber et al. (2011) women reported feeling largely unsupported by their organization. Many women in this cross-sectional survey listed the organization (n=71, 61%) and the human resources department (n=81, 70%) as providing no support to combine breastfeeding and work. In contrast a recent study by Payton et al. (2019) employers reported high levels of workplace support especially for space, time and lactation resources. Chow et al.`s (2011) participants similarly viewed their company as supportive of breastfeeding because of the company`s family friendly culture. Despite this view many participants reported lack of designated space for breastfeeding or expressing at work. Many indicated the availability of the women`s bathroom, closet space or storage rooms which they viewed as inadequate and inappropriate. The theme of a non-supportive environment /work culture was also raised by some participant of a study by Froh and Spatz (2016).

Managers also indicated that the absence of appropriate space for breastfeeding in their workplaces was problematic and a challenge. In fact the lack of space and associated infrastructure was viewed as the biggest challenge in the way of managers optimally supporting breastfeeding or expressing. Other challenges raised by managers included breastfeeding not being a priority because of the necessary focus on production targets and service delivery, and finding the finance for the creation of a breastfeeding space and resources.

Delving deeper into the reasons for the lack of support similarly revealed the employees' perception that their workplaces focused on time, targets and production, and that breastfeeding was simply not a priority. A study by Brown et al. (2001) similarly reported pressures of time and production as barriers to providing breastfeeding support. Another reason mentioned for the lack of breastfeeding support in this study was the notion that "personal life comes second and work is first", meaning that workplaces separate the employees' work from their personal needs and focus only on the former. A recent study in Pakistan also found that the needs of professional nurses' children were subordinated to their duty as hospital employees (Riaz & Condon, 2019).

The return to work was described as challenging, mainly due to unsupportive attitudes from co–workers and supervisors, and the discomfort experienced because of the lack of space and time to express breastmilk. The literature similarly reports the lack of breastfeeding facilities and support as major barriers to continued breastfeeding for breastfeeding mothers in the workplace (Desmond

& Meaney, 2016). Attitude of colleagues and the stigma surround extended breastfeeding in the workplace was mentioned in the literature for some women (Desmond & Meaney, 2016).

The difficulties of sharing their needs with managers in male-dominated environments and the lack of communication after maternity leave were among the non – supportive work environment challenges cited. The described non-supportive work environment experienced by many, made it difficult for employees to communicate to their supervisor, especially male supervisors and could also describe the comments made by both employees and managers that there is a natural tendency by many breastfeeding employees to plan ahead to mix feed or place their infants on formula milk prior to the returning to work. Desmond and Meaney (2016) also describe similarly findings where women felt pressure to get their infants onto formula milk before returning to work. The non-supportive work environment in terms of negative attitude from supervisors, communication challenges, lack of resources and lack of trust and compassion from the employer could also contribute and explain the issue raised by the majority of managers of infrequent request for breastfeeding support. A finding that concurs with the literature (Brown et al., 2001; Dunn et al., 2004; Chow et al., 2011). In this regard, managers felt that employees might be scared to communicate, perhaps finding it especially difficult to talk to male supervisors. Bai and Wunderlich (2013) concluded that lactating women need to learn how to express their needs to employers whereas, employers need to know how to accommodate these needs.

The several challenges highlighted by employees under the non – supportive theme is supported in the wider literature where breastfeeding mothers encounter many challenges to returning to work (Weber et al., 2011; Bai & Wunderlich, 2013; Desmond & Meaney, 2016).

In contrast to the employees, managers felt that they were lenient with the provision of time. Some managers had negative perceptions of breastfeeding, saying that it had to take place during the employees' lunch and break time since employers "can surely not provide this time to employees." From the employees' FGDs it was evident that the legislated breastfeeding break time was largely unacknowledged, with employees mostly having to use their lunch and other breaks to breastfeed or express. Dodgson et al (2004) also reported that employees in ten (55.6%) hospitals that provide maternity services in Hong Kong, similarly use their meal and regular break time for breastmilk expressing. It is evident from engagement with employees, middle and senior managers that there is little communication on the subject of breastfeeding support and widespread ignorance of the existence of legislated breastfeeding break times. These circumstances conduced to employees not communicating their needs to their employers. While managers involved in the study could describe

the potential positive outcomes from providing breastfeeding support, much more discussion and engagement around this topic is clearly needed in workplaces.

South Africa's 2011 Tshwane declaration symbolised the country's commitment to support breastfeeding (Department of Health, 2011). It called on all stakeholders including employers to work together to ensure the promotion, protection and support of breastfeeding. In this study managers and employees alike felt that breastfeeding was not treated as a priority. There is therefore an urgent need to build more commitment in workplaces relating to this topic. Widespread advocacy regarding the benefits of creating an enabling workplace environment for breastfeeding and women's breastfeeding rights is required. This must include social mobilisation and extensive media coverage.

8.3.3 The experiences of employed mothers who exclusively or predominantly breastfed their children

Four themes emerged from the discussions with employed breastfeeding mothers. These are summarised in the sections that follow, and the findings emerging from the themes are synthesized.

8.3.3.1 Breastfeeding motivation and attitude

Employed mothers who were able successfully to combine breastfeeding and work had a high regard for the value and benefits of breastfeeding. Another characteristic of these mothers was the commitment and planning they displayed, in terms of breastfeeding before and after returning from work and planning their schedules to express or go home to breastfeed. These personality traits are similarly identified in the wider literature in other countries (Rojjanasrirat, 2004; Froh & Spatz, 2016; United Nations Children's Fund, 2018; Burns & Triandafilidis, 2019). Similarly, in another qualitative study in Ireland it was apparent that mothers who chose to breastfeed were very passionate about breastfeeding. This study additionally identified other personality traits. All mothers (n=16) interviewed described themselves as "determined" or "stubborn" and they indicated that these personality traits assisted them to overcome any obstacles they faced (Desmond & Meaney, 2016). The wider literature also shows a positive attitude towards breastfeeding and a belief in the benefits of breastfeeding was a predictor of successful breastfeeding (Roe et al., 1999). It is therefore important to instil in mothers a strong belief in the benefits of breastfeeding which can add in the commitment personality traits needed to successfully combine and sustain breastfeeding when returning to work. One way of doing this is to communicate accurate breastfeeding information using various mediums.

8.3.3.2 Combining breastfeeding and work

The return to work was experienced as challenging by the majority of employed breastfeeding mothers and many experienced psychological stresses. This stress was linked to concerns that their infant is getting enough milk, that many of their infants did not want to except any other milk or a bottle and that their infants feeding routine was disrupted by the return to work. Most of them recalled the discomfort of full and painful breasts at work, the result of having no time to express because of work pressure and a lack of support from supervisors. These feelings of experiencing psychological stress and anxiety are documented in the literature (Rojjanasrirat, 2004; Desmond & Meaney, 2016). Mothers in Ireland indicated that their infants feeding routine was deemed the most important at their time of return to work (Desmond & Meaney, 2016).

The other subtheme that emerged was the issues of feeling guilty for wanting to take more time off, and of experiencing pressure from work colleagues not to do so. Such feelings of guilt are documented in the literature (Wyatt, 2002; Mlay et al., 2003; Rojjanasrirat, 2004, Froh & Spatz, 2016; Burns & Triandafilidis, 2019).

Enabling factors that enabled mothers to combined breastfeeding and work were linked to support from family members. Among the non-professional mothers, the main support mentioned came from their immediate family members, including grandmothers, siblings and spouses. Among the professional mothers, their spouses were the major source of support enabling them to continue breastfeeding. This finding concurs with a study conducted in Ireland (Desmond & Meaney, 2016) indicating the support network from partners, family and health professionals helped them with both the initiation and duration of their breastfeeding experience. This indicates the importance of the inclusion of fathers in all breastfeeding promotion campaigns and education. A similar conclusion was reached by Tsai (2014). Tsai (2014) found that partners' initial support for breastfeeding were significant predictors of intention to continue breastfeeding after the employed mother returned to work. But beyond immediate families, a 'whole of society' approach to support breastfeeding needs to be widely communicated in communities.

8.3.3.3 Workplace breastfeeding support

The majority of mothers felt that workplaces had a role to play in making the working environment more comfortable for them. Some indicated that this was an important human resources issue as their employers hired many females. This concurs with findings in the literature (Kosmala-Anderson & Wallace, 2006).

Most mothers indicated that their workplaces had no breastfeeding supportive practices in place. The lack of supportive practices and services, according to these mothers, could mostly be attributed to an unsupportive workplace culture and workplaces exclusively prioritizing work, production, time and money. From the wider literature the results are mixed with many women reported feeling supported to breastfeed on their return to work (Froh & Spatz, 2016) and some believed that the work environment and culture was not supportive (Froh & Spatz, 2016). Others reported their work environment as hostile towards breastfeeding mothers (Gatrell, 2007). Smith et al. (2013) found that a supportive workplace culture was associated with higher proportions of employees having exclusively breastfed at six months.

Professional mothers who had requested support in terms of time and space all reported positive outcomes to their requests. They were also more likely to voice their needs to supervisors and stand up to family members about their infant feeding practices and beliefs. Assertiveness is a learnable skill and mode of communication. This personality trait is identified in the literature as characteristic of mothers who successfully combined breastfeeding and work (United Nations Children's Fund, 2018). Mothers and mothers-to-be should be taught the quality of being self-assured and confident in order to overcome workplace and other challenges relating to breastfeeding.

Needs identified by the employed breastfeeding mothers related to the provision of flexible times, a private room or space, supportive staff and managers, information to staff about breastfeeding rights, and a crèche facility. These again are all linked to providing and creating an enabling workplace environment and culture for breastfeeding. The workplace setting was highlighted in the literature as one essential component of an enabling environment for breastfeeding (Rollins., et al, 2016). At the community level, the older generation needed to be educated about best breastfeeding practices. And at a governmental level, what is required is the extension of maternity leave from four to six months and the according of high priority status to workplace support for breastfeeding. The literature similarly indicated in the context of African American mothers that increased paid maternity leave and educating the society as key component to support breastfeeding mothers (Johnston, 2015).

8.3.3.4 Breastfeeding challenges

The workplace was perceived by many mothers as the biggest challenge to breastfeeding. Within the workplace, unsupportive, negative attitude from supervisors and staff, the lack of resource in terms of space and time provision, lack of communication, being too scared to approach supervisors were the main challenges identified. These all relate to an unsupportive workplace culture.

The literature similarly found negative attitudes from colleagues and the stigma around extended breastfeeding as a barrier some women experience (Desmond & Meaney, 2016). The literature confirms that the attitude of workplace managers influences female employees' perceptions of workplace breastfeeding support (Chow et al., 2011). It is therefore important that any negative attitudes among supervisors and co-workers towards breastfeeding in the workplace are addressed. Referent beliefs, that is, how others (peers, supervisor, co-workers) view the practice of breastfeeding at work, affect a mother's subjective norm. The literature recognises that subjective norm affects intention, which in this case is the intention to combine breastfeeding and work (Ajzen, 1991). It is therefore important for the workplace context to be supportive of breastfeeding at work.

The absence of a designated space for breastfeeding was a challenge mentioned by many participants, who were frequently obliged to use the undesirable space of a toilet for expressing. Professional and administrative mothers who had their own offices could utilize that space for expressing. The non-professional mothers experienced greater challenges with taking breastfeeding breaks, most of them indicating having to use their lunch and teatime for expressing. These findings of lack of space and time are similar to those reported in the qualitative international research (Wyatt, 2002; Desmond & Meaney, 2016). Several quantitative studies similarly report low percentage of workplaces with breastfeeding space (Dodgson et al., 2004; Dunn et al., 2004; Weber et al., 2011; Basrowi et al., 2015; Soomro et al., 2016).

Also mentioned was the lack of knowledge of the workplace breastfeeding policies that did exist, presumably the result of a failure to communicate them. Opportunities must be found for the communication of breastfeeding policies, for instance, when the pregnant employee's maternity leave benefits are discussed with her.

The challenge of older generations beliefs and that of mother in laws emerged from the data. The literature indicates that older generations play an important supportive role in communities (Faye, Fonn & Kimani-Murage, 2019), but their outdated beliefs about infant feeding were described as a challenge. The literature reports similar challenges relating to pressure from grandmothers on their daughter in laws to discontinue EBF (Agunbiade & Ogunieye, 2012) and relationship breakdown due to a lack of support from family members particularly mother in laws (Desmond & Meaney, 2016). Community activity involving the older generation – for example, meetings of church and community groups – can be targeted to address the many myths and erroneous cultural beliefs relating to infant feeding.

Women's general lack of awareness of their breastfeeding rights was evident. There is a need to promote such awareness in the workplace among employees and employers. There should be a particular focus on working mothers in non-professional employment in the manufacturing, production and retail sectors, as they seem to have more challenges relating to workplace support for breastfeeding. The supportive role of partners and fathers needs to be emphasized when education about breastfeeding is provided.

8.3.4 Development and validation of a practice model to support EBF in designated workplaces

The process of developing the practice model included three steps: 1) selecting findings obtained from phases one and two of the research for inclusion in the model; 2) review of the literature relating to workplace breastfeeding interventions and breastfeeding outcomes, and 3) the application of programme theory methodology and programme logic models to draft the practice model. The draft model was subsequently circulated to expert panellists using a modified Delphi method, in order to finalise the model.

Phase one revealed that the provision of a private space for breastmilk expressing was uncommon. Allowing time for breastfeeding and promoting breastfeeding amongst the employees were also not commonly practiced. Needs identified by managers related to physical space, a regulatory framework, communication, education and information. From phase one of the study the following pertinent issues raised were taken up in the practice model: provision of breastfeeding time and private space, education and communication. These issues are embedded in the three essentials of time, space and support that are highlighted in the literature as the critical elements of a Mother Friendly workplace (World Alliance for Breastfeeding Action, 1993). These aspects, as taken up in the practice model, are similar to the elements incorporated into a workplace breastfeeding support model implemented in Thailand (Yimyam & Hanpa, 2014).

Phase two of the study revealed that the non-availability of private space and time for expressing breastmilk were major challenges for women returning to work. This finding concurs with the literature (Chow et al., 2011). Research indicate that having access to both space and time is associated with a 1.5 times greater likelihood of continuing breastfeeding and 2.3 times greater likelihood of breastfeeding exclusively at six months (Kozhimannil et al., 2016). Furthermore, the results of a survey revealed that employed women who were provided with isolated areas to express breastmilk at work increased the duration of breastfeeding by 1.36 months (Kozhimannil et al., 2016). Also highlighted as challenges were the lack of communication between employer and

employees regarding their needs and the policies applicable after their return from maternity leave, as well as the unsupportive attitudes of staff and co-workers. The managers mentioned that requests for breastfeeding support at the workplace were rarely received and that employees did not voice their needs, probably because of a lack of promotion of breastfeeding rights at the workplace and a lack of breastfeeding knowledge. The employed mothers who successfully combined breastfeeding and work had a strong belief in the benefits of breastfeeding, and this motivated them to continue and combine breastfeeding and work. Therefore, the provision and promotion of breastfeeding time and space, as well as communication (conducting a return-to-work consultation after maternity leave), were included in the practice model. Peer support and mentoring groups were included as identified by both employees and managers as support needed by employed breastfeeding mothers. The following points were also taken up in the practice model: addressing unsupportive attitudes; enhancing belief in breastfeeding among employees by increasing their knowledge of the benefits of breastfeeding and breastfeeding rights; and conducting a needs assessment amongst women to assist managers with planning and coordination.

A review of the literature relating to breastfeeding interventions and breastfeeding outcomes was conducted, followed by the application of programme theory methodology and programme logic models to draft the practice model. Defining the theory informing a programme is one of the most important elements in the success of a programme (Wilder Research, 2009). It provides a logical and reasonable description of why the programme activities should lead to the intended results. The construction and incorporation of a programme theory that is plausible enables the target audience to understand how the activities are thought to work. A clear programme theory will assist the end users to see the sense of the programme. Another important consideration is that the programme theory should be based on good research evidence and reflect how change happens in stages (Wilder Research, 2009). The review of literature as presented in Tables 7.1 and 7.2 was therefore deemed essential for developing the programme theory.

The programme theory as described in the practice model relies on working mothers' attitude towards breastfeeding and the uptake of available breastfeeding accommodation (space and time) at the workplace. The uptake of available breastfeeding accommodation in fact depends on a working mother's intention to combine breastfeeding and work. Intention is influenced by the working mother's belief in her ability to successfully combine breastfeeding and work (self-efficacy) and her motivation to do so (control belief). It is also influenced by the working mother's attitude towards breastfeeding and, more specifically, breastfeeding for an extended period (behavioural

belief), as well as by the support she receives from workplace supervisors, peers and co-workers (referent belief).

A logic model is a commonly used tool for illustrating an underlying programme theory in a way that is understandable to a wide array of stakeholders. Although various diagrams can be used, the model is most often presented in the form of a flow chart that illustrates the linkages between program components and outcomes (Knowlton & Phillips, 2013). Logic models are often presented on one page and read from left to right, showing how each step is expected to lead to the next. This is however not inevitable if other schemes (e.g. circles) better describe the expected programme logic (De-Regil, Pena-Rosas, Flores-Ayala & Del Socorro Jefferds, 2013). In this study, the practice model is depicted diagrammatically by a linear programme logic model appearing on one page that is read from left to right. Included in the programme logic model are the elements input, activities, output, outcomes and impact (W. K. Kellogg Foundation, 2004; Wilder Research, 2009; Knowlton & Phillips, 2013).

The use of programme logic models can guide program design, implementation, strategy development, monitoring and evaluation (Knowlton & Phillips, 2013). The timing and expected results are important as well as the logical sequencing of any given outcome. The level of detail in a programme logic model should be determined by the intended users (Knowlton & Phillips, 2013). Therefore, getting the input of the stakeholders was deemed important in order to gauge the end user's perception of the model. The input of stakeholders in the development and validation of the model serves to improve the quality and also encourage the use of it (Knowlton & Phillips, 2013).

An Australian-based research study set out to develop a good practice model to evaluate the effectiveness of comprehensive primary health care in local communities (Lawless et al., 2014). This research employed a similar methodology of combining programme logic and theory-based approaches, drawing on the literature and conducting interviews to draft the practice model. Another study set out to develop a generic community health worker (CHW) logic model, proposing a theoretical causal pathway to improved performance (Naimoli, Frymus, Wuliji, Franco & Newsome, 2014). The CHWs logic model also draws upon available research and expert knowledge on CHWs in low- and middle-income countries. The researchers described their model as a practical tool that offers guidance for continuous learning about what works. The value of the logic model for CHWs was that it can aid planning, it can draw attention to certain elements of design that are sometimes overlooked, it can contribute to consensus building to facilitate communication and a shared understanding of what is needed, and it can be used as a guide for improving programme

implementation (Naimoli et al., 2014). The reported value of the logic model for CHWs can similarly apply to the value of the practice model developed in this study, which is also based on a programme logic model.

Following the process of applying programme theory and the programme logic model, the draft practice model was sent to 11 expert panellists in two Delphi rounds. The purpose of the two Delphi rounds was to achieve consensus on the elements that needed to be included in the practice model. The Delphi method has been widely used in research to develop, identify and validate models or concepts in a wide range of research areas. It has been applied in fields such as programme planning, needs assessment, policy determination and resource utilization (Hsu & Sandford, 2007). The Delphi method is described as one of the best methods of collecting data for the development of new concepts, standards and frameworks (Tilakasiri, 2015). The sample size and the number of rounds is variable and dependent upon the purpose of the research. Two to three rounds of Delphi are typical, though the method can be modified to suit the circumstances and research question (Skulmoski, Hartman & Krahn, 2007).

The expert panellists should meet four expertise requirements, namely, knowledge and experience of the issue under investigation, capacity and willingness to participate, sufficient time to participate, and effective communication skills (Adler & Ziglio, 1996). Expert panellists in this study met these requirements. Skulmoski et al. (2007) are of the opinion that true experts have great insight, but often because of busy schedules are not able to participate fully. They further state that formulating intriguing questions can often entice expert participation. The researcher in this study indeed found that the experts had very busy schedules, but all 11 fully participated in both Delphi rounds.

The medium selected for the Delphi interaction was electronic email. Electronic mail has the benefit of a quick turnaround time and can thus help to keep enthusiasm alive and participation high (Skulmoski et al., 2007). The initial questions used for round one were broad and open-ended. The decision to use broad rather than focused questions was made early in the research design phase, following Skulmoski et al. (2007). Responses to the open-ended questions inevitably required more time for data analysis.

Feedback received from Delphi round one was incorporated and addressed as much as possible. Two activities were added to the model: one was maternity leave provision, as this was believed to contribute to the achievement of the stated long-term outcome of increased breastfeeding duration. The other addition was the inclusion of time for pregnant employees to participate in

antenatal visits/classes/clinics, which was added under the education heading. Granting pregnant women time off to participate in antenatal preparation is included in section 5.12 of the Code of Good Practice on the protection of employees during pregnancy and after the birth of a child (South African Department of Labour, 1998).

For Delphi round two a mean score of 70% (3.5 out of 5) for each input was deemed to be valid for inclusion in the practice model. Based on this criterion, the funding for a lactation consultant was removed from the inputs of the practice model. A written breastfeeding policy statement as well as the provision of maternity leave benefits were both added to the model, as both scored an overall percentage of 93%. The other listed inputs and activities: provision of legislated breastfeeding time, promotion and marketing of breastfeeding space and time accommodation, interpersonal communication, facilitation or referral to peer support groups, education of all staff, and identification and training of a workplace champion all reached a mean score of 70%. This constituted the consensus necessary for the inclusion of these aspects in the model. The literature indicates that when the Delphi method is used systematically and rigorously it contributes significantly to broadening knowledge within the nursing profession (Hasson et al., 2000). The processes utilized in this study during the Delphi rounds were valuable in terms of identifying and reaching consensus on the critical elements of a practice model to support EBF in designated workplaces.

To validate the practice model after the two Delphi rounds, four FGDs and one in-depth interview were conducted. Participants had sufficient opportunity to review the practice model, as the protected document was emailed a few days prior to the discussions. The model was positively received by the majority of the participants in the validation phase. They viewed it as informative, well designed and easy to follow, “even for someone that does not know a lot about the topic”. The model was viewed as an ideal tool to garner support for breastfeeding in designated workplaces, if accompanied with some training. Participants were positive that the model was feasible. Commitment on the part of organizational leaders, described as a critical element in the model, was viewed as important for it to succeed.

A study conducted in Indonesia concerned with challenges to and the support of breastfeeding at the workplace suggested further research to develop an ideal workplace lactation promotion model (Basrowi et al., 2018). Also, a recent report by WHO and UNICEF relating to breastfeeding family-friendly policies sets out a call for action: advocacy within business is needed and workplace policies must be adapted and strengthened. The report mentions that technical assistance is needed to build

workplace capacities to implement such policies (UNICEF/WHO, 2019). The developed practice model addresses these aspects through providing workplaces with practical guidance in how to build workplace capacities to support breastfeeding.

In terms of the results and outcomes of this research, using a sequential mixed-method approach proved to be helpful in bridging the gap between research knowledge and the creation of an action-orientated model to help create a supportive workplace environment for breastfeeding. In addition, the research process and engagement with the topic began to raise much-needed awareness on the topic among the participating workplaces, employees and managers.

8.4 Revisiting the research question

A return to the research question after synthesis of the research findings reveals that the initial phases – i.e., baseline survey, exploring the perceptions of employees, employers and employed breastfeeding mothers, exploring the literature, gaining the input of experts and taking the model back to the participating workplaces for input – all supported the development of the practice model. This initial process of engagement with the workplaces served as valuable practice in creating awareness of the importance of the issue.

Among the activities and inputs included in the practice model, the elements of time, space and support were paramount. These three elements have been regarded in the literature as the critical elements of a breastfeeding friendly workplace since 1993 (World Alliance for Breastfeeding Action, 1993). The six elements included in the practice model to support breastfeeding were mainly constructed from the findings of the quantitative and qualitative research conducted, together with the input and consensus reached by the 11 Delphi panellists. The elements included the following:

- Provision of legislated breastfeeding time
- Promotion of breastfeeding space, time allocation and breastfeeding policy
- Education of staff at all levels of the organization and providing pregnant women time to attend antenatal clinics or be present at antenatal visits
- Interpersonal communication (antenatal and return-to-work consultation) regarding organizational policies, breastfeeding rights and the mother's needs
- Facilitation or referral to peer support group or mentor
- Provision of legislated four months maternity leave.

The practice model is framed in a tiered approach to the implementation of the activities. This was seen as an important consideration for implementation and commitment by the participating

workplaces and their managers. The practice model projects a simple logic model flow, making the connections within the proposed theory of change clear. The theory of change grounded in the practice model hinges on the following change mechanism:

When workplace breastfeeding support is provided in terms of space, time and support (i.e. education, peer support, communications and policies) it will increase employees' breastfeeding knowledge and foster positive attitudes towards breastfeeding and breastfeeding employees. It will also increase self-efficacy and the motivation to combine breastfeeding and work, which strengthens the intention to combine breastfeeding and work and will lead to increased utilization of the available breastfeeding accommodation. This will lead ultimately to increased breastfeeding duration and EBF rates among employees.

A recent study identified self-efficacy as an important predictor for breastfeeding duration. Statistically significant direct relations were found between self-efficacy, breastfeeding intention, and breastfeeding duration. Also observed was a statistically significant indirect effect of workplace support on breastfeeding duration, working through self-efficacy in attaining breastfeeding goals. Workplaces can therefore help foster employed women's self-efficacy by providing environments that are supportive to breastfeeding (Wallenborn et al., 2019).

As displayed in the practice model, additional outcomes of workplace breastfeeding support relate to decreased absenteeism amongst employees making use of the breastfeeding accommodation, increased morale, improved staff wellness and better work-life integration. Similar outcomes have been highlighted in the literature (Cohen & Mrtek, 1994; Cohen, Mrtek & Mrtek, 1995; United States Department of Health and Human Services, 2008).

The model also expands on the expected outcomes, as explained by the theory of change. The impacts in terms of societal gains (healthy children lead to a productive society) and workplace gains (cost saving, positive public image) are made explicit. The outputs for each activity are also portrayed, which guides the monitoring aspects of the model. The model is accompanied by a three-page information sheet providing further explanations and links to various resources that can assist with the support process. The additional information sheet was viewed as informative by the study participants.

In summary, the research has shown that supportive breastfeeding practices in designated workplaces are currently limited and inadequate. Workplaces need to be educated on their role and responsibilities as well as on the benefits of providing breastfeeding support to employed breastfeeding mothers. More concerted focus and attention needs to be placed on the workplace

as it can have a huge impact on mother's breastfeeding practices and efforts. The study reveals that it is imperative to address a range of institutional workplace challenges. The creation of system-level approaches, such as providing breastfeeding space and supportive policies is needed. Furthermore, attention needs to be concentrated on employees, to educate them regarding their breastfeeding rights at the workplace. Education at the level of the workplace is important to address the unsupportive attitudes still present at many workplaces.

If an enabling workplace environment for breastfeeding is created, infants will be provided with prolonged breastfeeding, which contributes to ensuring that they continue to receive the highest, most attainable standard of feeding, with numerous health benefits. The practice model is a useful tool for workplaces that want to start and/or strengthen the process of creating an enabling workplace environment for breastfeeding.

CHAPTER 9: REFLECTION, CONCLUSIONS AND RECOMMENDATIONS

9.1 Introduction

In this chapter the researcher offers some personal reflections on the research process, formulates conclusions, makes recommendations and considers the strengths and limitations of the study.

9.2 Reflecting on data collection

9.2.1 Phase 1

The process of setting up the SurveyMonkey questionnaire was daunting for the researcher at first, but the programme turned out to be a user-friendly tool for creating an online survey and exporting the data for analysis. The low rate of response to surveys was known to the researcher, and as time passed she was obliged to include various other strategies, e.g. follow up calls, site visits and provision for manual completion of the survey, to improve the response rate.

9.2.2 Phase 2

The process of finding nine workplaces willing to permit the researcher to conduct the study at their sites was challenging. Various strategies, including follow-up emails, phone calls and site visits were used to obtain approval from the nine workplaces.

The process of collecting the qualitative data was an enriching experience for the researcher, deepening her interest in the topic and motivation to complete the research. Exploring the perspectives of the participants was stimulating throughout the data collection process.

The participants in the FGDs maintained that they enjoyed and appreciated the discussion, reflecting that it was good to talk about the topic and that “now the seed has been planted” for raising the matter more openly. In the public sector FGDs, some employees indicated that they would ensure that all pregnant women at their workplaces were informed about the policy and available benefits. Some said that the discussion felt like a debriefing session, and many found it both informative and important.

One manager stated that the research was very relevant, given the ongoing ‘First 1000 days’ initiative in the Province. Also, the process of conducting the interviews led some managers to question why requests for support were not received more frequently. Some of the female managers reflected on their own experience as a breastfeeding mother and some of the male managers reflected on the breastfeeding experience of their spouses and their own experience as a new father. The researcher sensed that some of the managers were nervous at the start of the discussion, but this tension subsided as the discussion progressed. The majority of middle managers

expressed appreciation for the research and thought the discussion was useful and enjoyable. They were all very willing to provide the researcher with any further assistance and information she might require after the data collection took place.

Initially it was very challenging to arrange the three FGDs for managers. Finding an appropriate time and date to suit all the participants was difficult. The lack of knowledge about breastfeeding among male managers, especially, was evident from the questions posed during the discussions.

9.2.3 Phase 3

The process of validating the practice model through the modified Delphi technique was a positive experience, as most of the expert panel members were keen to participate in the research, which they saw as valuable and important. Interestingly, the guidelines attached to the practice model were viewed as very informative by a human resource specialist during the Delphi process, which could be a measure of their ignorance of matters relating to breastfeeding legislation, activities and the inputs required to support breastfeeding mothers at work. As with phase two, it proved difficult to find a suitable date and time to conduct the FGDs. Arranging the additional in-depth interviews with the public sector senior management also proved to be challenging. On the other hand, the prolonged engagement with these workplaces can be viewed as initiating advocacy around the topic of workplace breastfeeding support.

9.2.4 General

The essence of this PhD research was starting and closing the magic research circle (Trafford & Leshem, 2008). The researcher started off by identifying a gap in the existing knowledge, which led her to articulate the research problem and research question. After the data collection and analysis, factual and interpretive conclusions were reached in respect of the research objectives. The circle closed with the conceptual conclusions drawn, which led to an original contribution to knowledge.

The process of developing the practice model introduced a sense of creating something new and extending knowledge in an understudied area in the South African context. The output (i.e. the practice model), if widely applied, has the potential to positively impact the lives of employed mothers and their children. The researcher has come to appreciate the value of both conducting research at a doctoral level and conducting relevant participatory research.

On a personal level, this research began like a journey into the unknown. Many uncertainties and periods of doubt were experienced. The periods of uncertainty were followed by periods of understanding, recognizing which direction to take, and gaining the confidence to set sail again. The

journey was never a straightforward process. The researcher experienced many days of seemingly not progressing in the desired direction. This was in fact a time of vulnerability and receptivity, which was necessary to enable forward movement towards the set destination. The journey was a challenging but enriching one, a journey of growth, self-discovery and becoming.

9.3 Conclusion

The findings of this research contribute to the literature on workplace breastfeeding support in the South African setting. First, the study contributes baseline information on breastfeeding supportive practices in designated workplaces. Secondly it provides insight into the experiences of employees, breastfeeding mothers and employers relating to breastfeeding support at the workplace, and highlights the challenges and needs within such settings. Finally, the study yielded a practice model to guide workplace support for breastfeeding.

The research found severely limited support for breastfeeding and widespread ignorance of women's breastfeeding rights in the workplace. While the value of a supportive workplace environment was recognized and endorsed by senior managers, employees did not experience their work environment as supportive at all. It is hoped that the marketing and framing of the practice model will address this discrepancy by emphasizing key factors relevant to staff wellness, increased morale and a better work-life integration.

It is acknowledged that workplace initiatives implemented "in silos" will not be enough, and that a multi-faceted approach involving various stakeholders is needed to enable breastfeeding mothers to succeed at combining work and breastfeeding. Scaling up the support for breastfeeding in the workplace is becoming progressively more important as more and more women enter the workspace. A specific focus on workplace breastfeeding support will be essential if the SDGs and the 2025 global nutrition targets for EBF are to be reached. The practice model is considered to be applicable nationally and relevant internationally. The model can be applied locally and function as the perfect tool for workplaces that want to initiate a breastfeeding support process. In sum, implementation of the practice model can make an important contribution to enabling mothers to continue breastfeeding after returning to work. Communication and advocacy relating to the practice model would be considered the next essential actions required.

9.4 Recommendations

9.4.1 Workplaces and Government

The research has demonstrated the need for more support for breastfeeding within the workplace setting. As set out in the Lancet conceptual framework on breastfeeding (2016), this setting is, along with others, an important determinant of breastfeeding outcomes. Much more engagement on the part of all the stakeholders is needed, and formal and informal interaction with various workplaces relating to the topic of breastfeeding support must be initiated. Dietitians, nutritionists, breastfeeding professionals and occupational health professionals can play a pivotal role in this process.

There is an urgent need for a focused and well-planned advocacy and communication drive regarding the benefits of breastfeeding support for employers and employees, and about the breastfeeding rights of employed women. A good way to go about this is through advocacy and promotion of the practice model, seen as a best practice model to be implemented. The Worcester business forum and interdepartmental meetings and discussions within the Breede Valley sub-district are two avenues to explore for the implementation of the practice model at designated workplaces in the immediate area. After the implementation process, the champions at these workplaces can serve to inspire other companies to follow suit. It will be important to share and recognise the efforts of these workplaces in the media. Local newspapers and radio stations should also be invited to promote workplace breastfeeding support within the sub-district. Stellenbosch University Rural Clinical School is located in Worcester, which amongst other disciplines, host fourth-year dietetics students completing a six-week Ukwanda rural clinical school rotation. These students and their facilitators can be capacitated to assist with advocacy around this topic within the sub-district.

Infographics need to be developed for workplaces, displaying the benefits of breastfeeding support to the employee, employer and society and noting employees' breastfeeding rights. They can be used along with the concept of the first 1000 days during planned advocacy sessions.

Education programmes and communication strategies with employees need to emphasize the benefits of breastfeeding. This will assist in creating a strong belief in the advantages of breastfeeding amongst employed women. It will also contribute to their behavioural belief and attitude, which affect breastfeeding intention.

The communication of existing workplace breastfeeding policies needs to be strengthened. The human resources department at all government workplaces needs to play a more prominent role by ensuring that all pregnant women are informed of the departmental breastfeeding policy when their maternity leave benefits are discussed.

A campaign for the endorsement of the practice model by all government departments in the Western Cape must also be undertaken. The Department of the Premier (DOTP) is the overarching authority for public sector departments in the Western Cape. There is already some momentum behind the agenda of breastfeeding support in the workplace at the DOTP, and it is therefore the ideal time to increase this momentum. The researcher will accordingly present the practice model at the DOH research breastfeeding symposium and other appropriate science engagement forums in 2020.

The National DOH should consider recognition for workplaces that support breastfeeding. Government could for example provide tax breaks as an incentive for employers to create breastfeeding facilities. The National DOH should ensure the distribution, awareness and marketing of the 'breastfeeding in the workplace' toolkit and guide for employers and employees. Much more advocacy around this aspect is needed. In line with this recommendation, UNICEF SA recently supported the National DOH in creating more awareness of breastfeeding support at the workplace by hosting a round table discussion on 21 May 2019. The researcher was invited to the event and shared the preliminary findings of this research (presentation entitled: "Workplace breastfeeding support: Research to Practice (preliminary results)". This round table discussion led to vast media coverage relating to the topic (see Addendum AL). The researcher will continue to engage with stakeholders on the workplace practice model at a national level.

Enforcement of penalties for employers not abiding by the legislated breastfeeding rights of employees is needed. The Department of Labour needs to put a monitoring system in place to regulate the implementation of legislated breastfeeding time. Department of Labour officials could include this aspect on the monitoring list when inspections relating to labour law issues are being conducted. Legislation to encourage employers to provide space or a facility (permanent or flexible) for expressing breastmilk must also be considered, as this is often a challenge for employed mothers to negotiate with their employers.

In the long term, maternity leave should be extended to six months to coincide with the infant feeding recommendation of six months of EBF. In SA, many mothers return to work soon after

delivery due to their maternity leave being unpaid or only partially paid. Lobbying for paid maternity leave is therefore important.

Much more deliberate activity, channelled via multiple settings, stakeholders and avenues, should be undertaken to address the importance of workplace breastfeeding support. The process of engaging with the nine designated workplaces has hopefully sparked a desire at these workplaces to implement the practice model. As noted above, the practice model is applicable in other similar settings, provincially and nationally, so further engagement with other designated workplaces would be of value.

9.4.2 Future research

During the development and conduct of this research, the following goals were achieved:

- The breastfeeding support practices at designated workplaces were assessed
- Workplace breastfeeding support was explored from the perspectives of employees, managers and employed breastfeeding women
- A practice model was developed to support breastfeeding in the workplace.

Future research should explore the knowledge of managers and employees regarding breastfeeding rights and maternity protection in various employment sector types. The piloting of the developed practice model within the three workplace categories (i.e. retail, manufacturing and public) should be considered in further research exploring the perceptions of employees and employers before and after the implementation of the intervention. Follow-up research can be conducted after the implementation of a workplace lactation programme, practice model or policy revival, to evaluate the effect of these interventions on employees' and managers' experiences and perceptions of breastfeeding support in the workplace, as well as breastfeeding outcomes. Research on the impact of breastfeeding legislation on organizational workplace practices and policies is also needed. The question of the various cultures at different workplace sectors deserves further examination. Finally, exploring the experiences of breastfeeding mothers employed in the informal sector is also recommended, as these mothers presumably face similar but unique challenges.

9.5 Strengths of the research

The following strengths of the study were identified:

Managers of both genders and different employment types were included in the study, so as to explore their experience and perceptions. The researcher's primary role in phase two of the study was that of "researcher". She also adopted an advocacy role during the process of engagement with the nine

workplaces. The research process brought together various public sector, retail and manufacturing participants in the course of pursuing the research objectives. Valuable associations and networks were therefore built during this process.

The expert panellists were knowledgeable and had an interest in the topic, which increased the response rate. This may also have increased the content validity of the Delphi method used. Furthermore, the use of two rounds of Delphi questionnaires presumably helped to increase the validity of the practice model.

9.6 Limitations of the study

The following limitations of the study were identified:

9.6.1 Phase 1

A disappointingly low response rate of 36.8% (n=14) was achieved, which limits the generalisability of the findings to other settings. A larger sample size would have provided more robust data and might have allowed for analysis that could be used to determine the statistical significance of the findings.

The sample of respondents was predominantly female. The ESBQ assessed individual intention to support breastfeeding within companies, which can be seen as a limitation. To obtain a broader perspective on the company's attitude and intention to support, more than one representative per company could have been included. The online survey was however followed by a qualitative phase which explored the perspectives of a range of participants.

Some of the analysis should be interpreted with caution because of the small sample size for certain categories, for example some sectors in this study were represented by very few workplaces. The question relating to time for breastfeeding and breastfeeding breaks did not specifically explore whether the breastfeeding breaks provided were paid or unpaid. There is also a potential for response bias on the part of respondents who may have answered questions inaccurately. There may have been some questionnaire bias, if the wording used was not fully understood by respondents. Although the survey has many advantages and was deemed the most appropriate tool to use, it was time consuming for the participants to complete. Selection bias due to the non-response of potential survey participants was inevitable.

9.6.2 Phase 2

The use of qualitative methods can be subjective, based as it was in this case on what workplaces were willing to communicate with the researcher. However, numbers and indices do not capture

the nuances of professional and personal perspectives as effectively as qualitative methods. Engagement with workplaces, including FGDs and in-depth interviews can take considerable time. Participants in the FGDs may have felt that they needed either to conform to the majority view in the group or make only positive comments. Participants who felt that their viewpoint was in the minority may have been inclined not to speak during the discussion. The focus group setting may not always be conducive to eliciting individual responses.

9.6.3 Phase 3

The involvement of participants from high-ranking positions involved extensive logistical arrangements to set up a suitable date and time for the FGDs. After a number of attempts to coordinate the involvement of senior management from the public sector workplaces, the research team made a decision to revert to an in-depth interview. But no response was received after several attempts to schedule an in-depth interview, so it was decided to conclude data collection.

The Delphi respondents also held high ranking positions and were employed in occupations that are very demanding. After three months of periodic interaction and two rounds of Delphi, the researcher sensed participant fatigue and no further rounds were conducted.

9.7 Concluding statement

It is acknowledged in the literature that a combination of interventions is most effective in improving any breastfeeding or EBF rates (Rollins et al., 2016). Bearing this in mind, as well as the scope, context and limitations of this research, the core conclusion is that the developed practice model can serve as a useful tool for designated workplaces to initiate and strengthen the process of workplace breastfeeding support. Focusing the support for breastfeeding on the workplace setting, with the employer implementing concerted activities according to the practice model, can go a long way to assist employed mothers with EBF and longer breastfeeding duration.

The model was tested in the designated workplaces in the Breede Valley sub-district. Commitment to start the process of workplace breastfeeding support needs to be built within these workplaces. Advocacy sessions on the developed practice model will therefore have to be conducted in the sub-district. The DOTP should also be targeted to ensure that commitment to support for the model can expand to other settings and possibly other provinces in the country.

Creating an enabling workplace environment for the practice of breastfeeding holds vast potential as an investment in the future health of mothers and the healthy life course of their children.

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ADDENDA:

ADDENDUM A: COMPILED DESIGNATED WORKPLACE LIST FOR PHASE 1

	Designated Workplaces	Employment Type
01	AC Security	Security
02	APL Kartonne	Manufacturer
03	ATKV Goudini Spa	Tourism
04	De Jagers	Retail
05	Golden Valley Casino	Entertainment/Tourism
06	BGR Jacobs, Griessel en Vennote	Accounting
07	Mediclinic Worcester	Private Health Care
08	PA Venter Shopfitters	Manufacturer
09	Victoria & Albert Products	Manufacturer
10	Worcester Minerals	Retail
11	SN Pool Transport	Transport Services
12	Institute for the Blind	Government (Social Development Organization)
13	Boland Bouers BK	Building Contractors
14	Frank Vos Motors	Retail
15	Orbit Boland	Retail
16	APD Association for Persons with Disabilities	Non –Governmental Organization
17	Maxipil Pty Ltd	Manufacturer
38	Sasko (Pioneer foods)	Manufacturer
18	SAD (Pioneer Foods)	Manufacturer
19	EPOL (Animal Feed) (RCL)	Manufacturer
20	Hex - Tex (Textile)	Manufacturer
21	Rainbow Chicken RCL Foods	Manufacturer
22	GRW Engineering	Manufacturer
23	Woolworths Mountain Mill	Retail
24	PnP Worcester town	Retail
25	PnP Mountain Mill	Retail
26	Shoprite Worcester town	Retail

27	Checkers Mountain Mill	Retail
28	Checkers Worcester Town	Retail
37	Boland College	Training
38	National Institute for the Deaf	Non- Profit Company (NPC)
29	Cape Winelands Department of Health District Office	Government
30	Brewelskloof Hospital	Government
31	Worcester Hospital	Government
32	Western Cape Education Department Cape Winelands	Government
33	Department of Social Development -Cape Winelands and Overberg Regional Office	Government
34	Worcester Correctional Services	Government
35	Worcester Police Service	Government
36	Breede Valley Municipality, Worcester	Government/Municipality
37	Spar Square Hoogstraat	Retail
38	Institute for the Blind	Manufacturer/Retail

ADDENDUM B: SURVEY MONKEY ONLINE QUESTIONNAIRE

Support for Exclusive Breastfeeding in designated workplaces

PARTICIPANT INFORMATION AND INFORMED CONSENT

Title of Research Project: "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district"

We would like to invite you to take part in a research project which involves the completion of an online questionnaire. Your participation is entirely voluntary and you are free to decline to participate or to stop completing the questionnaire at any time, even if you have agreed to take part initially. However, once you have submitted your completed questionnaire online, you will no longer be able to withdraw your responses as there will be no way of linking your responses back to you.

This study aims to gather baseline information from designated workplaces (employs more than 50 employees) in the Breede Valley sub–district regarding breastfeeding support practices and interventions in the workplace and to explore employer attitude, perceptions and intention to support breastfeeding. The study will be conducted by a doctoral student from Stellenbosch University.

It is expected to recruit 30 designated workplaces in the Breede Valley sub-district to participate in the survey. You are being asked to participate because you are a Human Resource Manager or company chief executive officer at a designated workplace in the Breede Valley sub-district.

If you agree to participate you will be requested to answer questions relating to any breastfeeding support practices at your workplace e.g. maternity leave benefits, workplace policies, wellness, occupational programmes, nearby or onsite crèche facility and questions about your attitude, perceptions and intention to support breastfeeding. The survey will take about 20 - 25 minutes of your time to complete.

The potential benefits of this research are:
There are no personal benefits for you participating in this survey.
With your participation we hope to gain baseline information on the workplace environment, enablers, barriers, resources and support needed to support breastfeeding in the workplace. Data on the number of women employed at companies in their reproductive years and data on the average number of women within a year period on maternity leave will also be gathered. This information will assist and inform the development of a practice model to support breastfeeding in designated workplaces in the Breede Valley sub-district.

Are there any risks involved in your taking part in this research?
There are no risks involved in partaking in this research as anonymity and confidentiality will be maintained at all times. No personal and company names will be recorded. No company or personal names will be recorded to protect participants and workplaces confidentiality. Please be aware that the online survey is not being run from a "secure" https server of the kind typically used to handle credit card transactions, so there is a small possibility that responses could be viewed by

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unauthorized third parties (e.g., computer hackers). To protect your identities please do not reply, by all on group email correspondence.

You can phone the Principal Investigator of this study, [Lynette Daniels] at [021 – 938 9176; ldaniels@sun.ac.za] if you have any questions about this study or encounter any problems. This study has been approved by the Health Research Ethics Committee at Stellenbosch University. The study will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, and the Department of Health Ethics in Health Research: Principles, Processes and Studies (2015).

You can phone the Health Research Ethics Committee at 021 938 9677/9819 if there still is something that concerns you about how this study is being conducted, or if you have a complaint.

* 1. By selecting the **YES ANSWER CHOICE** you are confirming that you are over 18 years old and have read and understood the above explanation about the study, and that you agree to participate and answer all questions honestly. You also understand that your participation in this study is strictly voluntary and you may choose to leave the study at any time.

- ◯ YES, I CHOOSE TO PARTICIPATE IN THE SURVEY
- ◯ NO, I DECLINE PARTICIPATION IN THE SURVEY

2

Support for Exclusive Breastfeeding in designated workplaces

SCREENING SECTION

* 2. Is your business / company / workplace located in the Breede Valley Sub- District?

- ◯ Yes
- ◯ No

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Support for Exclusive Breastfeeding in designated workplaces

SCREENING SECTION

* 3. Does your business / company / workplace employ more than 50 employees?

- ◯ Yes
- ◯ No

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Support for Exclusive Breastfeeding in designated workplaces

SECTION 1: DEMOGRAPHICS

* 4. Please indicate your position at your workplace

- ◯ Human Resources (HR) Manager
- ◯ Chief Executive Officer (CEO)
- ◯ Other (please specify)

* 5. Please indicate the period you have been employed in this position:

* 6. What is your birth date?

Date /Month/Year DD / MM / YYYY

* 7. Please indicate your gender

- ◯ Male
- ◯ Female

* 8. Please indicate your relationship status?

- ◯ Married
- ◯ Single
- ◯ Living together
- ◯ Divorced/ Widowed

* 9. Do you have children of your own?

- ◯ Yes
- ◯ No

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SECTION 1: DEMOGRAPHICS

* 10. Please specify number of children

* 11. Do you have any grandchildren?

- ◯ Yes
- ◯ No

* 12. What is your employer type?

- ◯ Retail trade
- ◯ Insurance
- ◯ Hospitality
- ◯ Transportation
- ◯ Legal
- ◯ Newspaper publishing/broadcasting
- ◯ Finance
- ◯ Government
- ◯ Private Health Care
- ◯ Education
- ◯ Construction
- ◯ Telecommunication
- ◯ Entertainment
- ◯ Technology
- ◯ Distributor / Manufacturer
- ◯ Other (please specify)

* 13. What is the average number of women who take maternity leave in a year period at your workplace?

* 14. Please provide the approximate percentage of females in the company labour force *(only indicate the number in the textbox)*

* 15. Please provide the approximate percentage of female employees who are of childbearing age (18 – 49 years): *(only indicate the number in the textbox)*

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Support for Exclusive Breastfeeding in designated workplaces

SECTION 2

* 16. Does your workplace offer any of the following beastfeeding support services?

	Yes	No
Maternity leave for at least 3 months (paid)	◯	◯
Maternity leave for at least 3 months (unpaid)	◯	◯
Paternity leave	◯	◯
Occupational health programmes	◯	◯
Onsite /nearby crèche facility	◯	◯

* 17. Do you know about the provisions of the Code of Good Practice on the Protection of Employees during Pregnancy and after the Birth of a child (part of the Basic Conditions of Employment Act)?

◯ Yes

◯ No

* 18. Does your workplace have a written Breastfeeding policy regarding worksite breastfeeding support?

◯ Yes

◯ No

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Support for Exclusive Breastfeeding in designated workplaces

SECTION 2

* 19. When was the Breastfeeding policy implemented?

* 20. Are staff aware of the policy?

- ◯ Yes
- ◯ No

* 21. Do you routinely promote your breastfeeding policy to employees?

- ◯ Yes
- ◯ No

22. Please comment on the implementation of the policy at your workplace (E.g well, not well implemented):

* 23. If your workplace resides under the Western Cape Department of Health, are you aware of the Western Cape Department of Health Breastfeeding Policy (Circular H144/2012)

- ◯ Yes
- ◯ No
- ◯ Not applicable

* 24. Does your workplace offer a private space / room to breastfeed or express breastmilk (other than a bathroom/toilet) to employees?

- ◯ Yes
- ◯ No

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Support for Exclusive Breastfeeding in designated workplaces

SECTION 2

* 25. Please describe the space employees may use for expressing. ***If you answered this question please select not applicable with the following question***

26. Please describe the reason, barrier or challenge for not providing space:

- ◯ Not applicable

Please provide the reason for not providing space

* 27. Does your workplace offer break time to express or breastfeed an infant?

- ◯ Yes
- ◯ No

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Support for Exclusive Breastfeeding in designated workplaces

SECTION 2

* 28. Please describe the reason, barrier or challenge for not providing time:

* 29. If your workplace provides space and time, please complete: Our company provides time and space for mothers up to _____ months after the child`s birth.

- ◯ Not applicable
- ◯ Please specify the months

* 30. Does your workplace offer any of the following workplace breastfeeding support services?

	Yes	No
Flexible working time for breastfeeding mothers	◯	◯
Part time work options for breastfeeding mothers	◯	◯
Job sharing for breastfeeding mothers	◯	◯
Breastfeeding education material to pregnant women/ new mothers	◯	◯
Breastfeeding education material to expecting fathers	◯	◯
Refrigerator for breastmilk storage	◯	◯
Option of extended maternity leave without job lost	◯	◯
Breastfeeding counsellor/lactation consultant for staff	◯	◯

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* 31. Does your workplace routinely promote the benefits of breastfeeding to all employees

- ◯ Yes
- ◯ No

32. Are there any other ways your company /business accommodates breastfeeding employees? Please elaborate:

33. What do you need to assist you to further accommodate breastfeeding in the workplace?

* 34. Would you like more information on how you can support breastfeeding women in the workplace?

- ◯ Yes
- ◯ No

12

A. Intention to Provide Support to Breastfeeding working mothers

The definition of 'support for breastfeeding in the workplace' includes: Several types of employee benefits and services, such as:

- **policies to support breastfeeding women;**
- **teaching employees about breastfeeding;**
- **providing designated private space for breastfeeding or expressing milk;**
- **allowing flexible scheduling to support milk expression during work;**
- **giving mothers options for returning to work, such as teleworking, part-time, extended maternity leave;**
- **providing on-site or near-site child care; and**
- **offering professional lactation management services and support.**

However not every employer can provide this degree of support. Based on this definition and the realities of your work environment. *For sections A-F, tick the box on the scale that most clearly represents how you feel*

* 35. I would rate my intention to support breastfeeding (such as room, break time, information, or emotional support) in my workplace as

Very weak				Very strong
○	○	○	○	○

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B. Other Peoples' Influence in Providing Support to Breastfeeding Working Mothers

1. If someone has never mentioned to you how they feel about providing support to breastfeeding mothers or if you feel that they are neutral, use the middle of the scale.
2. Use not applicable if:
a. The person in question does not apply/exist (e.g., you do not have a supervisor).
b. Your relationship with the person is minimal or has ended and you do not know how she/he feels about providing support.

* 36. Most people who are important to me think that I _____provide support for breastfeeding working mothers.

Should not				Should	N/A
○	○	○	○	○	○

C. Specific Other People and Providing Support to Breastfeeding Mothers

1. If someone has never mentioned to you how they feel about providing support to breastfeeding mothers or if you feel that they are neutral, use the middle of the scale.
2. Use not applicable if:
a. The person in question does not apply/exist (e.g., you do not have a supervisor).
b. Your relationship with the person is minimal or has ended and you do not know how she/he feels about providing support.

* 37. Regarding: Providing Support to Breastfeeding Working Mothers: The **head of my organization** thinks that I/we___ provide support for breastfeeding working mothers.

Should not				Should	N/A
○	○	○	○	○	○

* 38. In general, I want to do what the head of my organization thinks I should do.

Unlikely				Likely
○	○	○	○	○

* 39. Other **supervisors (same/similar level)** like me think that I/we___ provide support for breastfeeding working mothers.

Should not				Should	N/A
○	○	○	○	○	○

* 40. In general, I want to do what other supervisors think I should do.

Unlikely				Likely
○	○	○	○	○

* 41. My **employees (general employees)** think I /we____provide support for breastfeeding working mothers.

Should not				Should
○	○	○	○	○

* 42. In general, I want to do what my employees think I should do.

Unlikely				Likely
○	○	○	○	○

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* 43. Other **colleagues (staff within same department, section e.g Human Resources)**think I /we____provide support for breastfeeding working mothers

Should not				Should	N/A
○	○	○	○	○	○

* 44. In general, I want to do what my colleagues think I should do.

Unlikely				Likely
○	○	○	○	○

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D. Feelings about Providing Support to Breastfeeding Working Mothers

Mark the spot on each scale that most closely represents how you feel.

* 45. To me, providing support for breastfeeding working mothers is:

Unnecessary				Necessary
○	○	○	○	○

* 46. To me, providing support for breastfeeding working mothers is:

Embarrassing				Not embarrassing
○	○	○	○	○

* 47. To me, providing support for breastfeeding working mothers is:

Negative				Positive
○	○	○	○	○

Other (please specify)

* 48. To me, providing support for breastfeeding working mothers is:

Unimportant				Important
○	○	○	○	○

* 49. To me, providing support for breastfeeding working mothers is:

Not beneficial				Beneficial
○	○	○	○	○

E. Personal Beliefs about Providing Support to Breastfeeding Working Mothers

Below please indicate your personal beliefs about possible results that might occur if an employer provides support to a breastfeeding working mother and her baby, and how important those results are to both mother and baby. Place your response to each item somewhere on the scale from unlikely to likely and then, not important to very important.

* 50. If my workplace provide support to a breastfeeding working mother and her baby: The working mother and baby will be able to continue breastfeeding without difficulty.

Unlikely				Likely
○	○	○	○	○

* 51. If my workplace provide support to a breastfeeding working mother and her baby: The working mother will be able to access information about breastfeeding and work successfully.

Unlikely				Likely
○	○	○	○	○

* 52. If my workplace provide support to a breastfeeding working mother and her baby: The working mother will be able to combine breastfeeding and work successfully

Unlikely				Likely
○	○	○	○	○

* 53. If my workplace provide support to a breastfeeding working mother and her baby: The breastfeeding working mother will feel satisfied with her role as a worker and a mother who contributes to the family.

Unlikely				Likely
○	○	○	○	○

* 54. If my workplace provide support to a breastfeeding working mother and her baby: I will have less turnover rate among employees.

Unlikely				Likely
○	○	○	○	○

* 55. If my workplace provide support to a breastfeeding working mother and her baby: The breastfeeding working mother will experience satisfaction with her work.

Unlikely				Likely
○	○	○	○	○

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* 56. If my workplace provide support to a breastfeeding working mother and her baby: The breastfeeding mother is able to get her work done

Unlikely				Likely
○	○	○	○	○

* 57. If my workplace provide support to a breastfeeding working mother and her baby: The baby will be able to breastfeed or receive breastmilk while the mother is at work.

Unlikely				Likely
○	○	○	○	○

* 58. If my workplace provide support to a breastfeeding working mother and her baby: The baby will have fewer illnesses. (Therefore, less employees' absenteeism)

Unlikely				Likely
○	○	○	○	○

* 59. How important is it that: The working mother and baby will be able to continue breastfeeding without difficulty?

Not important				Important
○	○	○	○	○

* 60. How important is it that: The working mother will be able to access information about breastfeeding?

Not important				Important
○	○	○	○	○

* 61. How important is it that: The working mother will be able to combine breastfeeding and work successfully?

Not important				Important
○	○	○	○	○

* 62. How important is it that: The breastfeeding working mother will feel satisfied with her role as a worker and a mother who contributes to the family?

Not important				Important
○	○	○	○	○

* 63. How important is it that: I have less turnover rate among employees?

Not important				Important
○	○	○	○	○

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* 64. How important is it that: The breastfeeding working mother will experience satisfaction with her work?

Not important				Important
○	○	○	○	○

* 65. How important is it that: The breastfeeding working mother is able to get her work done?

Not important				Important
○	○	○	○	○

* 66. How important is it that: The baby will be able to breastfeed or receive breastmilk while the mother is at work?

Not important				Important
○	○	○	○	○

* 67. How important is it that: The baby has fewer illnesses?

Not important				Important
○	○	○	○	○

20

F. Control Over Providing Support to Breastfeeding Mothers

* 68. I am able to provide information about breastfeeding support for working mothers.

Unlikely				Likely
○	○	○	○	○

* 69. As a manager/owner/director to breastfeeding working mothers, I am able to:

	Unlikely				Likely
Find time to provide resources (information, room, time) to each breastfeeding working mother.	○	○	○	○	○
Find time to praise and encourage each breastfeeding working mother's efforts.	○	○	○	○	○
Access equipment (i.e. refrigerator, breast pumps) when necessary.	○	○	○	○	○
I am confident that I can provide support (e.g. policies, time, space, information) for the breastfeeding working mother.	○	○	○	○	○

* 70. How much control do I have over providing support for the breastfeeding working mother?

Very Little				Complete Control
○	○	○	○	○

* 71. For me, providing support for the breastfeeding working mother would be:

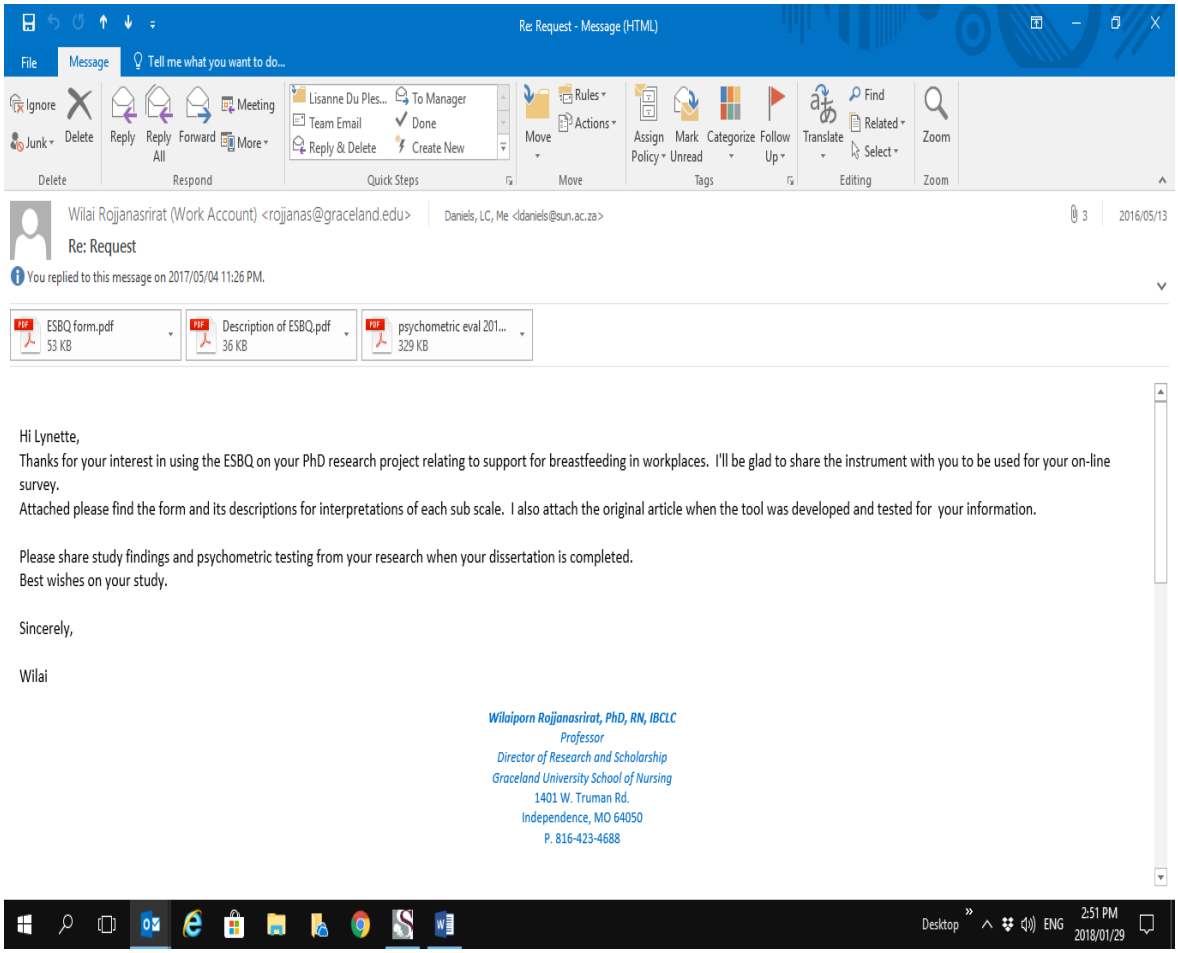
Difficult				Easy
○	○	○	○	○

* 72. Whether I provide support to the breastfeeding working mother is entirely up to me.

Strongly disagree				Strongly agree
○	○	○	○	○

22

ADDENDUM C: PERMISSION TO USE EMPLOYER SUPPORT FOR BREASTFEEDING QUESTIONNAIRE (ESBQ)

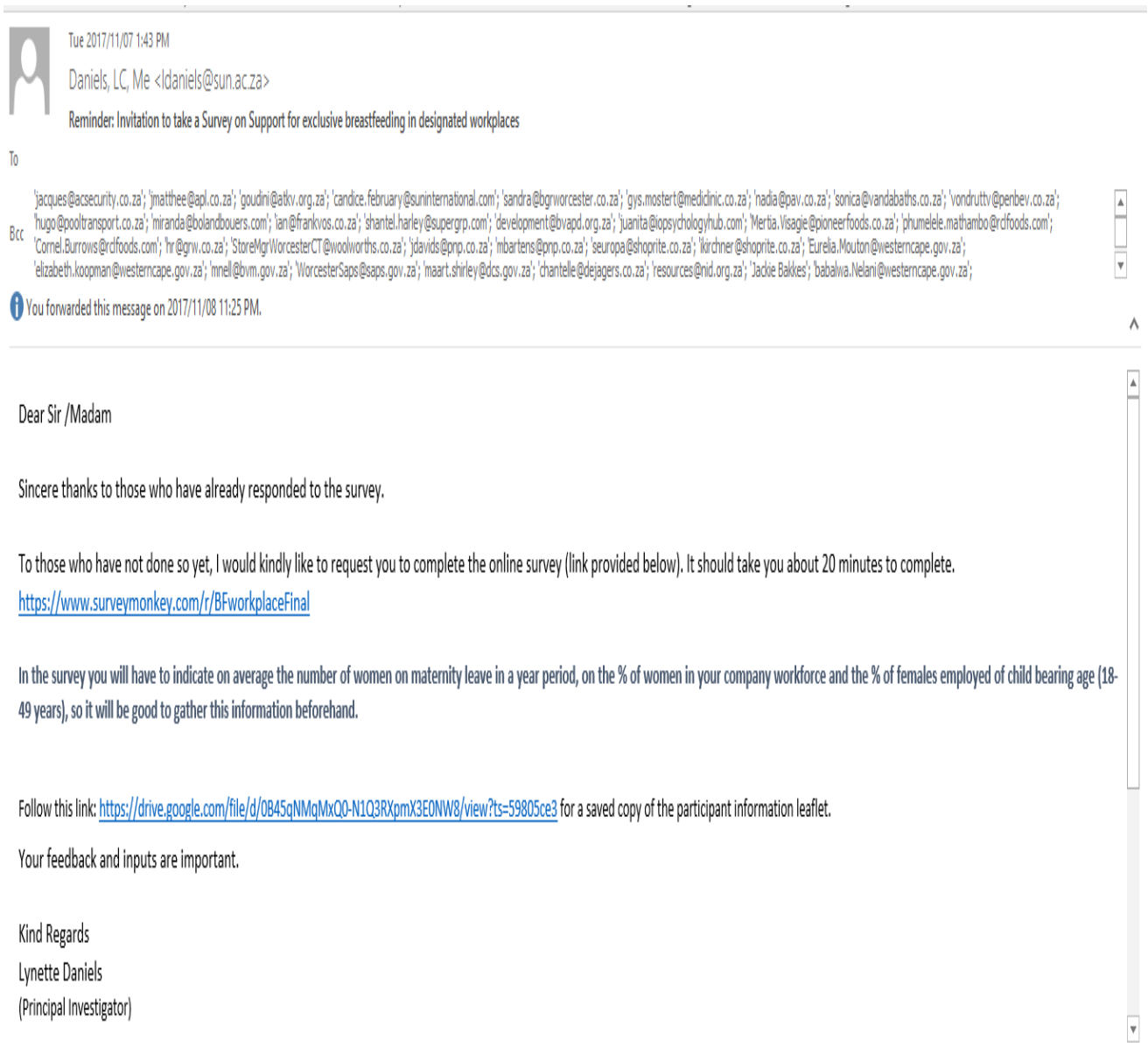


Hi Lynette,
Thanks for your interest in using the ESBQ on your PhD research project relating to support for breastfeeding in workplaces. I'll be glad to share the instrument with you to be used for your on-line survey.
Attached please find the form and its descriptions for interpretations of each sub scale. I also attach the original article when the tool was developed and tested for your information.

Please share study findings and psychometric testing from your research when your dissertation is completed.
Best wishes on your study.

Sincerely,
Wilai

ADDENDUM D: REMINDER SURVEY EMAIL SENT EVERY 2 WEEK



Tue 2017/11/07 1:43 PM

Daniels, LC, Me <ldaniels@sun.ac.za>

Reminder: Invitation to take a Survey on Support for exclusive breastfeeding in designated workplaces

To

Bcc 'jacques@acsecurity.co.za'; 'jmatthee@apl.co.za'; 'goudini@atkv.org.za'; 'candice.february@suninternational.com'; 'sandra@bgrworcester.co.za'; 'gys.mostert@medicilinic.co.za'; 'nadia@pav.co.za'; 'sonica@vandabaths.co.za'; 'vondruttv@penbev.co.za'; 'hugo@pooltransport.co.za'; 'miranda@bolandbouers.com'; 'ian@frankvos.co.za'; 'shantel.harley@supergrp.com'; 'development@bvapd.org.za'; 'juanita@iopsychologyhub.com'; 'Mertia.Visagie@pioneerfoods.co.za'; 'phumelele.mathambo@rcfoods.com'; 'Cornel.Burrows@rcfoods.com'; 'hr@grw.co.za'; 'StoreMgrWorcesterCT@woolworths.co.za'; 'jdavids@pnp.co.za'; 'mbartens@pnp.co.za'; 'seuropa@shoprite.co.za'; 'ikirchner@shoprite.co.za'; 'Eurelia.Mouton@westerncape.gov.za'; 'elizabeth.koopman@westerncape.gov.za'; 'mnell@bvm.gov.za'; 'WorcesterSaps@saps.gov.za'; 'maart.shirley@dcs.gov.za'; 'chantelle@dejagers.co.za'; 'resources@nid.org.za'; 'Jackie Bakkes'; 'babalwa.Nelani@westerncape.gov.za';

You forwarded this message on 2017/11/08 11:25 PM.

Dear Sir /Madam

Sincere thanks to those who have already responded to the survey.

To those who have not done so yet, I would kindly like to request you to complete the online survey (link provided below). It should take you about 20 minutes to complete.
https://www.surveymonkey.com/r/BFworkplaceFinal

In the survey you will have to indicate on average the number of women on maternity leave in a year period, on the % of women in your company workforce and the % of females employed of child bearing age (18-49 years), so it will be good to gather this information beforehand.

Follow this link: https://drive.google.com/file/d/0B45qNMqMxQ0-N1Q3RXpmX3E0NW8/view?ts=59805ce3 for a saved copy of the participant information leaflet.

Your feedback and inputs are important.

Kind Regards
Lynette Daniels
(Principal Investigator)

ADDENDUM E: FACE VALIDITY QUESTIONNAIRE

Please answer the following questions regarding the online Survey Monkey questionnaire you completed: Your feedback will assist in improving the questionnaire.

1. **The length of the questionnaire**

Too long	
Acceptable	

2. **How long did it take you to complete the questionnaire? _____**
3. **Did you understand the instructions given to complete the questionnaire?**

Yes	
No	

4. **The question was clear and easy to understand.**

Yes	
No	

If No, which questions was unclear?

_____

_____

5. **Do you think this questionnaire is relevant for Human Resources Managers?**

Yes	
No	

6. **The process of receiving the questionnaire was effective.**

Yes	
No	

7. **The language used was clear and easy to understand.**

Yes	
No	

Any other comments:

_____

_____

THANK YOU FOR YOUR TIME

ADDENDUM F: PERMISSION LETTER COMPANIES

Division of Human Nutrition
Faculty of Medicine and Health Sciences,
Stellenbosch University
Francie van Zijl Drive
TYGERBERG

To: (Company Name)
Dear:

RE: PERMISSION TO INVOLVE EMPLOYEES IN A RESEARCH STUDY

I am Lynette Daniels, a registered PhD Nutritional Sciences student from the Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University. I am initiating a research study entitled "*Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district*"

The aim of this study is to develop a practice model to support exclusive breastfeeding (EBF) in designated workplaces (i.e. employers who employ more than 50 employees).

To meet the proposed study aim, the following objectives have been set:

- To assess current breastfeeding support practices in designated workplaces
- To explore employers' and employees' experiences and perceptions regarding breastfeeding support in the workplace

During the research study, a request will be sent to the Human Resource manager of your company, to complete an online Survey Monkey questionnaire. The researcher aims to conduct one focus group discussion (FGD) with 6-8 employees and another FGD with a few of your managers. One in-depth interview will also be held with the workplace manager, director and/or Human Resource manager. Employees participating in the FGD will be expected to discuss and share opinions on certain questions relating to their experience and perceptions regarding breastfeeding support practices. The FGD will also explore the role of the workplace, barriers experienced or foreseen and resources and support needed. The FGD's and the in-depth interview will be audio recorded and will each be approximately 60 minutes in duration. All information will be kept confidential. The researcher plans to do the data collection during February and March of 2018.

I wish to obtain permission to access your workplace for the purpose of recruiting participants for the FGD's and in-depth interview. The results of this study will hopefully provide us with an understanding of the workplace environment, as well as the barriers, enablers, resources and support needed to support EBF in the workplace.

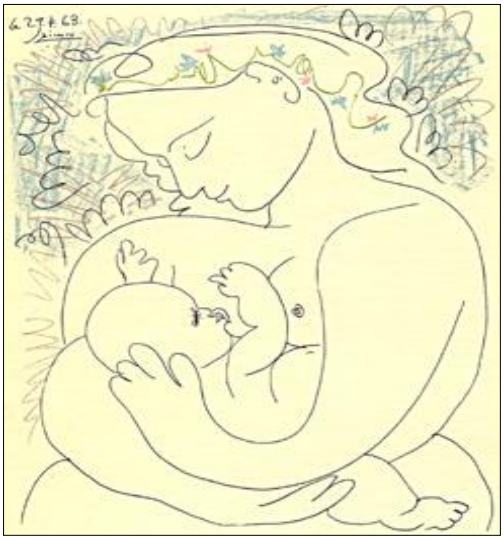
The study has been approved by the Health Research Ethics Committee (HREC) of the Faculty of Medicine and Health Sciences, Stellenbosch University (Ethics Reference number: S17/04/089). Should any further information be required, please feel free to contact the Principle Investigator (L. Daniels) on 021 938 9176 (work); 082 513 6409 (cell) or ldaniels@sun.ac.za (email).

Yours Sincerely,

PRINCIPLE INVESTIGATOR: L. DANIELS

ADDENDUM G: POSTER WORKPLACE EMPLOYEES

WOULD YOU LIKE TO SHARE YOUR EXPERIENCE REGARDING BREASTFEEDING SUPPORT PRACTICES AT YOUR WORKPLACE?



Acknowledgement/ Source: “Maternity”, 1963, © 2003

Estate of Pablo Picasso/Artists Rights Society (ARS), New York

ARE YOU:

- AN EMPLOYEE (MALE OR FEMALE) WORKING ON A FULL OR PART - TIME BASIS AT THE WORKPLACE FOR MORE THAN 3 MONTHS?

- ABLE TO SPEAK ENGLISH, AFRIKAANS OR ISIXHOSA

Please consider this invitation AND join our focus group discussion!
For more information and to discuss please call:

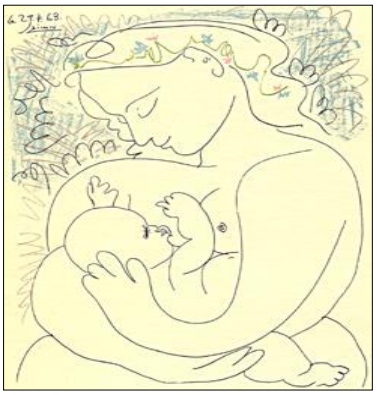
082 513 6409

Please complete the form at your receptionist if you are interested

To join the discussion.

ADDENDUM H: COMMUNITY POSTER EMPLOYED BREASTFEEDING MOTHERS

WOULD YOU LIKE TO SHARE YOUR EXPERIENCE AS AN EMPLOYED MOTHER WHO BREASTFED THEIR INFANT EXCLUSIVELY OR PREDOMINANTLY FOR ANY PERIOD UP TO 6 MONTHS?



Acknowledgement/ Source: “Maternity”, 1963, © 2003

Estate of Pablo Picasso/Artists Rights Society (ARS), New York

ARE YOU:

- A WORKING MOTHER EMPLOYED AT A WORKPLACE THAT EMPLOYS MORE THAN 50 EMPLOYEES AND EXCLUSIVELY BREASTFED (ONLY GAVE YOUR INFANT BREASTMILK, NO WATER, FOOD OR DRINK) YOUR INFANT FOR ANY PERIOD UP TO 6 MONTHS? OR

- A WORKING MOTHER EMPLOYED AT A WORKPLACE THAT EMPLOYS MORE THAN 50 EMPLOYEES AND PREDOMINANTLY BREASTFED (GAVE YOUR INFANT MOSTLY BREASTMILK BUT MAY HAVE RECEIVED OTHER FLUIDS E.G WATER, WATER BASED DRINKS, FRUIT JUICE, DROPS OR SYRUPS (VITAMINS, MINERALS AND MEDICINES) FOR ANY PERIOD UP TO 6 MONTHS.

- ABLE TO SPEAK ENGLISH, AFRIKAANS OR ISIXHOSA

- A MOTHER WITH A CHILD THAT IS 24 MONTHS OR YOUNGER

Please consider this invitation AND join our discussion!

FOR MORE INFORMATION CALL: 078 120 5159

ADDENDUM I: FIELDWORKER COMMUNITY RECRUITMENT FORM

COMMUNITY RECRUITMENT BREASTFEEDING MOTHERS

Good morning / Good afternoon

We are looking for:

- Employed mothers working at a workplace that employees more than 50 employees who
  ☐ ***No*** ☐ ***Yes***

- Who exclusively breastfed (only gave your infant breastmilk, no water, food or drink) or predominantly breasted (gave your infant mostly breastmilk but may have received other fluids e.g water, water based drinks, fruit juice, drops or syrups such as vitamins, minerals and medicines) for any period up to 6 months
  ☐ ***No*** ☐ ***Yes***

- Has a child 24 months or younger
  ☐ ***No*** ☐ ***Yes***
- Are you such a mother?

No – Thank you for your time. Have a lovely day.
If Yes to all 3 questions:
We are conducting a study to try and understand the difficulties/barriers and the support needed by employed breastfeeding women to enable them to exclusively breastfeed their children for 6 months with a focus on the barriers and support needed in the workplace.

In order to gain this information, we will be having group discussions with employed breastfeeding mothers. You will be expected to discuss and share opinions on certain questions with the other group members. The discussions will be approximately 60 minutes long and audio recordings will be taken. All information will be kept confidential. Refreshments will be served and you will be given a food voucher as a token of appreciation.

Are you interested in taking part in one of these group discussions?
☐ ***No*** – Thank you for your time. Have a lovely day.
☐ ***Yes***

Details of participant:

Name: _____

Telephone number: _____

Address: _____

Living Area: _____

Completed by: _____

Name of workplace: _____

ADDENDUM J: FOCUS GROUP DISCUSSION GUIDE: EMPLOYEES

Probes	Follow up questions
1. Now that you've given informed consent and have some background about the study I'd like to start by asking you to tell me about your maternity leave benefits and paternity leave benefits at your workplace. I shall start recording the interview now.	
Influence infant feeding practices	How does returning to work influence the breastfeeding practices of employed breastfeeding employees?
What are your thoughts about the role the workplace/employers have to play to support breastfeeding employees at the workplace?	
Practices supportive of breastfeeding Benefits for employees Ways to support breastfeeding employees at work	Tell me about any of your workplace practices that is supportive of breastfeeding and breastfeeding employees Regarding the benefits for the employee if, breastfeeding support is provided, can you share your thoughts on that. Can you share your thoughts on ways to best support breastfeeding employees at work?
Share your thoughts about the factors that influence your workplace from offering breastfeeding support programmes	
Space Time Support needed	Tell me about the provision of Space to express breastmilk at your workplace Tell me about the provision of Time to express milk at your workplace Tell me about support needed within your workplace to make it a breastfeeding friendly environment
Conclusion Thank you for your valuable input about aspects at your workplace. We will be able to use this information to better understand the challenges and support needed in the workplace environment to implement breastfeeding support practices.	

Break for refreshments

ADDENDUM K: FOCUS GROUP DISCUSSION GUIDE: MANAGERS

Probes	Follow up questions
1. Now that you've given informed consent and have some background about the study I'd like to start by asking you to tell me about maternity leave benefits and leave benefits for new fathers at your workplace. I shall start recording the interview now.	
What are your thoughts about the role the workplace/employers have to play to support breastfeeding employees at the workplace?	
Benefits for employees/+ outcomes if support is provided	What are your thoughts about the benefits for the employee if breastfeeding support is provided
Impact on productivity	What are your thoughts about the impact on the employee productivity if BF support is provided at the workplace.
Potential - outcomes if support is provided	Any potential negative outcomes if BF support is provided at work
Practices supportive of breastfeeding	Tell me about any of your workplace practices that is supportive of breastfeeding and breastfeeding employees
Experience of providing BF support	Share any of your experience of providing BF support for BF employees at work
Request for BF support	Share any experience of request for BF support at work
Openness to discuss BF support with employees	How would you describe your openness to discuss / communicate BF support with employees
Ways to support breastfeeding employees at work	Can you share your thoughts on ways to best support breastfeeding employees at work?
Promotion of breastfeeding amongst employees	Share your thoughts about the role the workplace can play to promote breastfeeding amongst employees?
Share your thoughts about the **factors** that influence your workplace from offering breastfeeding support /accommodation	
Tell me about the provision of **Space** to express breastmilk at your workplace	How would you describe your workplace willingness to support breastfeeding in terms of providing space
Tell me about the provision of **Time** to express milk at your workplace	In terms of providing time how would you describe your workplace willingness
Support needed	

	Tell me about support needed within your workplace to make it a breastfeeding friendly environment
Conclusion Thank you for your valuable input about aspects at your workplace. We will be able to use this information to better understand the challenges and support needed in the workplace environment to implement breastfeeding support practices.	

Break for refreshments

ADDENDUM L: FOCUS GROUP DISCUSSION GUIDE EMPLOYED BREASTFEEDING MOTHERS WHO EXCLUSIVELY /PREDOMINANTLY BREASTFED

Probes	**Follow up questions**
1. Now that you've given informed consent and have some background about the study I'd like to start by asking you to tell me about when the decided to breastfeed your baby and how long you have planned to breastfeeding**.** I shall start recording the interview now.	
EBF	Tell me about your understanding of exclusive breastfeeding (EBF)
Duration of EBF	Can you tell me about your understanding of how long a baby should be exclusively breastfed
Return to work	How did returning to work influence your breastfeeding practices?
Enablers /Support you had	Can you tell me about any support you had that enabled your to predominantly or exclusively breastfeed your child for any period up to 6 months
Workplace enablers	Can you share your experience with regards to any workplace support you had that enabled you to predominantly or exclusively breastfeed your child for any period up to 6 months
Difficulties / Challenges	Share your thoughts about the difficulties /challenges you encountered with regards to your breastfeeding practices (i.e. home / work/family)
Overcome challenges	How did you overcome these difficulties/challenges?
What are your thoughts about the role the workplace/employers **have to play** to **support breastfeeding employees** at the workplace?	
Support needed by employed BF mothers	Can you share your thoughts on the support most needed by employed breastfeeding mothers at the workplace to enable them to breastfeed for any period up to 6 months
Personal support needed	Tell me about any additional support you would have appreciated /needed in the workplace that would have assisted you with continued or exclusive breastfeeding
Conclusion Thank you for your valuable input about your breastfeeding experience. We will be able to use this information to better understand the challenges, enablers and support needed by employed breastfeeding mothers to sustain their breastfeeding practices and to achieve the goal of 6 months of exclusive breastfeeding.	

BREAK FOR REFRESHMENTS

ADDENDUM M: IN-DEPTH INTERVIEW DISCUSSION GUIDE FOR HR MANAGERS/ DIRECTORS

Probes	**Follow up questions** (summarize, clarify, why Q)
1. Now that you've given informed consent and have some background about the study I'd like to start by asking you to tell me about your workplace environment. I shall start recording the interview now.	
maternity and paternity leave benefits layout gender distribution	Tell me about your maternity and paternity leave benefits What does the layout of your office entail? Tell me about the gender distribution your employees
Tell me about the role the workplace/employers have to play to support breastfeeding employees? What are your thoughts about that?	
Practices supportive of BF Impact on productivity Benefits for employer / /+ outcomes if support is provided Request for BF support Personal beliefs Ways to support breastfeeding employees at work	Tell me about any of your workplace practices that is supportive of breastfeeding and breastfeeding employees What are your thoughts about the impact on the employee productivity if breastfeeding support is provided? Regarding benefits for the employer if breastfeeding support is provided? Can you share your thoughts on that. Share any experience of request for BF support at work How will you feel about sharing your personal beliefs about providing breastfeeding support in your workplace? Please tell me more Can you share your thoughts on ways to best support breastfeeding employees at work?
Can you tell me about the factors/things that might influence your workplace from offering breastfeeding workplace support programmes. Any other factors?	
Tell me about the provision of: …..to express BM at your workplace - Space - Time	How would you describe your workplace intention/willingness/ability to support breastfeeding in terms of providing space In terms of providing time how would you describe your workplace ability/willingness

- Support needed	Tell me about support needed within your workplace to make it a (more) breastfeeding friendly environment
Conclusion Thank you for your valuable input. We will be able to use this information to better understand the challenges and support needed in the workplace environment to support breastfeeding practices. Do you have anything to add? Do you have any questions?	

ADDENDUM N: LIST OF PANEL EXPERTS – PHASE 3

Employment sector	***Number***
Provincial Nutrition Directorate, Department of Health	1
International Board-Certified Lactation Consultant (IBCLC)	3
UNICEF South Africa Nutrition specialist	1
Academia	3
DST-NRF Centre of Excellence in Human Development	1
Department of the Premier, Organizational Development (Wellness DOTP), Industrial Psychologist	1
Human Resources Business Partner (Private)	1

Did not respond:

Employment sector	***Number***
Human Resource Management and Administration, Provincial Department of Health	1
National Nutrition Directorate, Department of Health	1
Department of Health Province, MBFI Assessor	1
Academia, MBFI Assessor	1
International Board Certified Lactation Consultant	1
Midwifery and Neonatal Practitioner/Educator	1

ADDENDUM O: HREC APPROVAL LETTER

UNIVERSITEIT•STELLENBOSCH•UNIVERSITY
jou kennisvennoot • your knowledge partner

Approval Notice
New Application

14-June-2017

Ethics Reference #: S17/04/089

Title: Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district, Western Cape Province, South Africa

Dear Ms L Daniels

The **New Application** received on **25-April-2017** was reviewed by the **Health Research Ethics Committee (HREC) 1** on **14-June-2017** and was approved.

Please note the following information about your approved research protocol:

Protocol Approval Period: **14-June-2017 – 13-June-2018**

Please remember tou se your protocol number (S17/04/089) on any documents or correspondence with the HREC concerning your research protocol.

Please note that the HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

After Ethical Review:
Please note a template of the progress report is obtainable on www.sun.ac.za/rds and should be submitted to the Committee before the year has expired.
The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.
Translation of the consent document to the language applicable to the study participants should be submitted.

Federal Wide Assurance Number: 00001372
Institutional Review Board (IRB) Number: IRB0005239

The Health Research Ethics Committee complies with the SA National Health Act No. 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 Part 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki and the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles, Structures and Processes 2015 (Departement of Health).

Provincial and City of Cape Town Approval

Fakulteit Geneeskunde en Gesondheidswetenskappe
Faculty of Medicine and Health Sciences

Afdeling Navorsingsontwikkeling en -Steun • Research Development and Support Division

Posbus/PO Box 241 • Cape Town 8000 • Suid-Afrika/South Africa
Tel: +27 (0) 21 938 9677

ADDENDUM P: PERMISSION LETTERS DEPARTMENT OF HEALTH

STRATEGY & HEALTH SUPPORT
Health.Research@westerncape.gov.za
tel: +27 21 483 6857: fax: +27 21 483 9895
5th Floor, Norton Rose House,, 8 Riebeek Street, Cape Town, 8001
www.capegateway.gov.za)

REFERENCE: WC_2017RP24_516
ENQUIRIES: Ms Charlene Roderick

Stellenbosch University

PO Box 241

Cape Town

8000

For attention: Ms Lynette Daniels

Re: **Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district, Western Cape Province, South Africa.**

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research.

Please contact following people to assist you with any further enquiries in accessing the following sites:

Worcester Hospital	**Ms E Vosloo**	**023 348 1113**

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final feedback (**annexure 9**) within six months of completion of research. This can be submitted to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).
3. In the event where the research project goes beyond the *estimated completion* date which was submitted, researchers are expected to complete and submit a progress report

Western Cape Government
Health

STRATEGY & HEALTH SUPPORT
Health.Research@westerncape.gov.za
tel: +27 21 483 6857: fax: +27 21 483 9895
5th Floor, Norton Rose House,, 8 Riebeek Street, Cape Town, 8001
www.capegateway.gov.za)

REFERENCE: WC_2017RP24_516
ENQUIRIES: Ms Charlene Roderick

Stellenbosch University

PO Box 241

Cape Town

8000

For attention: Ms Lynette Daniels

Re: **Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district, Western Cape Province, South Africa.**

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research.

Please contact following people to assist you with any further enquiries in accessing the following sites:

Brewelskloof TB Hospital	**Dr Danie Theron**	**023 348 1304**

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final feedback (**annexure 9**) within six months of completion of research. This can be submitted to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).
3. In the event where the research project goes beyond the *estimated completion* date which was submitted, researchers are expected to complete and submit a progress report

Western Cape Government
Health

STRATEGY & HEALTH SUPPORT
Health.Research@westerncape.gov.za
tel: +27 21 483 6857: fax: +27 21 483 9895
5th Floor, Norton Rose House,, 8 Riebeek Street, Cape Town, 8001
www.capegateway.gov.za)

REFERENCE: WC_2017RP24_516
ENQUIRIES: Ms Charlene Roderick

Stellenbosch University

PO Box 241

Cape Town

8000

For attention: Ms Lynette Daniels

Re: **Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district, Western Cape Province, South Africa.**

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research.

Please contact following people to assist you with any further enquiries in accessing the following sites:

Cape Winelands District Office	**Director: Dr Lizette Phillips**	**023 348 8101**
Deputy Directors:		
***Pharmacy* – Mr Charles Williams**		**023 348 8131**
***Comprehensive Health*- Ms Handri Liebenberg**		**023 348 8118**
***Professional Support (hospital) Services*- Ms Surina Neethling**		**023 348 8102**
***Finance*- Mr Eugene Essex**		**023 348 8103**
***Human Resources* – Ms Eurelia Mouton**		**023 348 8112**
***Family Physician* – Dr Colette Gunst**		**023 348 8106**

ADDENDUM Q: PERMISSION LETTER DEPARTMENT OF SOCIAL DEVELOPMENT

Western Cape Government
Social Development

Research, Population and Knowledge Management
tel: +27 21 483 4512 fax: +27 21 483 5602
48 Queen Victoria Street, Cape Town, 8000

Reference: 12/1/2/4

Enquiries: Clinton Daniels

Tel: 021 483 8658/483 4512

Ms L. Daniels

7 Volschenk Street

De La Haye

7530

Dear Ms Daniels

RE: APPROVAL TO UNDERTAKE RESEARCH IN THE WESTERN CAPE DEPARTMENT OF SOCIAL DEVELOPMENT

1. Your request for ethical approval to undertake research in respect of *'Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district', refers.*
2. It is a pleasure to inform you that your request has been approved by the Research Ethics Committee (REC) of the Department, subject to the following conditions:

   - That the Secretariat of the Research Ethics Committee be informed in writing of any changes made to your proposal after approval has been granted and be given the opportunity to respond to these changes.
   - That ethical standards and practices as contained in the Department's Research Ethics Policy be maintained throughout the research study, in particular that written informed consent be obtained from participants.
   - The confidentiality and anonymity of participants, who agree to participate in the research, should be maintained throughout the research process and should not be named in your research report or any other publications that may emanate from your research.
   - The Department should have the opportunity to respond to the findings of the research. In view of this, the final draft of your research dissertation should be send to the Secretariat of the REC for comment before further dissemination.
   - That the Department be informed of any publications and presentations (at conferences and otherwise) of the research findings. This should be done in writing to the Secretariat of the REC.

ADDENDUM R: PERMISSION LETTERS DEPARTMENT OF EDUCATION

Directorate: Research

Audrey.wyngaard@westerncape.gov.za
tel: +27 021 467 9272
Fax: 0865902282
Private Bag x9114, Cape Town, 8000
wced.wcape.gov.za

REFERENCE: 20170706 –2726
ENQUIRIES: Dr A T Wyngaard

Mrs Lynette Daniels
7 Volschenk Street
De La Haye
7530

Dear Mrs Lynette Daniels

RESEARCH PROPOSAL: SUPPORT FOR EXCLUSIVE BREASTFEEDING IN THE WORKPLACE: DEVELOPMENT OF A PRACTICE MODEL FOR DESIGNATED WORKPLACES IN THE BREEDE VALLEY SUB-DISTRICT, WESTERN CAPE PROVINCE, SOUTH AFRICA

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **01 August 2017 till 29 August 2018**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

    The Director: Research Services
    Western Cape Education Department
    Private Bag X9114
    CAPE TOWN
    8000

We wish you success in your research.

Kind regards.
Signed: Dr Audrey T Wyngaard
Directorate: Research
DATE: 10 July 2017

ADDENDUM S: ONLINE SURVEY PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

Title of Research Project: "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district"

We would like to invite you to take part in a research project which involves the completion of an online questionnaire. Your participation is **entirely voluntary** and you are free to decline to participate or to stop completing the questionnaire at any time, even if you have agreed to take part initially. However, once you have submitted your completed questionnaire online, you will no longer be able to withdraw your responses as there will be no way of linking your responses back to you.

This study aims to

- Gather baseline information from designated workplaces in the Breede Valley sub–district regarding breastfeeding support practices and interventions in the workplace and to explore employer attitude, perceptions and intention to support breastfeeding.
- The study will be conducted by a doctoral student from Stellenbosch University.
- It is expected to recruit 30 designated workplaces in the Breede Valley sub-district to participate in the survey.

You are being asked to participate because

- You are a Human Resource Manager or company chief executive officer at a designated workplace (employs more than 50 employees in the Breede Valley sub-district.

If you agree to participate you will be requested to

- Answer questions relating to any breastfeeding support practices at your workplace e.g. maternity leave benefits, workplace policies, wellness, occupational programmes, nearby or onsite crèche facility and questions about your attitude, perceptions and intention to support breastfeeding
- The survey will take about 20 - 25 minutes of your time to complete.

The potential benefits of this research are

- There are no personal benefits for you participating in this survey.
- With your participation we hope to gain baseline information on the workplace environment, enablers, barriers, resources and support needed to support breastfeeding in the workplace.
- Data on the number of women employed at companies in their reproductive years and data on the average number of women within a year period on maternity leave will also be gathered. This information will assist and inform the development of a practice model to support breastfeeding in designated workplaces in the Breede Valley sub-district.

Are there any risks involved in your taking part in this research?

- There are no risks involved in partaking in this research as anonymity and confidentiality will be maintained at all times. No personal and company names will be recorded.
- The data will be collected via the Survey Monkey programme and then analysed. No company or personal names will be recorded to protect participants and workplaces confidentiality.
- Please be aware that the online survey is not being run from a "secure" https server of the kind typically used to handle credit card transactions, so there is a small possibility that responses could be viewed by unauthorized third parties (e.g., computer hackers).
- To protect your identities please do not reply, by all on group email correspondence.

You can phone the Principal Investigator of this study, [Lynette Daniels] at [021 – 938 9176; ldaniels@sun.ac.za] if you have any questions about this study or encounter any problems. This study has been approved by the **Health Research Ethics Committee at Stellenbosch University.** The study will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, and the Department of Health Ethics in Health Research: Principles, Processes and Studies (2015).

You can phone the Health Research Ethics Committee at 021 938 9677/9819 if there still is something that concerns you about how this study is being conducted, or if you have a complaint.

ADDENDUM T: PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM: EMPLOYEES AND MANAGERS

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM: EMPLOYEES AND MANAGERS

TITLE OF THE RESEARCH PROJECT: "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district"

REFERENCE NUMBER: S17/04/089

PRINCIPAL INVESTIGATOR: L Daniels

ADDRESS: Tygerberg Medical Campus, Francie van Zijl Drive, Stellenbosch University, Parow, Cape Town, 7505

CONTACT NUMBER: 021-938 9259

You are invited to participate in the study "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district" The study is being carried out by me, Ms Lynette Daniels. I am a lecturer in the Division of Human Nutrition, Faculty of Medicine and Health Sciences at Stellenbosch University.

This study has been approved by the **Health Research Ethics Committee at Stellenbosch University** and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

Please take some time to read the information explaining the details of this study as well as what will be expected of you if you agree to participate. Please feel free to ask any questions about any part of this study that you do not understand. Please also keep in mind that you are in no way being forced to participate. It is completely your decision and whatever you decide will be respected.

Also, taking part in this study is **entirely voluntary,** which means that you do not have to take part if you do not want to. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

What is this research study all about?

This study is being conducted to try and understand the support for breastfeeding in the workplace environment. This information is important so that we can try to understand the enablers, barriers,

resources and support needed in the workplace to support women in their goal of exclusive breastfeeding for 6 months.

Why have you been invited to participate?

You have been invited to be part of this study as you are a full time or part time employee, managers at one of the selected workplaces that employs more than 50 employees.

What will your responsibilities be?

You will be expected to attend a 1 hour focus group discussion where you will be asked to give and share your opinion and perceptions regarding breastfeeding support in workplace, the barriers, limiting factors and the support factors (enablers) in the workplace that may affect breastfeeding practices of employees.

Will you benefit from taking part in this research?

You will not benefit directly from taking part in this study. However, with your participation we hope to understand the workplace environment, enablers, barriers, resources and support needed to support breastfeeding in the workplace.

Are there in risks involved in your taking part in this research?

There are no risks involved. The time it will take for you to participate in this study might be seen as an inconvenience so please keep in mind that you will have to be willing to make time to do the focus group discussions.

If you do not agree to take part, what alternatives do you have?

You will not be disadvantaged if you choose not to take part in this study.

Who will have access to your medical records?

Your medical records are not applicable to this study therefore no one will have access to them.

What will happen in the unlikely event of some form injury occurring as a direct result of your taking part in this research study?

No injury could occur as a direct result of you taking part in this study.

Will you be paid to take part in this study and are there any costs involved?

No, you will not be paid to take part in the study. There will be no costs involved for you, if you do take part. Refreshments, such as tea, coffee and muffins, will be served at all discussions, during

comfort breaks. You will receive a parcel consisting of healthy snacks (e.g. fresh/dried fruits and yoghurt) as a token of appreciation for taking part in the study.

Is there anything else that you should know or do?

All collected information will be strictly confidential. A videotape/audio recording will be made but confidentiality is ensured. If the data is used in a publication or thesis, your identity will remain anonymous, so no names or other personal information will be presented

. The recordings of the interviews will be destroyed after the study has been completed and the findings have been written up. The recordings will be locked away in the researcher's office at Stellenbosch University's Medical Campus and stored on a password protected computer until she has completed the study.

Your name will be removed from all the documents to make the information anonymous and to make sure no one knows who the person is who provided the information.

The researcher will be happy to answer any questions you have about this study. If you have any further questions about this study, you may contact, Ms Lynette Daniels, at 021 938 9176 or 082 513 6409. If you have any questions concerning your rights as a participant in this study, you may contact the Stellenbosch University Health Research Ethics Committee at 021 938 9207. You will receive a copy of this information and consent form for your own records.

Declaration by participant

By signing below, I ……. agree to take part in a research study entitled "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district"

I declare that:

I have read or had read to me this information and consent form and it is written in a language which I am fluent and comfortable.

I have had a chance to ask questions and all my questions have been adequately answered.

I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.

I may choose to leave the study at any time and nothing bad will happen to me. I will not be discriminated against in any way.

I may be asked to leave the study before it has finished, if the study doctor or researcher feels it is in my best interest, or if I do not follow the study plan, as agreed to.

Signed at (*place*) ..... on (*date*) ..... 2017.

Signature of Participant **Signature of witness**

Declaration by investigator

I *(name)* ..... declare that:

I explained the information in this document to .....

I encouraged him/her to ask questions and took adequate time to answer them.

I am satisfied that he/she adequately understands all aspects of the research, as discussed above

I did/did not use an interpreter. (*If an interpreter is used then the interpreter must sign the declaration below.*

Signed at (*place*) ..... on (*date*) ..... 2017.

Signature of investigator **Signature of witness**

Declaration by interpreter

I *(name)* ..... declare that:

I assisted the investigator (*name*) ..... to explain the information in this document to (*name of participant*) ..... using the language medium of Afrikaans/Xhosa.

We encouraged him/her to ask questions and took adequate time to answer them.

I conveyed a factually correct version of what was related to me.

I am satisfied that the participant fully understands the content of this informed consent document and has had all his/her question satisfactorily answered.

Signed at (*place*) ..... on (*date*) ..... 2017.

Signature of interpreter **Signature of witness**

INFORMED CONSENT FOR VIDEO/AUDIO RECORDING

The purpose of the meeting and the handling, use and final destruction of the recordings, have been explained to me. The researcher has offered to answer any of my questions relating to the

procedure of the recording. I understand the explanation and I have been given a copy of this form for my records.

Signed at (*place*) ..... on (*date*) ..... 2017.

.....	.....
Name of participant	Signature of participant
.....	.....
Name of witness	Signature of witness
.....	.....
Name of investigator	Signature of investigator

ADDENDUM U: PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM: EMPLOYED BREASTFEEDING MOTHERS

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM: EMPLOYED BREASTFEEDING MOTHERS

TITLE OF THE RESEARCH PROJECT: "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district"

REFERENCE NUMBER: S17/04/089

PRINCIPAL INVESTIGATOR: L Daniels

ADDRESS: Tygerberg Medical Campus, Francie van Zijl Drive, Stellenbosch

University, Parow, Cape Town, 7505

CONTACT NUMBER: 021-938 9259

You are invited to participate in the study "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district" The study is being carried out by me, Ms Lynette Daniels. I am a lecturer in the Division of Human Nutrition, Faculty of Medicine and Health Sciences at Stellenbosch University.

This study has been approved by the **Health Research Ethics Committee at Stellenbosch University** and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

Please take some time to read the information explaining the details of this study as well as what will be expected of you if you agree to participate. Please feel free to ask any questions about any part of this study that you do not understand. Please also keep in mind that you are in no way being forced to participate. It is completely your decision and whatever you decide will be respected.

Also, taking part in this study is **entirely voluntary,** which means that you do not have to take part if you do not want to. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

What is this research study all about?

This study is being conducted to try and understand the difficulties/barriers and the support needed by employed breastfeeding women to enable them to exclusively breastfeed their children for 6 months with a focus on the barriers and support needed in the workplace.

Why have you been invited to participate?

You have been invited to be part of this study as you are an employed mother, with child 24 months or younger, working in a medium size workplace (employs more than 50 employees) who exclusively breastfed (only gave your infant breastmilk, no water, food or drink) or predominantly breastfed (gave your infant mostly breastmilk but may have received other fluids e.g water, water based drinks, fruit juice, drops or syrups such as vitamins, minerals and medicines) their infant for any period up to 6 months.

What will your responsibilities be?

You will be expected to attend a 1hour focus group discussion where you will be asked to share your breastfeeding experience: difficulties (barriers) and the support (enablers) you had that enabled you to exclusively or predominantly breastfeed your child for any period up to 6 months.

Will you benefit from taking part in this research?

You will not benefit directly from taking part in this study. However, with your participation we hope to understand the barriers and support needed by employed breastfeeding women in the workplace to enable them to exclusively breastfeed their children for 6 months.

Are there in risks involved in your taking part in this research?

There are no risks involved. The time it will take for you to participate in this study might be seen as an inconvenience so please keep in mind that you will have to be willing to make time to do the focus group discussions.

If you do not agree to take part, what alternatives do you have?

You will not be disadvantaged if you choose not to take part in this study.

Who will have access to your medical records?

Your medical records are not applicable to this study therefore no one will have access to them.

What will happen in the unlikely event of some form injury occurring as a direct result of your taking part in this research study?

No injury could occur as a direct result of you taking part in this study.

Will you be paid to take part in this study and are there any costs involved?

You will receive a R150 food voucher for your time and travel and as a token of appreciation for taking part in the study. Refreshments, such as tea, coffee and muffins, will be served at all discussions, during comfort breaks.

Is there anything else that you should know or do?

All collected information will be strictly confidential. A videotape/audio recording will be made but confidentiality is ensured. If the data is used in a publication or thesis, your identity will remain anonymous, so no names or other personal information will be presented

. The recordings of the interviews will be destroyed after the study has been completed and the findings have been written up. The recordings will be locked away in the researcher's office at Stellenbosch University's Medical Campus and stored on a password protected computer until she has completed the study.

Your name will be removed from all the documents to make the information anonymous and to make sure no one knows who the person is who provided the information.

The researcher will be happy to answer any questions you have about this study. If you have any further questions about this study, you may contact, Ms Lynette Daniels, at 021 938 9176 or 082 513 6409. If you have any questions, concerns or complaints that have not been adequately addressed, you may contact the Stellenbosch University Health Research Ethics Committee at 021 938 9207. You will receive a copy of this information and consent form for your own records.

Declaration by participant

By signing below, I …….. agree to take part in a research study entitled "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district"

I declare that:

I have read or had read to me this information and consent form and it is written in a language which I am fluent and comfortable.

I have had a chance to ask questions and all my questions have been adequately answered.

I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.

I may choose to leave the study at any time and nothing bad will happen to me. I will not be penalised against in any way.

I may be asked to leave the study before it has finished, if the study doctor or researcher feels it is in my best interest, or if I do not follow the study plan, as agreed to.

Signed at (*place*) ..... on (*date*) ..... 2017.

Signature of Participant **Signature of witness**

Declaration by investigator

I *(name)* ..... declare that:

I explained the information in this document to .....

I encouraged him/her to ask questions and took adequate time to answer them.

I am satisfied that he/she adequately understands all aspects of the research, as discussed above

I did/did not use an interpreter. (*If an interpreter is used then the interpreter must sign the declaration below.*

Signed at (*place*) ..... on (*date*) ..... 2017.

Signature of investigator **Signature of witness**

Declaration by interpreter

I *(name)* ..... declare that:

I assisted the investigator (*name*) ..... to explain the information in this document to (*name of participant*) ..... using the language medium of Afrikaans/Xhosa.

We encouraged him/her to ask questions and took adequate time to answer them.

I conveyed a factually correct version of what was related to me.

I am satisfied that the participant fully understands the content of this informed consent document and has had all his/her question satisfactorily answered.

Signed at (*place*) ..... on (*date*) ..... 2017.

Signature of interpreter **Signature of witness**

INFORMED CONSENT FOR VIDEO/AUDIO RECORDING

The purpose of the meeting and the handling, use and final destruction of the recordings, have been explained to me. The researcher has offered to answer any of my questions relating to the procedure of the recording. I understand the explanation and I have been given a copy of this form for my records.

Signed at (*place*) ..... on (*date*) ..... 2017.

....

Name of participant Signature of participant

....

Name of witness Signature of witness

....

Name of investigator Signature of investigator

ADDENDUM V: PARTICIPANT INFORMATION LEAFLET AND INFORMED CONSENT FORM: HUMAN RESOURCE MANAGERS / COMPANY MANAGERS

PARTICIPANT INFORMATION LEAFLET AND INFORMED CONSENT FORM: HUMAN RESOURCE MANAGERS / COMPANY MANAGERS

Title of Research Study: "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district"

REFERENCE NUMBER: S17/04/089

PRINCIPAL INVESTIGATOR: Lynette Daniels

ADDRESS: Tygerberg Medical Campus, Francie van Zijl Drive, Stellenbosch University, Parow, Cape Town, 7505

CONTACT NUMBER: 021-938 9259

You are invited to participate in the study ""Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district" The study is being carried out by me, Ms Lynette Daniels. I am a lecturer in the Division of Human Nutrition, Faculty of Medicine and Health Sciences at Stellenbosch University.

This study has been approved by the **Health Research Ethics Committee at Stellenbosch University** and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

Please take some time to read the information explaining the details of this study as well as what will be expected of you if you agree to participate. Please feel free to ask any questions about any part of this study that you do not understand. Please also keep in mind that you are in no way being forced to participate. It is completely your decision and whatever you decide will be respected.

What is this research study all about?

This study is being conducted to try and understand the support for breastfeeding in the workplace environment. This information is important so that we can try to understand the factors that may influence employers' decisions to implement and support breastfeeding practices and programmes in the workplace.

Why have you been invited to participate?

You have been invited because you are a human resource manager or company manager at one of the selected workplaces of the study.

What will your responsibilities be?

If you agree to participate, you will be asked to do a face-to-face interview. The interview will take between 1 to 1½ hours of your time. You can decide whether you feel more comfortable to do the interview in your office or suggest a place that would suit you. The researcher can suggest a few alternatives for places to conduct the interview as well.

You will be asked to share your experiences as well as your perceptions regarding breastfeeding support in the workplace.

If relevant, the research might request a copy of any workplace documents referred to during the interview or focus group discussions held at your workplace.

With your permission the researcher would like to record the interview. This will make it easier for her to remember what was said during the interview as every bit of information is very important.

Will you benefit from taking part in this research?

There are no direct benefits to you for participating in this study, but with your help, we hope to understand the workplace environment and the barriers, enablers, resources and support needed to support exclusive breastfeeding in the workplace.

Are there in risks involved in your taking part in this research?

There are no major risks or inconveniences if you decide to participate in the study. The time it will take for you to participate in this study might be seen as an inconvenience so please keep in mind that you will have to be willing to make time to do the interview.

If you do not agree to take part, what alternatives do you have?

You will not be disadvantaged if you choose not to take part in this study.

Who will have access to your medical records?

Your medical records are not applicable to this study therefore no one will have access to them.

What will happen in the unlikely event of some form injury occurring as a direct result of your taking part in this research study?

No injury could occur as a direct result of you taking part in this study.

Will you be paid to take part in this study and are there any costs involved?

You will not receive any money for participating and participation will also not cost you anything.

Is there anything else that you should know or do?

The information you share with the researcher during the interview will be kept confidential.

The recordings of the interviews will be destroyed after the study has been completed and the findings have been written up. The recordings will be locked away in the researcher's office at Stellenbosch University's Medical Campus and stored on a password protected computer until she has completed the study.

Your name will be removed from all the documents to make the information anonymous and to make sure no one knows who the person is who provided the information.

The information will be presented at meetings and published so that the information can be useful to others, but no names or other personal information will be presented.

You can contact the Health Research Ethics Committee at 021-938 9207 if you have any concerns or complaints that have not been adequately addressed by the researcher. You will receive a copy of this information and consent form for your own records.

Declaration by participant

By signing below, I, _____ (full name of participant) agree to take part in a research study entitled **"**Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district"

I declare that:

I have read or had read to me this information and consent form and it was explained to me in a language I am fluent and comfortable.

I have had a chance to ask questions and all my questions have been adequately answered.

I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.

I understand that I may choose to leave the study at any time and will not be penalised.

I understand that I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests.

I understand that all personal identifiers, like my name, will be removed from the study documents and I give the researcher permission to publish the findings of this study.

Signed at (place) _____ on (date) _____.

_____ _____

Signature of Participant **Signature of Witness**

Permission for recording of the interview

By signing below, I, _____ (full name of participant) give the researcher permission to audio-record the interview.

Signed at (place) _____ on (date) _____.

_____ _____

Signature of Participant **Signature of Witness**

Declaration by the Investigator

I _____, declare that I have explained the

(Print researcher name)

information given in this document to _____.

(Print participant name)

He/She was encouraged and given ample time to ask me questions. Conversation was

conducted in Afrikaans/English/Xhosa/Other language_____

(Print language)

Signed at _____ on _____

(Place) (Date)

_____ _____

Signature of Investigator **Signature of Witness**

Declaration by interpreter

I (name) ..... declare that:

I assisted the investigator (name) ..... to explain the information in this document to (name of participant) ..... using the language medium of Xhosa.

We encouraged him/her to ask questions and took adequate time to answer them.

I conveyed a factually correct version of what was related to me.

I am satisfied that the participant fully understands the content of this informed consent document and has had all his/her question satisfactorily answered.

Signed at (place) ..... on (date) ……..……..

Signature of interpreter **Signature of witness**

ADDENDUM W: DEMOGRAPHIC INFORMATION SHEET PHASES 2 AND 3

DEMOGRAPHIC INFORMATION:

COMPANY CODE: _____

INSTRUCTIONS:
a) Please answer all of the questions.
b) Please complete the questionnaire below by ticking the appropriate box or writing the answer in the space provided.

Date (dd/mm/yyyy): _____

DEMOGRAPHIC INFORMATION:

1) Age in years: _____

2) Gender:
- ☐ Male
- ☐ Female

3) Ethnicity:

- ☐ White
- ☐ Coloured
- ☐ Black
- ☐ Indian
- ☐ Other _____

4) Do you have children of your own?: ☐ Yes ☐ No

5) Do you have grandchildren? ☐ Yes ☐ No

6) Have you ever breastfed Before? ☐ Yes ☐ No ☐ Not applicable

7) Position at your workplace: _____

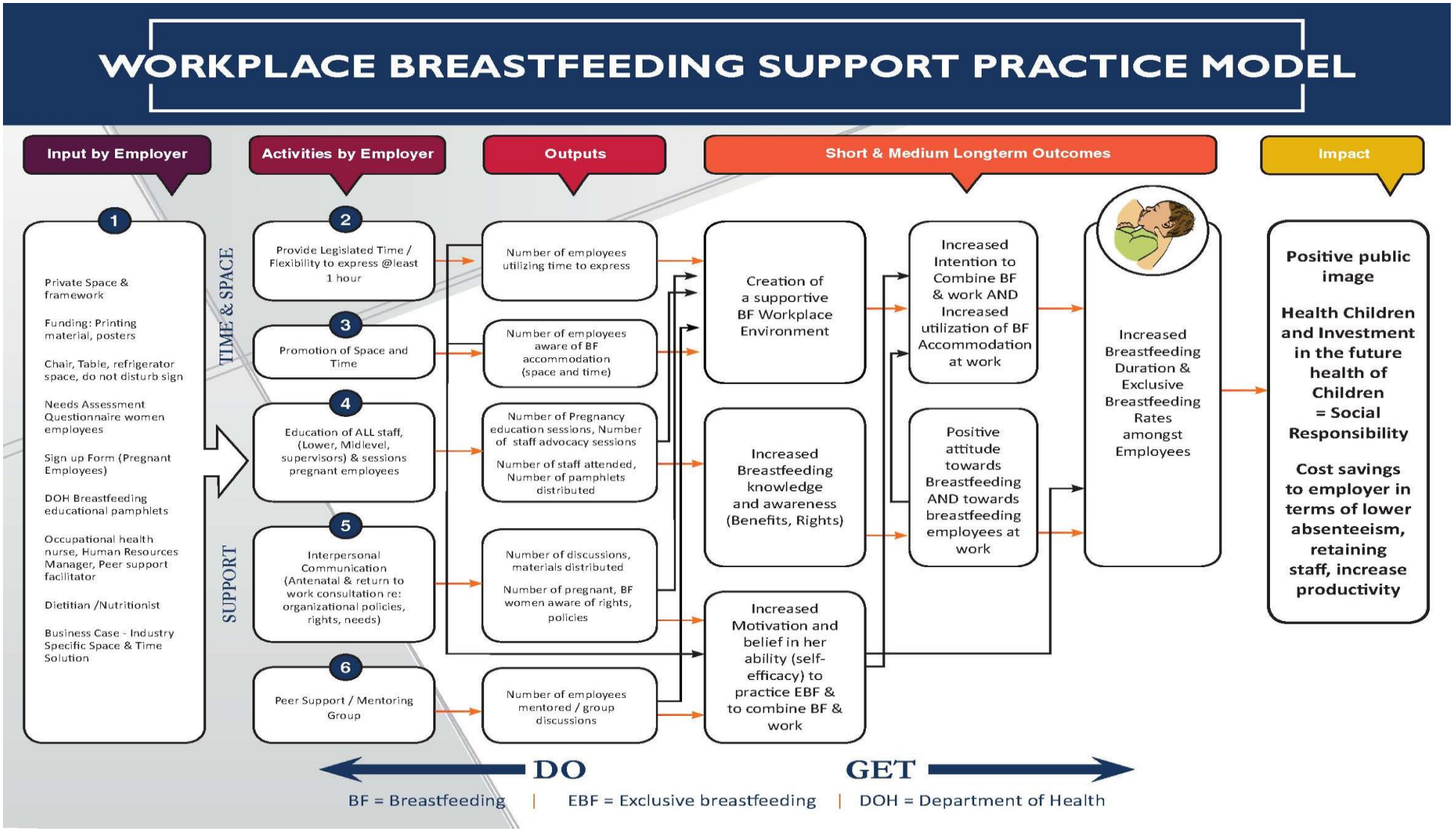
ADDENDUM X: FOOD GIFT CARD REGISTER

Phase 2: Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district, Western Cape Province, South Africa

FOOD GIFT CARD REGISTER

	Date	Location	Voucher No	Researcher/assistant Signature	Participant Signature
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

ADDENDUM Y: FIRST VERSION OF PRACTICE MODEL



WORKPLACE BREASTFEEDING SUPPORT PRACTICE MODEL

1	• **Basic Guidelines/ Standards for a Breastfeeding Room:**
	  o Can be permanent or flexible space solutions (e.g office space, retail changing room, conference room)
	  o Permanent space Ideal size: Minimum of 2.1m x 2.1m
	  o Comfortable, clean environment
	  o Comfortable chair and small table with a lockable door
	  o Breastfeeding Room Signage / Knock before you enter/ Do not disturb signage
	  o Close proximity to a sink
	  o Should have an electrical outlet
	  o Waste basket and hand paper towel
	  o Availability of refrigerator space for milk storage
	• Business Case for Breastfeeding. The website https://www.womenshealth.gov/breastfeeding/employer-solutions/industry.html provides guidelines for any industry setting to overcome space and time challenges
	• The Western Cape Department of Health website https://www.westerncape.gov.za/general-publication/first-1-000-days-campaign is available to access the Department of Health breastfeeding educational materials: First few days, expressing, cup feeding pamphlets to use during education sessions, peer support and internal communication
	• The National Department of Health website: http://www.health.gov.za/index.php/shortcodes/2015-03-29-10-42-47/2015-04-30-09-10-23/2015-04-30-09-11-35/category/465-nutrition has a breastfeeding in the workplace booklet for employers and employees which provides information relating to setting up a breastfeeding room, women`s breastfeeding rights in the workplace, a template of a workplace breastfeeding policy, guiding steps to become a breastfeeding friendly workplace and a developed do not disturb signage and breastfeeding friendly workplace signage. A breastfeeding poster, breastfeeding questions and answer booklet and breastfeeding support sticker is also available for download.
	• South African appropriate Breastfeeding Health education videos and printed material are available in 3 languages (Afrikaans, English and isiXhosa) for mothers at the following website: https://100percentbreastfed.co.za/
	• Funding will be required for printing material, pamphlets and posters
	• Human Resources Manager or occupational health nurse (if available) to initiate and drive process as part of staff wellness
	• A basic once off needs assessment amongst women employees using standard form needs to be conducted (if space/ time is made available will you use it? what are your needs to make our workplace more comfortable for breastfeeding employees at work)
	• Any pregnant employee that is interested, can sign up with the Human Resources Manager for taking part in antenatal education sessions that focus on the importance of breastfeeding and breastfeeding management and myths

2	According to the section 87 (1) (b)Basic Conditions of Employment Act, Code of Good Practice on the Protection of Employees during Pregnancy and After the Birth of a Child, 5.13 states that arrangements should be made for employees who are breast-feeding to have breaks of 30 minutes twice per day for breast-feeding or expressing milk each working day for the first six months of the child's life. This time is over and above the employee's lunch and tea time Website: http://www.labour.gov.za/DOL/downloads/legislation/Codes%20of%20Good%20Practice/basic-condition/Code%20of%20Good%20Practice%20Basic%20Conditions%20of%20Employment%20and%20Pregnancy.doc/view
3	The **promotion of the available space and time** and the benefits of it can be communicated at meetings, using poster signage on workplace noticeboards, distributing leaflets, shop stewards can discuss at meetings and Human Resources Managers can discuss this in addition to the employee's maternity leave benefits
4	**Education of ALL:** Use infographic material (printed material and videos) during educational sessions. Involve and consult community health workers, occupational health nurses, dietitians/nutritionist in the area to assist with education on a needs basis. Short education sessions can be presented during lunch and learn sessions. Education increases knowledge and general belief of the benefits and advantages of breastfeeding and increases belief in breastfeeding support and will foster favorable attitudes towards breastfeeding
5	**Internal communication** by Human Resources Managers, supervisors, occupational health nurses during pregnancy and return from maternity leave regarding their needs, available resources, organizational policies and their rights
6	**Peer Support:** Can be formal with monthly discussions in lunch break or informally by linking and connecting new mothers with mothers that could successfully combine breastfeeding and work. Names and contact details of community breastfeeding support groups or persons can be made available on workplace noticeboards

ADDENDUM Z: COVER LETTER EXPERT PANEL MEMBERS

30 August 2018

Dear Expert Member

I am Lynette Daniels, a registered PhD Nutritional Sciences student from the Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University. I am conducting a research study entitled: "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district, Western Cape, South Africa" (Ethics Reference number: S17/04/089).

The aim of this study is to develop a practice model to support exclusive breastfeeding (EBF) in designated workplaces (i.e. employers who employ more than 50 employees). To meet the proposed study aim, the following objectives have been set:

1. To assess current breastfeeding support practices in designated workplaces
2. To explore employers' and employees' experiences and perceptions regarding breastfeeding support in the workplace
3. To explore the experiences of employed mothers who exclusively or predominantly breastfed their children from birth for any period up to 6 months
4. To develop and validate a practice model to support EBF in designated workplaces by drawing on results from the research

Objectives 1 to 3 have been completed and forms part of phase 1 and 2 of the study. I am writing to you to ask for your participation in the study as an expert reviewer for the developed model (objective 4). The model was developed using data from phase 1 and 2.

The process will involve 2 rounds of expert feedback and input. Round one will entail completing a questionnaire relating to the developed model. Round two will be based on round 1 inputs and will involve a rating / ranking technique to reach consensus on the elements and connections of the developed model.

Should any further information be required, please feel free to contact me on 021 938 9176 (work); 082 513 6409 (cell) or ldaniels@sun.ac.za (email).

After I have received your feedback in this regard and received the feedback of the other expert panel members, I will be sending an email with all the relevant documentation (Informed consent form, questionnaire etc) and instructions.

Kind Regards

Signed:

Lynette Daniels, Principle Investigator

Signed: 

Prof XG Mbhenyane, Promoter & Research Chair

ADDENDUM AA: EXPERT PANEL MEMBER CONFIDENTIALITY AGREEMENT

Confidentiality Agreement

It is understood that the draft practice model is provided to me as a member of a group of experts in the fields of nutrition, breastfeeding, and organizational development and behaviour for the PhD research project titled "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley sub- district, Western Cape Province, South Africa."

To ensure the protection of developed practice model it is agreed that:

I will not disclose the model to anyone until the researcher gives me permission to do so.

I acknowledge that I have read and understand this agreement and voluntarily accept the duties and obligations set forth herein.

Name and Surname: _____

Signature: _____

Date: _____

The researcher commits to not disclose your details. Your name is required for the sole purpose of the process, which has round 1 and 2.

ADDENDUM AB: EXPERT PANEL MEMBERS INFORMED CONSENT FORM

EXPERT MEMBER INFORMATION LEAFLET AND CONSENT FORM

TITLE OF THE RESEARCH PROJECT: "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district"

REFERENCE NUMBER: S17/04/089

PRINCIPAL INVESTIGATOR: L Daniels

ADDRESS: Tygerberg Medical Campus, Francie van Zijl Drive, Stellenbosch University, Parow, Cape Town, 7505

CONTACT NUMBER: 021-938 9259

You are invited to participate in the study "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district" The study is being carried out by me, Ms Lynette Daniels. I am a PhD candidate in the Division of Human Nutrition, Faculty of Medicine and Health Sciences at Stellenbosch University.

This study has been approved by the Health Research Ethics Committee at Stellenbosch University and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

Please take some time to read the information explaining the details of this study as well as what will be expected of you if you agree to participate. Please feel free to ask any questions about any part of this study that you do not understand. Please also keep in mind that you are in no way being forced to participate. It is completely your decision and whatever you decide will be respected.

Also, taking part in this study is entirely voluntary, which means that you do not have to take part if you do not want to. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

What is this research study all about?

The aim of the study is to develop and validate a practice model for designated workplaces (i.e who employees more than 50 employees) in the Breede Valley sub - district. The model will provide

workplaces with a practical framework to support mothers in the workplace, to increase their breastfeeding duration and exclusive breastfeeding rates.

Why have you been invited to participate?

You have been invited to be part of this study as an expert panel member in breastfeeding or infant feeding, human resource management and /or organizational psychology, behaviour or development, with the aim to review the developed practice model.

What will your responsibilities be?

You will be expected to participant in two rounds of comments and input on the developed practice model.

Will you benefit from taking part in this research?

You will not benefit directly from taking part in this study. However, with your participation we aim to refine the developed practice model for breastfeeding support in the workplace and provide workplaces with a practical framework to support breastfeeding mothers at work.

Are there in risks involved in your taking part in this research?

There are no risks involved. The time it will take for you to participate in this study might be seen as an inconvenience so please keep in mind that you will have to be willing to make time to review the developed model and provide input.

If you do not agree to take part, what alternatives do you have?

You will not be disadvantaged if you choose not to take part in this study.

What will happen in the unlikely event of some form injury occurring as a direct result of your taking part in this research study?

No injury could occur as a direct result of you taking part in this study.

Will you be paid to take part in this study and are there any costs involved?

No, you will not be paid to take part in the study. There will be no costs involved for you, if you do take part.

Is there anything else that you should know or do?

All collected information will be strictly confidential and will remain anonymous, so no names or other personal information will be presented

Your name will be removed from all the documents to make the information anonymous and to make sure no one knows who the person is who provided the information.

The researcher will be happy to answer any questions you have about this study. If you have any further questions about this study, you may contact, Ms Lynette Daniels, at 021 938 9176 or 082 513 6409. If you have any questions concerning your rights as a participant in this study, you may contact the Stellenbosch University Health Research Ethics Committee at 021 938 9207. You will receive a copy of this information and consent form for your own records.

Declaration by participant

By signing below, I …….. agree to take part in a research study entitled *"Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district"*

I declare that:

I have read or had read to me this information and consent form and it is written in a language which I am fluent and comfortable.

I have had a chance to ask questions and all my questions have been adequately answered.

I understand that taking part in this study is voluntary and I have not been pressurised to take part.

I may choose to leave the study at any time and nothing bad will happen to me. I will not be discriminated against in any way.

Signed at (*place*) ..... on (*date*) …….. 2018.

SIGNATURE OF PARTICIPANT **SIGNATURE OF WITNESS**

ADDENDUM AC: ROUND ONE INTRODUCTION DOCUMENT

Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley sub- district, Western Cape Province, South Africa

PHASE 3: MODEL DEVELOPMENT

Introduction

The aim of the study is to develop and validate a practice model to support exclusive breastfeeding in designated workplaces (i.e employs more than 50 employees) in the Breede Valley sub district. The researcher employed the methodology of combining programme theory and program logic models, reviewing the evidence base knowledge, conducting an online survey with human resource managers and company managers/directors to gather baseline information of breastfeeding support practices (phase 1) and conducting focus group discussions with employees, middle managers and employed breastfeeding mothers and in-depth interviews with senior level managers (phase 2) to draft the practice model.

The findings of phase 1 and 2 were interpreted and main issues out of each phase were highlighted for inclusion in the model.

- Phase one, the online survey revealed that supportive practices in workplaces were limited and not adequate. Providing a private space for breastmilk expressing and having a written breastfeeding policy was an uncommon practice, especially at private workplaces. The provision of breastfeeding time, promotion of breastfeeding amongst the employees were also not commonly practiced, although the breastfeeding time is legislated according to the Basics Conditions of Employment Act, Code of Good Practice on the Protection of Employees during Pregnancy and After the Birth of a Child Section 5.13. The reasons given for not providing time ranged mostly from no request from employees and that they were not aware that it is mandatory that the time should be provided, as well as time pressures. Needs identified by managers related to a space regulatory framework, communication, education and information. From phase 1 of the study the following issues will be taken up in the practice model: provision of breastfeeding time and private space, education and communication.
- Phase two of the study revealed providing private space and time for expressing breastmilk at work as major challenges for women returning to work. The lack of communication with employees from the employer regarding their needs and available policies after returning

from maternity leave as well as unsupportive attitudes from staff and co – workers were highlighted. The managers expressed that request for breastfeeding support at the workplace were rarely received and that employees don't express their needs due to a lack of promotion of breastfeeding rights at the workplace and lack of breastfeeding knowledge amongst others. The employed mothers who successfully combined breastfeeding and work had a strong belief in the benefits of breastfeeding and this motivated them to continue and combine breastfeeding and work. Therefore, the provision and promotion of breastfeeding time and space as well as communication (conducting a return to work consultation after maternity leave) will be included in the practice model. Addressing the unsupportive attitudes and to increase the belief in breastfeeding amongst employees by increasing the knowledge of the benefits of breastfeeding and breastfeeding rights through education as well as conducting a needs assessment amongst women to assist managers with planning and coordination will also be taken up in the practice model.

The researcher conducted a critical review of the literature in the field of breastfeeding support interventions and breastfeeding outcomes. By reviewing the literature, the researcher could explain the underlying linkages and seek the evidence of the change mechanism that would lead to improved breastfeeding duration and exclusive breastfeeding rates amongst employees. This process involved continuously moving between the theory and practice to develop the practice model programme theory.

The practice model programme theory is described as follows: if workplaces provide a supportive/enabling breastfeeding environment in terms of space, time and support (education, peer support, communication, policies) then it will increase employees breastfeeding knowledge, foster positive favourable attitude towards breastfeeding and breastfeeding employees, increase motivation and self-efficacy to combine breastfeeding and work, increase intention to combine breastfeeding and work and lead to the increase utilization of available breastfeeding accommodation which, will ultimately increase breastfeeding duration and exclusive breastfeeding rates amongst employees.

The practice model programme theory for increased breastfeeding duration and exclusivity rates relies on working mother`s attitude towards breastfeeding and the uptake of the available breastfeeding accommodation (space and time) at the workplace. The uptake of the available breastfeeding accommodation then again depends on a working mother's intention to combine breastfeeding and work. Intention is then again influenced by:

- At an individual level, the working mother's belief in her ability to successfully combine breastfeeding and work (self-efficacy) and her motivation to do so = control belief
- At an individual level, the working mother`s attitude towards breastfeeding and increased breastfeeding duration = behavioural belief,
- At the interpersonal level, the support she receives from workplace supervisors, peers and co-workers = referent belief

The Practice Model programme theory is based on The Theory of Planned Behaviour (TPB) by Azjen, 1988; 2001b which states that 3 categories of beliefs guide human action-oriented behaviours:

  - the outcomes of performing the behaviour **(behavioural beliefs** – (what you feel, think and importance of the behaviour = **attitude**),
  - the expectations of significant others (peers, supervisors) in relation to the behaviour (**referent beliefs**, how others view the behaviour = **subjective norm**) and
  - the presence of factors that facilitate or hinder the behaviour (**control beliefs** = **perceived behavioural control**)

- Behavioural beliefs produce a favorable or unfavorable attitude toward the behaviour; referent beliefs result in subjective norm (felt social pressure to act); and control beliefs gives rise to perceived behavioural control (perceived to have the resources available to practice the behaviour).
- The TPB recognizes that intention is affected by the attitude, subjective norm and perceived behavioural control. Also, the TPB recognizes intention and perceived behavioural control as immediate determinants of behavior, which in this case relates to increased breastfeeding duration and exclusivity rates. Perceived behavioural control not only affect actual behaviour directly, but also affect it indirectly through behavioural intention.
- These three belief constructs (control belief, referent belief and behavioural belief) are embedded within the practice model
- Then additionally the theory displays the extended TPB for Breastfeeding (TPB – BrF) for women employed more than half time by Duckett et al (1998), which further elaborate on the TPB by stating that both behavioural intention and attitudes are the most important determinant of behaviour (Increased breastfeeding duration).

Refer to the attached practice model annexure.

The Practice Model depicts a visual representation of the programme theory which flows from left to right, starting with the model inputs and activities that must be provided by the employer. In keeping with the Mother Friendly Workplace Initiative by World Alliance for Breastfeeding Action (WABA) the activities depicted in the practice model span the elements of Time, Space and Support. Action across all 3 elements is important to improve breastfeeding duration amongst employees. These activities are presumed to lead to short-term, early changes, which in turn set in motion changes in the medium term, which are expected to result in the long-term outcome as indicated. The practice model is supported by an additional information sheet relating to the inputs and activities that the workplace must provide and provides the workplaces with additional resources to utilize. The developed practice model is dynamic and must be viewed as a practical framework for workplaces that want to support breastfeeding employees. It is believed that the greater degree of support elements (interpersonal communication, education, peer support) implemented the greater the resultant outcome will be.

The framing of the practice model to employers and communicating the knowledge and evidence for advocacy sessions with senior managers will focus mainly on the ultimate intended impact of the model namely an investment in the future health of children (= social responsibility), the creation of a positive company public image and being a cost saving for the employer in terms of lower absenteeism rates, retaining staff and increased staff productivity and loyalty. The advocacy sessions for employees will focus on the health and development benefits for the child and the contribution to a healthier, smarter society.

The practice model for increased breastfeeding duration and exclusivity rates should be accompanied by the following critical factors.

- Commitment to providing the input and activities within the workplace
- Strong leadership in the workplace to create enabling conditions
- Effective planning and coordination to create flexibility in the breastfeeding employees schedule
- Intersectoral collaboration must occur between workplaces and Department of Health nutrition officials to obtain educational materials and share expertise
- Adequate resources and capacity are available to create a private space
- Experienced breastfeeding employees and /or occupational health nurses is able to facilitate peer support

- Human Resource managers, occupational health nurses and managers are able to engage in interpersonal communication with employees
- Breastfeeding misconceptions must be addressed in the workplace environment
- Advocacy relating to the developed practice model in workplaces will address the lack of support for breastfeeding in workplaces

ADDENDUM AD: ROUND ONE DELPHI QUESTIONNAIRE

"Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley sub- district, Western Cape Province, South Africa."

BACKGROUND INFORMATION:

Please familiarise yourself with the aim and objectives of this phase of the research study in the "protocol synopsis" and reviewing the introduction document before commencing with the first round.

PHASE THREE: Experts ROUND ONE

In this round you are required to evaluate and provide comments on the developed practice model according to the following factors:

- Inputs
- Activities
- Output
- Outcomes (short, medium, long-term)
- The linkages /connections between inputs, activities, outputs and outcomes
- Strengths
- Weaknesses
- Achievability / Realistic to implement
- Challenges
- Design, use of wording etc

You will also be given the opportunity to make recommendations to improve the draft practice model. After Round one, the researcher will conduct content analysis on the data collected and draw up a questionnaire for round two using rating /ranking technique.

The goal of the practice model is to increase the breastfeeding duration and exclusive breastfeeding rates amongst employees by creating enabling workplace conditions for breastfeeding. The outcomes to achieve through the practice model:

- Creation of a supportive breastfeeding workplace environment
- Increase mother`s motivation, perceived self -efficacy and intention to combine breastfeeding and work
- Increase the knowledge and awareness of employees (including pregnant women and new mothers) regarding the benefits of breastfeeding, workplace breastfeeding support and breastfeeding rights
- Foster supportive and favourable attitudes of employees towards breastfeeding and breastfeeding employees

Taking into consideration the feedback provided of phase 1 and 2 analysis of the study, comment on the content of the following elements of the draft practice model.

	Comments
Inputs	
Activities	
Outputs	
Outcomes and overall goal ((clear /understandable/realistic)	
Comment whether the model make appropriate connections between inputs, activities, outputs and outcomes	
Strengths	

Weaknesses	
Achievable	
Challenges you foresee with implementation of the Practice Model	
Understanding of the model for workplace managers	
Overall Design	
Use of colours in the practice model	
Use of wording in the practice model	

Comment on the guidelines attached to the practice model	
General Recommendations and Improvements	

Thank you for reviewing the practice model.

Please return the completed form to the researcher by the 17 September 2018

ADDENDUM AE: SUMMARY OF FEEDBACK AFTER ROUND ONE

Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley sub- district, Western Cape Province, South Africa.

SUMMARY OF FEEDBACK AFTER ROUND 1

Dear Expert Panel Member

Thank you for participating in round one. I appreciate the feedback received on the developed practice model. Below, please find a short summary of the feedback from the full group of expert panel members, followed by amendments made to the practice model, which may or may not influence your ratings in round two.

ROUND ONE: SUMMARY OF RESPONSES

- Report abbreviations consistently.
- Changes to grammar, reviewing capitalisation of words in the model, inclusion of words and further clarification of items e.g. explanation of how long time will be allowed. Change word for lower mid-level supervisors, highlight certain words within the model, change the order under impact, placing positive image last.
- Font size in information sheet too small. Too much information; must be clear and concise
- Include more images in the model (x2).
- All indicated good and appropriate overall design.
- Most were happy with the use of colour. One comment was that red and deep orange is usually associated with HIV/AIDS and danger and a suggestion was made to use shades of green or blue colours.
- Indicate additional information e.g. that the model was developed based on research conducted in the Breede Valley Sub-district (i.e. to provide some context) and for whom the model is relevant for.
- Order items discussed under point 1 of the information sheet, in the order as it appears in the practice model inputs.
- Consider more explanatory notes on page 2 and expand the information sheet to 2 pages.
- Consider inclusion of estimated / sample budget, costing of items needed under input x 2
- Add reputable social media support for breastfeeding mothers under the information sheet (number 6).
- Include more aspects relating to the breastfeeding room standards on page 2: proximity to employee`s workplace, screens/blinds at windows, ventilation, occupational health and safety aspects, creation of scheduling for the room depending on the number of pregnancies. Referencing the listed information.
- Market the model as a staff wellness programme, service benefit, work life integration practice.

INPUTS:

- Lack of skilled lactation support people. Include a lactation consultant, peer to peer La Leche League Leaders (LLLL) as an input. Include trade union shop stewards as an input as it was mentioned on page 2.
- Include funding for service of a lactation consultant under input x 1.
- Include and identify a workplace champion x 4.
- Each company needs a breastfeeding policy which is communicated to all employees x 1
- Not imperative for the employer to engage a dietitian / nutritionist as this over-professionalizes breastfeeding support. Peer breastfeeding-counsellors or a wellness management could offer service on a need-basis.
- Providing of a refrigerator is not a necessity.

OUTPUTS:

- No assessment/ questionnaire or feedback mechanism listed for breastfeeding mothers and employers to comment on the changes put in place.
- Question: Will outputs be monitored?
- Question: Will the outputs be related to the number/ percentage of mothers with infants (under 6, 9 or 12 months?) that use the facility?

ACTIVITIES:

- Activities should not be linked to compliance issues like allowing moms their flexi-time or their 30min x 2 for breastfeeding breaks. X1.
- Indicate activities with a legal obligation with a different colour.
- Indicate activities that will be quicker to implement and those that will take more time.
- Change peer support activities as facilitation or referral to peer support.
- Question: Is it feasible to ask employer to facilitate peer support in the work place? x2. Women can access this service in the public and private health care service, NGO sector like La Leche League or community-based breastfeeding support groups.
- Need clarity on who is responsible for the peer support/mentoring.
- Consider providing some lactation support during maternity leave when breastfeeding problems arise and expert help is required.
- Model should be institutionalised as part of Work-life Integration practices, rather than “staff wellness” x1.
- Explicitly mention men and fathers within the model description.
- Explain what is meant by promotion.

OUTCOMES:

- Benefits for the workplace does not come through x 2. Consider more immediate incentive for the workplace within the model.
- Add something that positions workplace support of breastfeeding within ‘employee wellness programmes’ might improve the understanding of the model by workplace managers – that they see this as one of their employee wellness programmes. This is briefly mentioned on page 2 (guidelines) but I think it should also appear somewhere on page 1 as part of the model / diagram.

Participants raised some questions and concerns and, in some instances, recommended solutions for the challenges.

- Not clear who will motivate /mentor mothers and employers? ~Who will facilitate mentoring groups and / or peer support? Do they have specific training in breastfeeding? ~Who will be doing the "education" of all staff? ~Who will run the sessions with pregnant employees?
- Is it realistic to expect the employer to provide antenatal education and peer support? May be better to recommend providing time for women to attend antenatal visits.
- How will sustainability of programme be achieved?
- How will programme be monitored? Will monitoring and relevant forms be provided? If monitoring is suggested, maybe a simple monitoring form could be developed.
- Who will train the human resources manager, occupational health nurse, peer facilitator? Those that provide the support and education must be adequately trained
- if I look at the final long-term outcome, which is "Increased Breastfeeding Duration & Exclusive Breastfeeding Rates amongst Employees", then my opinion is that also including some of the other aspects of maternity protection could support this outcome. For example, ensuring that women are allocated sufficient maternity leave with some form of cash benefit and then if it does not come from the company then the company should assist the mother to apply for UIF compensation – should this form part of the model?
- Are you assuming that you have management buy-in, to start with?
- Concern is that this initiative will end up being something that employers are "just doing". No feedback on the impact (programme evaluation)
- Could there be a tiered approach to implementation? If a company can't implement all of the recommendations, what are the most important and / or what should be done first?
- Unclear if this means that the model is only intended to improve exclusive breastfeeding (up to 6 months) rates or also to improve continued breastfeeding to two years and beyond. One of the long-term outcomes of the model is to increase breastfeeding duration – is that intended to be only in the first 6 months or is it intended to extend beyond that?
- A naïve HR manager, could go along with promoting this, but not aware of R991. There needs to be some kind of oversight; whose responsibility would that be?
- It would be good to break these down in some specificity to show the minimal cost and effort involved.

The comments and inputs received from the expert panel members were addressed as far as possible. A summary of the amendments made can be seen below.

AMENDMENTS MADE TO THE PRACTICE MODEL

INPUTS

- Deleted dietitians/nutritionist, occupational health nurses and inclusion of trade union shop stewards, lactation consultants and breastfeeding counsellors.
- Included funds for a lactation consultant.
- Included the identification of a workplace breastfeeding champion and training of the workplace champion.

- Items listed for the lactation room e.g. chair, table were removed and covered under the theme name of space resources.
- Other international toolkit resources were added.
- Inclusion of the text *"Compliant to Regulations 991"* were added as a footnote to the education material, 100 percent breastfed videos input.

ACTIVITIES

- Some activities are linked to legislation and compliance issue. The heading was adjusted to read responsibilities /activities by employer. These items linked to legislation were highlighted in blue and it was also indicated in text as *"legal obligation to provide".*
- The period for how long the legislated breastfeeding time should be provided was added "until the child is 6 months old".
- The provision of antenatal education sessions to pregnant employees by the employer was removed and changed to the provision of time for pregnant women to attend antenatal clinics /visits.
- Peer support and mentoring group was changed to state facilitation or referral to peer support group or mentor.
- Adding the legislated activity of "provision of maternity leave for four months"
- Explicitly named men under the Education that should be provided. Changed the wording lower and mid-level staff to ALL male and female staff at all levels of the organization.

OUTPUTS

- Feedback mechanism for breastfeeding mothers was added

OUTCOMES

- Added decreased absenteeism as a long-term outcome.
- Added increased morale and improved staff wellness and better work life integration practice as a long-term outcome.

GENERAL

- More images were included under impact.
- Some word under the outcomes were made bold.
- The orange and red colours used were changed to green/blue shading.
- "Developed by: LC Daniels et al" was added on all pages.

INFORMATION SHEET

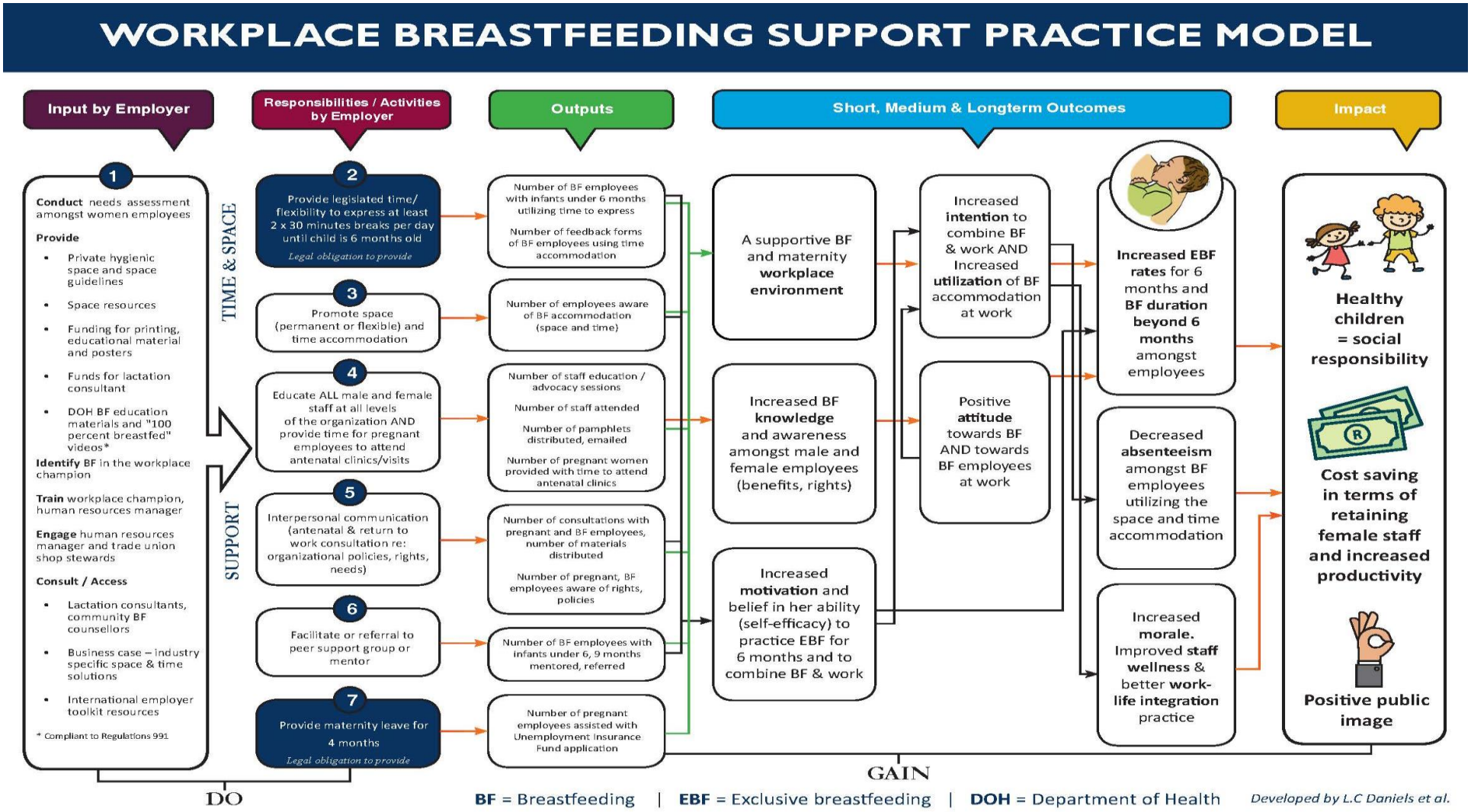
- Included a brief introduction covering aspects like, for who the model was developed, issues of monitoring the activities, indicating which activities would be easier to implement etc.
- Details of professional breastfeeding support was included. The website of La Leche League Leaders and lactation consultants were added.
- The link to the South African Regulations 991 pertaining to the marketing of breastmilk substitutes was added.

- Added more information relating to the space that needs to be provided e.g. safe environment, rooms should be well ventilated, close proximity to mother`s workplace or office
- The resources for the breastfeeding room were divided into two boxes of “essential list” and “desirable list”. Reference for the breastfeeding room list was included.
- Resources from the International Labor Organization were added.
- Added reputable social media resources under activity 6.
- Added the relevant information for the added activity 7 “Provision of maternity leave for 4 months”.
- Added a note that activity 2 and 7 has a legal obligation to provide.

Signed:

Lynette Daniels, Principle Investigator

ADDENDUM AF: SECOND VERSION OF PRACTICE MODEL



WORKPLACE BREASTFEEDING SUPPORT PRACTICE MODEL

- The model was developed as part of a PhD research study, based on a mixed method approach.[1]
- The model is relevant for workplaces that employ more than 50 employees (designated workplaces) and is applicable to all permanent, contract and part time employees at designated workplaces. Smaller workplaces can, however, adopt or adapt aspects of the practice model.
- If employers are not able to implement all the listed activities from the start, piloting a few activities should be considered.
- Activity 2, 3, 5 and 7 are considered easier / quicker to implemented, while activity number 4 and 6 might require more time to plan, co-ordinate, gain relevant information and implement.
- It is important that the listed activities and outputs be monitored by the organization.
- The provision of workplace breastfeeding support facilities should form part of a service benefit of the organization and should be marketed as an employee-value proposition.
- The practice model must be established and viewed as part of an employee work-life balance/integration practice.
- Strong leadership, planning and co-ordination, strong engagement and intersectoral collaboration will be required within these workplaces, as critical elements for the implementation of the practice model.

1

- A basic, once-off needs assessment should be conducted amongst women employees. This will assist management with planning on how to address the reported needs.
- The breastfeeding room can be a permanent or flexible space solution (e.g. office space, retail changing room, conference room). A walled-off corner can be constructed to enclose a smaller space in a bigger room.
- Permanent space Ideal size: minimum of 2.1m x 2.1m.[2] Close proximity to mother`s workplace or office, safe environment, clear from dangerous waste products and chemicals. Room must be well ventilated with screens/ blinds/curtains where there are windows to ensure privacy.
- The room can be basic or advanced, based on the workplace resources and staff needs.

- **Essential list for a breastfeeding room[3]:**
  - Clean, private lockable room
  - Comfortable chair and small table
  - Cool storage: e.g. personal cooler bag or box or use public refrigerator for milk storage
  - "Lactation room" / "Knock before you enter" signage
  - Close proximity to a sink
  - Electrical outlet
  - Waste bin
  - Disinfectant wipes (mother can provide for themselves)
  - DOH printed educational resources

- **Desirable list for a breastfeeding room[3]:**
  - Clean, private lockable room
  - Comfortable chair and small table
  - Cool storage: e.g. employer provide small refrigerator for milk storage
  - "Lactation room" / "Knock before you enter" signage
  - Room has a washbasin with clean running water and soap
  - Electrical outlet
  - Waste bin
  - Disinfectant wipes (mother can provide for themselves)
  - DOH printed educational resources
  - Scheduling system or communication paper outside the door

[1] Daniels, LC et al. Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley sub- district, Western Cape Province, South Africa.

[2] AIA best practices Lactation/Wellness Room Design. Website: http://www.cphi.upenn.edu/assets/usercontent/documents/0908_Lactation%20Room_English.pdf

[3] National Business Group on Health by Center for Prevention and Health Services. Investing in Workplace Breastfeeding Programs and Policies (An Employers Toolkit) https://www.businessgrouphealth.org/pub/?id=f2ffe4f0-2354-d714-5136-79a21e9327ed

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- Funding will be required for printing material, pamphlets and posters. Funding for the service of a lactation consultant can also be considered.
- Funding for the initial startup phase will be needed for the service of a lactation consultant who can work with the organization. They can assist with training and provide focused input for the identification of a workplace breastfeeding champion/ peer support facilitator, identification of suitable space solution and provide guidance to the human resources manager and company management. They can also assist with the initial education sessions of ALL male and female staff within the organization and set up guidelines for the education sessions.
- The Western Cape Department of Health website https://www.westerncape.gov.za/general-publication/first-1-000-days-campaign is available to access the Department of Health breastfeeding educational materials for free: First few days, expressing, cup feeding pamphlets to use during education sessions, peer support and interpersonal communication sessions.
- The National Department of Health website: http://www.health.gov.za/index.php/shortcodes/2015-03-29-10-42-47/2015-04-30-09-10-23/2015-04-30-09-11-35/category/465-nutrition has a breastfeeding in the workplace booklet for employers and employees which provides information relating to setting up a breastfeeding room, women`s breastfeeding rights in the workplace, a template of a workplace breastfeeding policy, guiding steps to become a breastfeeding friendly workplace and a developed "do not disturb" signage and "breastfeeding friendly" workplace signage. A breastfeeding poster, breastfeeding questions and answer booklet and breastfeeding support sticker is also available for download.
- South African appropriate breastfeeding health education videos and printed material are available in three languages (Afrikaans, English and isiXhosa) for mothers at the following website: https://100percentbreastfed.co.za/
- Educational pamphlets could be emailed to employees (if service is available) and or printed.
- A breastfeeding in the workplace champion must be identified.
- The champion needs to be trained. The lactation consultant can train the identified champion and or human resources manager at the workplace to ensure the sustainability of the programme.
- Human resources manager or occupational health nurse (if available) should initiate the support process as part of the organization`s staff wellness programme. The human resources manager should consult the expertise of a lactation consultant, community La Leche League leaders or dietitians to initiate discussion on the topic and to collective start to plan implementation of the practice model activities.
- Trade union shop stewards should be included during discussions regarding the planning and implementation. They can assist with the communication and promotion of employee benefits and rights amongst employees.
- South Africa has recently established the association, Lactation Consultants of Southern- & Africa (LACSA) at www.lacsa.org.za if employers need to consult an expert in lactation management.
- La Leche League (LLL) leaders are experienced breastfeeding mothers, trained and accredited by LLL. A LLL leader can be found at https://www.lllsa.org/contact
- An employer`s toolkit, Investing in Workplace Breastfeeding Programs and Policies of the National Business Group on Health by Center for Prevention and Health Services is available at https://www.businessgrouphealth.org/pub/?id=f2ffe4f0-2354-d714-5136-79a21e9327ed Examples of employer assessment forms, feedback forms for breastfeeding employees and feedback forms for supervisors and colleagues of breastfeeding employees are available in chapter 8, which can be adapted according to need.
- The United States Department of Health and Human Services Office on Women`s Health, the business case for breastfeeding was designed as a toolkit with comprehensive resources to help employers create breastfeeding-friendly workplaces. The document, "Easy steps to supporting breastfeeding employees" provides human resources managers, members of the wellness team with an integrated approach to implementing a cost-effective lactation support program https://www.womenshealth. gov/files/documents/bcfb_easy-steps-to-supporting-breastfeeding-employees.pdf The business case for breastfeeding website https://www.womenshealth.gov/breastfeeding/employer-solutions/industry.htm also provides cost-effective time and space tips and solutions for any industry setting that workplaces can explore.
- The International Labor Organization website http://mprp.itcilo.org/allegati/en/m10.pdf has a module relating to: “Breastfeeding arrangements at work” which provides specific suggestions to employers regarding how to support breastfeeding in the workplace.

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2

*Section 87 (1) (b)Basic Conditions of Employment Act, Code of Good Practice on the protection of employees during pregnancy and after the birth of a child, 5.13 states that arrangements should be made for employees who are breastfeeding to have breaks of 30 minutes twice per day for breastfeeding or expressing milk each working day for the first six months of the child's life. This time is over and above the employee's lunch and tea time website: http://www.labour.gov.za/DOL/downloads/legislation/Codes%20of%20Good%20Practice/basic-condition/Code%20of%20Good%20Practice%20Basic%20Conditions%20of%20Employment%20and%20Pregnancy.doc/view

3

The **promotion and marketing of the available space and time** and the benefits thereof can be communicated at meetings, using poster signage on workplace noticeboards or distributing leaflets. Shop stewards can discuss the issue at meetings and human resources managers can discuss it in addition to the employee's maternity leave benefits.

4

Educate ALL male and female staff at all levels of the organization: Use only the printed DOH educational materials and the videos available from the 100 percent breastfed website (available free) during the education sessions. Any posters and educational materials must be compliant to the South African Regulations 991 related to the marketing of breastmilk substitutes. http://blogs.sun.ac.za/iplaw/files/2013/12/ZAF-2012-Regulations-relating-to-foodstuffs-for-infants-and-young-children-R.-No.-991-of-2012_0.pdf Involve and consult a lactation consultant, La Leche League leaders, primary health care antenatal nurses, trained community health workers, dietitians to assist with education on a need's basis. Short education sessions can be presented during lunch and learn sessions, however preferably during working hours.

Education increases knowledge and general belief of the benefits and advantages of breastfeeding, and this, in turn, increases the belief in breastfeeding support and will foster favorable attitudes towards breastfeeding. Topics for the education sessions should include: reasons to breastfeed, benefit of providing breastfeeding support for the employer, employee and society, basic breastfeeding techniques, the South African legislated breastfeeding break times, tips for balancing work and breastfeeding, along with proper practices for expressing and storing of human milk.

Along with the education session provided to ALL male and female staff, pregnant employees must be provided with time off to attend antenatal clinics and visits. During the antenatal visits, the mother will receive additional breastfeeding education from primary health care setting and this will also ensure that the health of the pregnant mother and her unborn baby is monitored routinely.

The Basic Conditions of Employment Act, Code of Good Practice on the protection of employees during pregnancy and after the birth of a child, 5.12 states that that "arrangements should be made for pregnant and breastfeeding employees to be able to attend antenatal and postnatal clinics as required during pregnancy and after birth." Website: http://www.labour.gov.za/DOL/downloads/legislation/Codes%20of%20Good%20Practice/basic-condition/Code%20of%20Good%20Practice%20Basic%20Conditions%20of%20Employment%20and%20Pregnancy.doc/view

5

Interpersonal communication by human resources managers, supervisors or occupational health nurses to mothers, during pregnancy and upon return from maternity leave regarding their needs, available workplace resources, organizational policies and their rights should be conducted.

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ADDENDUM AG: ROUND TWO DELPHI QUESTIONNAIRE

Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley sub- district, Western Cape Province, South Africa.

PHASE THREE: Experts ROUND TWO

Please review the summary of the expert members responses and the amended practice model prior to completing the questionnaire.

In this round you are required to re-evaluate the amended practice model and provide your feedback on the listed questions to clarify and reach consensus relating to aspects of the practice model and certain points raised by the expert panel members.

Rate the importance of including the following aspects as either inputs or activities within the practice model.

1 = Low/least importance 5 = High/ importance

	Rating	Comments
1. Inclusion and identification of a workplace champion		
2. Funding for the service of a lactation consultant as an initial input		
3. Inclusion of a breastfeeding policy under inputs that are routinely communicated		
4. Training of the champion and human resources manager by an accredited lactation consultant		
5. Education to ALL male and female staff within the organization at all levels of the organization		
6. Provision of time by the workplace for the pregnant women to attend antenatal visits /classes		
7. Promotion and marketing of space and time accommodation		
8. Interpersonal communication during pregnancy and after return from maternity leave		

9. Facilitate or referral to peer support group or mentor		
10. Other aspects of maternity protection e.g. providing maternity leave benefits		

For each statement below please rate if you agree or disagree with the statement using the 4-point scale ranging from 1 strongly disagree to 4 strongly agree. Please indicate using a (X):

1. The model is clear and understandable

Strongly disagree Strongly agree

2. The Inputs are appropriate

Strongly disagree Strongly agree

3. Provisions in the model is cost-effective (not asking for too much from the employer)

Strongly disagree Strongly agree

4. All activities have sufficient and appropriate resources

Strongly disagree Strongly agree

5. The outputs are appropriate

Strongly disagree Strongly agree

6. Outcomes are written as change statements (things increase, decrease etc)

Strongly disagree Strongly agree

7. Outcomes achievable

Strongly disagree Strongly agree

8. The impact is clearly illustrated

Strongly disagree Strongly agree

9. The benefits for the workplace are clearly illustrated

Strongly disagree Strongly agree

10. The linkages displayed between inputs, activities and outcomes are clear

Strongly disagree Strongly agree

For each statement below please rate your opinion using the 4-point rating scale ranging from 1 poor to 4 excellent:

	Use of colours	Mark (**X**) your rating on scale of 1 to 4
1	Poor	
2	Fair	
3	Good	
4	Excellent	

	Use of wording	Mark (**X**) your rating on scale of 1 to 4
1	Poor	
2	Fair	
3	Good	
4	Excellent	
	Use of images	Mark (**X**) your rating on scale of 1 to 4
1	Poor	
2	Fair	
3	Good	
4	Excellent	

	Overall Design	**Mark (X) your rating on scale of 1 to 4**
1	Poor	
2	Fair	
3	Good	
4	Excellent	

Do you have any additional comments?

_____
_____
_____
_____
_____

Thank you for your input and time.

Please return the completed form to the researcher by Tuesday the 6 November 2018

Lynette Daniels

Principle Investigator

ldaniels@sun.ac.za

ADDENDUM AH: SUMMARY ROUND - TWO RESPONSES

1 = Low/least importance 5 = High/ importance	01	02	03	04	05	06	07	08	09	010	011	Average score/rate	Comments
11. Inclusion and identification of a workplace champion	5	5	5	5	4	5	5	2	5	4	5	**4,5**	• Whether the HR Manager would see this as a role they are able to fulfil (without medical/health training) is questionable. The model will need to be clear what exactly the HR Manager or Champion will be "championing" – Policy and Communication only or must they be fully conversant on the matters of breastfeeding, which is a medical/ health competence? • It is important to have an initial driver of what should be an organizational change. This requires advocacy and you will need a champion.
12. Funding for the service of a lactation consultant as an initial input	3	1	4	5	4	5	2	2	5	5	1	**3,4**	• I do think that this is important, but am not sure how realistic it is. How much do lactation consultants charge per hour? How many hours would be needed? • Widen search to LLL, experienced dietitians, breastfeeding friendly registered nurse • Alternate support structure for additional support could be accessed. Strengthen bond DOH and WP to access support • External expert advisory has so many advantages for the organization, rather than for this to come from "HR".

													• This should be available through the health system and will make employers feel the ask is too onerous
13. Inclusion of a written breastfeeding policy under inputs that are routinely communicated	4	5	3	5	4	5	5	5	5	5	5	**4,6**	• This is a necessity to ensure implementation • Research shows this is a critical element and should be communicated to all employees
14. Training of the champion and human resources manager by an accredited lactation consultant	3	5	4	5	4	5	4	2	4	3	1	**3,6**	• Would this mean that a dietitian or breastfeeding counsellor who is not an accredited lactation consultant, yet has significant breastfeeding training and expertise would not be able to do this training? • Can be a DT or person with healthcare worker infant feeding training • This will depend on what the Champion needs to do and depth to which they must be "trained". I am of the view that organizations may prefer to outsource this rather than to have an internal champion e.g. have this accessible through the EHW (Employee Health and Wellness) programme instead of a dedicated champion internally such as an HR manager. • The HR manager does not need to know how to provide breastfeeding support and this starts creating a very unsustainable onerous set of responsibilities
15. Education to ALL male and female staff within the organization	4	5	5	5	3	5	5	5	4	4	5	**4,5**	• Not too often, becomes part of wellness program, where subject matters vary. Senior staff can`t opt out

													• The way this is done in the organization will be key. Most males may not deem this important unless the organizational culture is accommodating and supportive naturally. • Absolutely, it is required by the Code and is necessary to create a supportive workplace culture
16. Provision of time by the workplace for the pregnant women to attend antenatal visits /classes	5	5	5	4	3	3	3	5	5	5	1	**4,0**	• Maybe add here as well "Legal obligation to provide" since Code of Good Practice says: 5.12 Arrangements should be made for pregnant and breast-feeding employees to be able to attend antenatal and postnatal clinics as required during pregnancy and after birth. • Does it need to be clarified regarding what the minimum number of visits during pregnancy (are that are required, by DOH. And how much time would be given per visit? One full day or half day? Would some companies make women take this from their sick leave? Is all of this detail necessary? But I think it would influence implementation. • Part of current leave system or additional concessions • I do believe that there is already so much reluctance that adding on, rather than consolidating existing responsibilities makes the pilot too onerous. I am sure the workplace will say that this

													is wah the maternity leave period if for.
17. Promotion and communication /marketing of space and time accommodation	4	5	3	5	3	4	5	5	4	5	3	**4,2**	
18. Interpersonal communication during pregnancy and after return from maternity leave	4	5	5	5	3	5	5	5	4	3	5	**4,5**	• This can form part of Employer responsibility 4 because its about having a good communication and advocacy campaign with opportunities for one on one engagement with a manager/ champion if necessary. Most moms would be self-sufficient and may not need as much interpersonal communication when they return to work.
19. Facilitation or referral to peer support group or mentor	2	1	5	5	4	5	4	3	5	5	1	**3,6**	• This is more meaningful than element on Interpersonal Communication. A peer group to build a community where matters of motherhood are discussed is a good idea. • Role of the public health system
20. Other aspects of maternity protection namely maternity leave benefits	5	5	5	4	3	5	4	5	5	5	5	**4,6**	• Non-negotiable • Yes, it is important the breastfeeding support be seen as part of the existing system of support

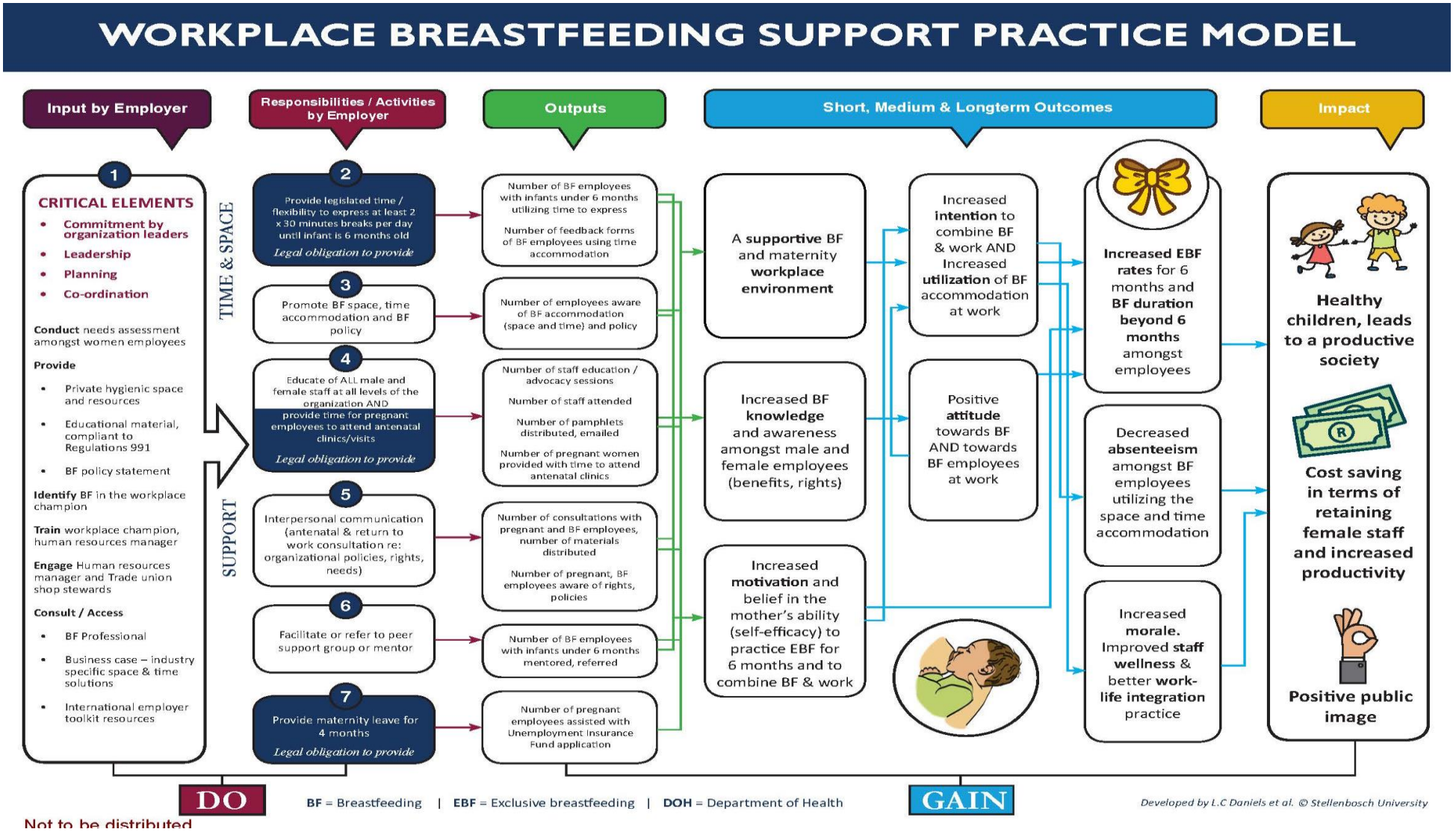
Additional Comments:

- Page 2 of Information Sheet: I am including the Style Guide. Think Leader is spelled with a capital letter and think it should it an LLL not a LLL??
- Would it be possible to have the arrows going from one info box to the next in the same colour as the heading? Currently only the OUTPUT has green arrows like the heading easy to follow where they are going
- There are a number of International Board Certified Lactation Consultants in South Africa (many not listed on LACSA website). I would therefor suggest adding a link to these IBCLCs https://www.ilca.org/why-ibclc/falc

- It is essential that both the human resources manager or health nurse, as well as dietician should be well educated in the field of breastfeeding.
- I think certain things, like ensuring the use of an accredited lactation consultant could be seen as costly, and the time off work that a woman would require could add cost to the company. While these are incorporated into all sections of the model, there is not a specific section that clearly states the benefits to the workplace. Not sure if that is necessary or if there would be space for that. Or the Impact column could have a sub-heading that describes that these are benefits to the workplace?
- Who will introduce this model to companies? Perhaps more input on discussion with management e.g. siting research when concept is first introduced
- This has been a very enriching process and perfectly timed as both SACSoWACH and the Grow Great campaign embark on advocating for more workplace support for breastfeeding mothers. I do however, think that EBF rates will not drastically increase until we also address the use of herbal and traditional remedies in infants less than 6 months or age. The Horwood et al, 2018 paper also indicates that there we far fewer working mothers and therefore to impact EBF, SA will have to impact on community support for BF
- Maybe the first time that the abbreviation BF is used in the diagram, show the word written out in full and then the abbreviation – breastfeeding (BF) – could be in the title? Or on the Input by Employer column.
- In the 'Outputs' column, the second last bubble 'Number of BF employees with infants under 6, 9 months mentored, referred' – does that mean data should be collected for infants under 6 months and infants under 9 months? A bit confusing.
- Under 'Responsibilities / Activities by Employer' In the sentence Provide legislated time or flexibility to express at least 2 x 30 minutes breaks per day until child is 6 months old.' – maybe rather replace the word 'child' with 'infant'?
- Under Short, Medium & Long-term Outcomes: I was thinking, instead of saying 'Increased motivation and belief in her ability (self-efficacy) to practice EBF for 6 months and to combine BF & work' maybe rather say 'Increased motivation and belief in the mother's (or the woman's?) ability (self-efficacy) to practice EBF for 6 months and to combine BF & work
- Then I had not thought of it before. I know that you have increased self-efficacy as a short-term outcome, but I was wandering if the word 'empowerment' (of the mother of pregnant/BF woman) should be included somewhere in the outcomes or impact? To me, empowerment of the woman is a more important impact than a positive public image. But to a workplace, a positive public image might be more of an incentive.
- In the Impact column, where It states 'Healthy children = social responsibility' – do you think that people will translate that into 'more healthy and productive society', or should something along those lines be explicitly stated?
- Then I like all of the detail, websites and resources that you have added, this is great. I know we probably all provided additional information to be included. However, now it does make the document substantially longer and could be a bit overwhelming to workplaces – do you think that with spacing changes, you could fit it all onto 4 pages instead of 5 – would be easier to print.

- Then with all the websites that are provided – do you need to include dates of access because these could change.
- Although there have been a small number of images added, which are great I still think there should be more, acknowledging the space constraints on the first page. Maybe an image that shows what an breastfeeding space looks like? Or an image of a woman expressing?
- Although the colours are really great, I printed the document out in black and white and it is still easy to read.
- My overall concern is about the overall design, it's good, and for someone who is familiar with figures, graphs, technical reports, I find the overall design good and helpful. I would suggest testing this among men and women who are not working in public health to ascertain their interpretation of the framework.
- What is proposed is definitely understandable and is not academic and would be relatively easy to market. I think this will be well received by employees as yet another service they can make full use of. What is still a concern for me is the mindset of management about what this means. Nowhere in the model do I see the backing and involvement of the executives/ leadership in the organization to help foster the work environment to inculcate this. I am worried it will all be "left up to HR" and the lactation consultant to ensure it "gets done" because that is how they react to policy. More guidance would have been useful on HR and leadership's role to this.
- Model: Don't understand * complaint with Regulation 991 at bottom of inputs,
- DOH material under input …… this can create a demand that is unsustainable. It should rather be indicated that breastfeeding education material should be made available that is in line with the department of Health public health messages.
- 3rd short term outcome ……in none of the outputs related do you speak about or refer to Exclusive Breastfeeding but the expectation is as per this block?
- Do you mean time provided outside of normal leave (annual or sick). Are you proposing that women should be given allocated time for antenatal visits.... more clarity
- Page 3: these two boxes are confusing as there are items listed on both sides. I would propose that you amend the second box as to me the first one is the basic requirements and the second should reflect the additional nice to haves. Only a comment!
- Bullet 5 page 2 ……and quality improvement plans developed to address concerns

ADDENDUM AI: VERSION THREE OF PRACTICE MODEL



WORKPLACE BREASTFEEDING SUPPORT PRACTICE MODEL

GENERAL INFORMATION

- The model was developed as part of a PhD research study, based on a mixed method approach © *Stellenbosch University* [1]
- The model is relevant for workplaces that employ more than 50 employees (designated workplaces) and is applicable to all permanent, contract and part time employees at designated workplaces. Smaller workplaces can, however, adopt or adapt aspects of the practice model.
- If employers are not able to implement all the listed activities from the start, piloting a few activities should be considered.
- Responsibilities / activity 2, 3, 5 and 7 are considered easier / quicker to implemented, while activity number 4 and 6 might require more time to plan, co-ordinate, gain relevant information and implement.
- It is important that the listed activities and outputs be monitored by the organization and that quality improvement plans should be developed to address concerns.
- Investment in breastfeeding is a social responsibility.
- The provision of workplace breastfeeding support facilities should form part of a service benefit of the organization and should be marketed as an employee-value proposition.
- The practice model must be established and viewed as part of an employee work-life balance/integration practice.
- Leadership, planning and co-ordination, strong engagement and intersectoral collaboration will be required within these workplaces, as critical elements for the implementation of the practice model.

1

- A basic, once-off needs assessment should be conducted amongst women employees. This will assist management with planning on how to address the reported needs.
- The breastfeeding room can be a permanent or flexible space solution (e.g. office space, retail changing room, conference room). A walled-off corner can be constructed to enclose a smaller space in a bigger room.
- Permanent space Ideal size: minimum of 2.1m x 2.1m.[2] Close proximity to mother`s workplace or office, safe environment, clear from dangerous waste products and chemicals. Room must be well ventilated with screens/ blinds/curtains where there are windows to ensure privacy.
- The room can be basic or advanced, based on the workplace resources and staff needs.

- **Essential list for a breastfeeding room[3]:**
  - Clean, private lockable room
  - Comfortable chair and small table
  - Cool storage: e.g. personal cooler bag or box or use public refrigerator for milk storage
  - "Lactation room" / "Knock before you enter" signage
  - Close proximity to a sink / Hand sanitizer
  - Electrical outlet
  - Waste bin
  - Printed educational resources

- **Desirable list for a breastfeeding room[3]:**

  In addition to the essential list for a breastfeeding room, the room can have:
  - Small refrigerator for milk storage provided by the employer
  - Room has a washbasin with clean running water and soap
  - Scheduling system or communication paper outside the door

- Funding will be required for printing educational material, pamphlets and posters. Educational pamphlets could be emailed to employees (if service is available) and or printed.

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[2] AIA best practices Lactation/Wellness Room Design. Website: http://www.cphi.upenn.edu/assets/usercontent/documents/0908_Lactation%20Room_English.pdf
[3] National Business Group on Health by Center for Prevention and Health Services. Investing in Workplace Breastfeeding Programs and Policies (An Employers Toolkit) https://www.businessgrouphealth.org/pub/?id=f2ffe4f0-2354-d714-5136-79a21e9327ed

Developed by L.C Daniels et al. © Stellenbosch University

1

Not to be distributed

1

- The Western Cape DOH website https://www.westerncape.gov.za/first-1000-days/resources/ is available to access the DOH breastfeeding educational materials for free: "First few days", "expressing", "cup feeding" pamphlets to use during education sessions, peer support and interpersonal communication sessions.
- The National Department of Health website: http://www.health.gov.za/ has a breastfeeding in the workplace booklet for employers and employees which provides information relating to setting up a breastfeeding room, women`s breastfeeding rights in the workplace, guiding steps to become a breastfeeding friendly workplace and a developed "do not disturb" signage and "breastfeeding friendly" workplace signage. A breastfeeding poster, breastfeeding questions and answer booklet and breastfeeding support sticker is also available for download.
- South African appropriate breastfeeding health education videos and printed material are available in three languages (Afrikaans, English and isiXhosa) for mothers at the following website: https://100percentbreastfed.co.za/
- A breastfeeding policy or policy statement endorsed by management must be developed. A template of a workplace breastfeeding policy is available at http://www.health.gov.za/
- A breastfeeding in the workplace champion must be identified.
- The champion needs to be trained. A breastfeeding professional (e.g. experienced dietitian, professional nurse with infant feeding training, lactation consultant, breastfeeding counsellor) can train the identified champion and or human resources manager at the workplace to ensure the sustainability of the programme.
- Human resources manager and or champion or occupational health nurse (if available) under the employee health and wellness programme should initiate the support process. They will be responsible for the policy development process, communication and planning and co-ordination of inputs and activities. They should consult the expertise of a breastfeeding professional to initiate discussion on the topic and to collectively start to plan implementation of the practice model activities.
- Trade union shop stewards should be included during discussions regarding the planning and implementation. They can assist with the communication and promotion of employee benefits and rights amongst employees.
- Funding for the initial startup phase for the service of a breastfeeding professional (e.g. lactation consultant) who can work with the organization can be considered. Breastfeeding professionals (e.g. community dietitian, professional nurse with infant feeding training, breastfeeding counsellors) are available for providing support and advice. The breastfeeding professional can assist with training and provide focused input for the identification of a workplace breastfeeding champion/ peer support facilitator, identification of suitable space solution and provide guidance to the human resources manager and company management. They can also assist with the initial education sessions of ALL male and female staff within the organization and set up guidelines for the education sessions.
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- An employer`s toolkit, Investing in Workplace Breastfeeding Programs and Policies of the National Business Group on Health by Center for Prevention and Health Services is available at https://www.businessgrouphealth.org/pub/ Examples of employer assessment forms, feedback forms for breastfeeding employees and feedback forms for supervisors and colleagues of breastfeeding employees are available in chapter 8, which can be adapted according to need.
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2

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3 The **promotion and marketing of the available space, time and policies** and the benefits thereof can be communicated at meetings, using poster signage on workplace noticeboards or distributing leaflets. Shop stewards can discuss the issue at meetings and human resources managers can discuss it in addition to the employee's maternity leave benefits.

4 **Educate male and female staff at ALL levels of the organization:** Use the printed DOH educational materials and the videos available from the 100 percent breastfed website (available free) during the education sessions. Any posters and educational materials must be compliant to the South African Regulations 991 related to the marketing of breastmilk substitutes. http://blogs.sun.ac.za/iplaw/files/2013/12/ Involve and consult a lactation consultant, LLL Leaders, primary health care antenatal nurses, trained community health workers, dietitians to assist with education on a need's basis. Short education sessions can be presented during lunch and learn sessions, however preferably during working hours.

Education increases knowledge and general belief of the benefits and advantages of breastfeeding, and this, in turn, increases the belief in breastfeeding support and will foster favorable attitudes towards breastfeeding. Topics for the education sessions should include: reasons to breastfeed, benefit of providing breastfeeding support for the employer, employee and society, basic breastfeeding techniques, the South African legislated breastfeeding break times, tips for balancing work and breastfeeding, along with proper practices for expressing and storing of human milk.

Along with the education session provided to ALL male and female staff, *pregnant employees must be provided with time off to attend antenatal clinics and visits. During the antenatal visits, the mother will receive additional breastfeeding education from primary health care setting and this will also ensure that the health of the pregnant mother and her unborn baby is monitored routinely. A minimum of 5 antenatal visits is recommended by the DOH.

The Basic Conditions of Employment Act, Code of Good Practice on the protection of employees during pregnancy and after the birth of a child, 5.12 states that that "arrangements should be made for pregnant and breastfeeding employees to be able to attend antenatal and postnatal clinics as required during pregnancy and after birth." Website: http://www.labour.gov.za/DOL/downloads/legislation/Codes%20of%20Good%20Practice/basic-condition/

5 **Interpersonal communication** by human resources managers, supervisors or occupational health nurses to mothers, during pregnancy and upon return from maternity leave regarding their needs, available workplace resources, organizational policies and their rights should be conducted.

6 **Facilitate or referral to peer support groups:** Can be formal with monthly discussions in lunch break or informal by linking and connecting new mothers with mothers who successfully combined breastfeeding and work. Names and contact details of community breastfeeding support groups and persons, LLL Leaders and dietitians can be made available on workplace noticeboards to provide support for new mothers. The following are reputable social media resources that can be made available and distributed to breastfeeding employees e.g.

- La Leche League South Africa facebook groups and page.
- Pregnant women and mothers can sign up to MomConnect, a free SMS and whatsapp stage-based messaging service from the National Department of Health. Dial *134*550# from your cellphone to register.

7 ***Provide maternity leave for 4 months.** The provision of paid maternity leave is not obligatory in South Africa. The employer can provide paid maternity leave or if unpaid maternity leave is provided, the employer must assist the employees with the application of Unemployment Insurance Fund (UIF) compensation.

The Basic Conditions of Employment Act (No. 75 of 1997 as amended) offers women four consecutive months' maternity leave, six weeks of which must be taken after the birth of the baby. http://www.labour.gov.za/DOL/downloads/legislation/acts/basic-conditions-of-employment/Amended%20Act%20-%20Basic%20Conditions%20of%20Employment.pdf Unemployment insurance in the form of a maternity cash benefit can be claimed if contributions have been made by the mother to the UIF in the months preceding her pregnancy.

*2, 4 and 7 legal obligation to provide

3

Not to be distributed

ADDENDUM AJ: PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM: DEVELOPED MODEL

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM: DEVELOPED MODEL

TITLE OF THE RESEARCH PROJECT: "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district"

REFERENCE NUMBER: S17/04/089

PRINCIPAL INVESTIGATOR: L Daniels

ADDRESS: Tygerberg Medical Campus, Francie van Zijl Drive, Stellenbosch

University, Parow, Cape Town, 7505

CONTACT NUMBER: 021-938 9259

You are invited to participate in the study "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district" The study is being carried out by me, Ms Lynette Daniels. I am a lecturer in the Division of Human Nutrition, Faculty of Medicine and Health Sciences at Stellenbosch University.

This study has been approved by the **Health Research Ethics Committee at Stellenbosch University** and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

Please take some time to read the information explaining the details of this study as well as what will be expected of you if you agree to participate. Please feel free to ask any questions about any part of this study that you do not understand. Please also keep in mind that you are in no way being forced to participate. It is completely your decision and whatever you decide will be respected.

Also, taking part in this study is **entirely voluntary,** which means that you do not have to take part if you do not want to. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

What is this research study all about?

The aim of the study is to develop and validate a practice model for designated workplaces (i.e who employees more than 50 employees) in the Breede Valley sub - district. The model will provide

workplace with practical steps to support mothers in the workplace to increase their breastfeeding duration and exclusive breastfeeding rates.

Why have you been invited to participate?

You have been invited to be part of this study as you are a manager, occupational health nurse or employee at one of the selected workplaces that employs more than 50 employees.

What will your responsibilities be?

You will be expected to attend a one-hour focus group discussion or a 30 minute in depth interview where you will be asked to give and share your opinion and perceptions relating to the developed practice model to support breastfeeding in the workplace.

Will you benefit from taking part in this research?

You will not benefit directly from taking part in this study. However, with your participation we hope to understand any challenges you foresee with the implementation of the developed practice model.

Are there any risks involved in your taking part in this research?

There are no risks involved. The time it will take for you to participate in this study might be seen as an inconvenience so please keep in mind that you will have to be willing to make time to do the focus group discussions.

If you do not agree to take part, what alternatives do you have?

You will not be disadvantaged if you choose not to take part in this study.

Who will have access to your medical records?

Your medical records are not applicable to this study therefore no one will have access to them.

What will happen in the unlikely event of some form injury occurring as a direct result of your taking part in this research study?

No injury could occur as a direct result of you taking part in this study.

Will you be paid to take part in this study and are there any costs involved?

No, you will not be paid to take part in the study. There will be no costs involved for you, if you do take part. Refreshments, such as tea, coffee and muffins, will be served at all discussions, during comfort breaks. You will receive a parcel consisting of healthy snacks (e.g. fresh/dried fruits and yoghurt) as a token of appreciation for taking part in the study.

Is there anything else that you should know or do?

All collected information will be strictly confidential. A videotape/audio recording will be made but confidentiality is ensured. If the data is used in a publication or thesis, your identity will remain anonymous, so no names or other personal information will be presented

. The recordings of the interviews will be destroyed after the study has been completed and the findings have been written up. The recordings will be locked away in the researcher's office at Stellenbosch University's Medical Campus and stored on a password protected computer until she has completed the study.

Your name will be removed from all the documents to make the information anonymous and to make sure no one knows who the person is who provided the information.

The researcher will be happy to answer any questions you have about this study. If you have any further questions about this study, you may contact, Ms Lynette Daniels, at 021 938 9176 or 082 513 6409. If you have any questions concerning your rights as a participant in this study, you may contact the Stellenbosch University Health Research Ethics Committee at 021 938 9207. You will receive a copy of this information and consent form for your own records.

Declaration by participant

By signing below, I …….. agree to take part in a research study entitled "Support for exclusive breastfeeding in the workplace: Development of a practice model for designated workplaces in the Breede Valley Sub-district"

I declare that:

I have read or had read to me this information and consent form and it is written in a language which I am fluent and comfortable.

I have had a chance to ask questions and all my questions have been adequately answered.

I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.

I may choose to leave the study at any time and nothing bad will happen to me. I will not be discriminated against in any way.

I may be asked to leave the study before it has finished, if the study doctor or researcher feels it is in my best interest, or if I do not follow the study plan, as agreed to.

Signed at (*place*) ..... on (*date*) …….. 2019.

Signature of Participant **Signature of witness**

Declaration by investigator

I *(name)* …… declare that: I explained the information in this document to ……..I encouraged him/her to ask questions and took adequate time to answer them. I am satisfied that he/she adequately understands all aspects of the research, as discussed above I did/did not use an interpreter. (*If an interpreter is used then the interpreter must sign the declaration below.*

Signed at (*place*) ..... on (*date*) …….. 2019.

Signature of investigator **Signature of witness**

Declaration by interpreter

I *(name)* …… declare that:

I assisted the investigator (*name*) ……. to explain the information in this document to (*name of participant*) …….. using the language medium of Afrikaans/Xhosa. We encouraged him/her to ask questions and took adequate time to answer them.

I conveyed a factually correct version of what was related to me.

I am satisfied that the participant fully understands the content of this informed consent document and has had all his/her question satisfactorily answered.

Signed at (*place*) ..... on (*date*) …….. 2019.

Signature of interpreter **Signature of witness**

INFORMED CONSENT FOR VIDEO/AUDIO RECORDING

The purpose of the meeting and the handling, use and final destruction of the recordings, have been explained to me. The researcher has offered to answer any of my questions relating to the

procedure of the recording. I understand the explanation and I have been given a copy of this form for my records.

Signed at (*place*) ..... on (*date*) ..... 2019.

....

Name of participant Signature of participant

....

Name of witness Signature of witness

....

Name of investigator Signature of investigator

ADDENDUM AK: FOCUS GROUP/INTERVIEW DISCUSSION GUIDE: DEVELOPED MODEL

Discussion
You have given informed consent and have some background information about the study. I have given you time to review the developed practice model and the attached information sheet. I have colour copies available of the model and an enlarged copy of the model is on display.

Probes	**Follow up questions**
What is your overall **opinion** of the? **1) Inputs by employer** **2) Responsibilities/activities by the employer**? **3) Tiered approach to implementation**	Achievable Clear What aspects will work in your specific work environment? What **challenges/barriers** do you foresee with the implementation of the model in your specific setting? Do you feel management in your setting will be open to take this forward if advocated? Please elaborate.
What is your **opinion** of the described **outcomes, impact (the programme theory of change) ?**	What are the benefits / gains to the workplace if this model is implemented? Benefits to workplace clearly illustrated
Describe your **opinion of the design** of the practice model	Understandable /clear Wording Flow Colours Images Why do you like it/ do not like it ?
What is your **opinion** of the 3- page information sheet attached to the practice model?	Too much information Clear /unclear (please specify, explain, elaborate)
Are there any **changes** you would suggest to the practice model, that could improve /enhance implementation in your specific setting? Please elaborate further.	Specify
Conclusion Thank you for your valuable input. We will be able to use this information to improve the practice model.	

ADDENDUM AL: BREASTFEEDING IN THE WORKPLACE ROUNDTABLE MEDIA COVERAGE

Media	Date	Title	Link
Channel Africa	22 May 2019	SA needs to improve breastfeeding rate by 2025	http://www.channelafrica.co.za/sabc/home/channelafrica/news/details?id=3926db44-ad1e-43c3-b35b-3f63b9093e74&title=SA%20needs%20to%20improve%20breastfeeding%20rate%20by%202025
Daily Vox	22 May 2019	Right to Breastfeed in The Workplace Is Enshrined Within in Law	https://www.thedailyvox.co.za/right-to-breastfeed-in-the-workplace-is-enshrined-within-in-law-shaazia-ebrahim/
Times LIVE/ Sowetan	22 May 2019	Everyone wins when moms can breastfeed at work, experts agree	https://www.timeslive.co.za/news/south-africa/2019-05-22-everyone-wins-when-moms-can-breastfeed-at-work-experts-agree/ https://pressreader.com/@nickname12086096/csb_AK6w6kTFkhOxs2QGsAMDTHm0I1yrlvCMPd8TNAfmPN2zZ019sKt-Dii9DwafR_gK
SABC News and Current Affairs	23 May 2019	BREASTFEEDING AT WORK	https://iono.fm/e/691971
Fray.news	22 May 2019	Workplaces still failing	https://www.fray.news/single-post/2019/05/22/Workplaces-still-failing-breastfeeding-mothers

		breastfeeding mothers	
Rosebank Killarney Gazette	31 May 2019	Support new moms (page 3)	https://rosebankkillarneygazette.co.za/epapers/rosebank-killarney-gazette-31-may-2019/#book/3

Workplaces still failing breastfeeding mothers

May 22, 2019

Tebogo Gantsa

Panelists at Unicef roundtable discussion. Pic: UNICEF

South African organizations still fail to prioritise and support working mothers who need to breastfeed. This, according to experts, despite existing laws, regulations and policies to enable an environment conducive to the practice.

According to Ann Behr from the National Department of Health's Child, Youth and School Health Directorate, there are very few organizations with written policies on workplace breastfeeding. Behr was speaking at a UNICEF roundtable discussion, held on May 21 in Johannesburg, where health experts, senior officials from the directorate and other stakeholders gathered to discuss how breastfeeding can be better facilitated and supported in workplaces.

The Basic Conditions of Employment Act entitles breastfeeding mothers to two 30-minute feeding breaks during office hours, but few people are aware of this provision, and workplaces do not always inform their employees of their rights.

Behr says a recent policy review survey of 100 respondents from 32 organizations found that only 11 of the organizations had workplace breastfeeding policies in place. Of those 11, only five had a hard copy of this policy available as a reference for employees.

Toolkit to boost breastfeeding

The Department of Health has developed a breastfeeding toolkit that they hope will assist and guide organizations in their policies on the matter. In turn, more mothers will be empowered and supported to breastfeed their babies and more children will be exposed to the wide array of benefits that breast milk offers, both in terms of health and development. Experts agree that breastfeeding is the best way to build a child's immune system and ensure that a baby gets a nutritious diet.

Many organizations are either ignorant or negligent to the obligations outlined in the Code of Good Practice on the Protection of Employees during Pregnancy and after the Birth of a Child, despite the code's introduction to South Africa's labour law in 1998.

Two decades later and experts agree that more is needed to ensure organizational awareness and education. Lynette Daniels is from Stellenbosch University's Faculty of Health Sciences. She says one of the main problems for working mothers is finding space and time to breastfeed or to express milk. This, she adds, is especially true in organizations where top management is male-dominated.

For this reason, she says, breastfeeding awareness campaigns should not focus exclusively on mothers or on women.

"That came up in my study as a challenge voiced by employees in male-dominated workplace environments," she explains. "Obviously we need to do a lot of education to involve males in education regarding breastfeeding. Men can also be advocates."

A breastfeeding roundtable was held in Johannesburg to discuss what could be done to promote breastfeeding in the workplace. Pic: UNICEF

Daniels, who is working towards her PhD, is busy with a study on workplace support for exclusive breastfeeding in designated spaces. The study, set in the town of Worcester in South Africa's Western Cape, focuses on developing a practice model to assist organizations comply with the Code of Good Practice.

"I wanted to explore. I wanted to find more information and understand the workplace with regards to support for breastfeeding," Daniels says, adding that her study will be completed towards the end of the year.

She says there are not enough studies conducted that focus on workplace support for breastfeeding in a South African context. Of the few studies available, it was the Lancet Series on Breastfeeding released in 2016 that inspired her current research.

"It identified the workplace as one of the settings of an enabling environment for breastfeeding," Daniels explained. "What my research also finds is that breastfeeding is not a priority in the workplace." Her research shows that in many cases management does not create an enabling environment for working mothers to breastfeed, despite being informed and understanding the benefits of breastmilk for children and childhood development.