

**The Lived Experience of Nurses and Midwives
Implementing a Clinical Practice Guideline for
Care of the Nutritionally Compromised Infant**

by

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ABSTRACT

In early infancy the body is developing at a rapid rate and the consequences of poor nutrition can be devastating. Evidence suggests these infants will have poorer outcomes with lasting effects including chronic poor eating behavior resulting in underweight, obesity and in severe cases, death. Identifying infants experiencing compromised nutrition and implementing appropriate management strategies is essential in ensuring better health outcomes for these infants and their families. The use of evidence-based guidelines is one of the most effective tools for improving the quality of care. Changing practice is challenging and a better understanding of the experiences of health professionals who engage in using evidence-based guidelines in complex situations is required. The purpose of this study was to describe and interpret nurses' and midwives' experience of implementing a clinical practice guideline for care of nutritionally compromised infants in a primary health care setting. The research employed a hermeneutic interpretative phenomenological design. A purposive sample of nurses and midwives, recruited from a Family Centre, generated data through eleven interviews and one focus group. Phenomenological analysis was informed by Van Manen's (1990) concurrent procedural steps. Four major themes emerged. They included Pathway to Awareness, Depth of Practice, Identifying and Acknowledging the Issue and Mothers' Milk. The essence of the participants' experience revealed their strongly held belief that 'breast was best' to promote optimal infant growth and development and this may have been compromised by implementing some of the management strategies outlined in the guideline. This research highlights two issues. First, nurses' and midwives' capacity for change is enhanced when their beliefs and feelings are acknowledged and when shared dialogue and support mechanisms are incorporated into the phases of implementing a guideline. Second, further research exploring the effects of complementary formula feeding on infant breast feeding behaviour and maternal capacity to generate optimal breast milk supply may further assist nurses, midwives and clients in making decisions regarding care of nutritionally compromised infants.

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CONTENTS

ABSTRACT.....	v
ACKNOWLEDGEMENTS.....	vii
CONTENTS.....	ix
LIST OF FIGURES.....	xiii
DEFINITION OF TERMS.....	xv
CHAPTER 1 INTRODUCTION.....	1
Context for Research.....	2
Significance of the Study.....	6
Purpose of the Study: Illuminating Parts and the Whole.....	8
Summary	8
CHAPTER 2 LITERATURE REVIEW.....	9
Introduction	9
Clinical Practice Guidelines and Evidence-Based Practice.....	9
Classification of the Nutritionally Compromised Infant	15
Factors contributing to the Infant’s Compromised Nutritive State	22
Definition	34
Management Strategies	36
Possible Outcomes for the Nutritionally Compromised Infant	40
Summary.....	41
CHAPTER 3 METHODOLOGY & METHOD.....	43
Introduction.....	43
Hermeneutic Interpretative Phenomenology.....	43

Method.....	49
Participants.....	49
Ethics	50
Rigor and Trustworthiness.....	51
Phenomenological Direction	52
Turning to the Nature of the Lived Experience	54
Engaging in Existential Investigation.....	54
Data Collection	54
Engaging in Phenomenological Reflection & Writing	57
Phenomenological Analysis	57
Reflection and Discussion	59
Summary.....	60
CHAPTER 4 PHENOMENOLOGICAL ANALYSIS.....	63
Introduction.....	63
Pathway to Awareness.....	64
Depth of Practice.....	78
Identifying and Acknowledging the Issue.....	87
Mothers' Milk	97
Summary	117
CHAPTER 5 PHENOMENOLOGICAL REFLECTION	119
Introduction	119
Change is Challenging	120
Focus on Education and Support of the Primary Carer in Caring for their Infant	123

Feeling unsettled at Times when Approaching Infant Health Assessment	124
Torn between the Need to Rescue the Primary Carer or the Infant or Both	126
Emotional Conflict when considering the Best Interests of the Infant and Mother	131
The Fundamental Nature of the Participants' Experience	136
Summary	137
CHAPTER 6 CONCLUSION.....	139
Introduction.....	139
Purpose.....	139
Significance, Strengths and Weaknesses.....	139
Final Summation.....	140
Recommendations.....	141
Conclusion	144
RESEARCHER'S FINAL PHENOMENOLOGICAL THOUGHTS.....	145
REFERENCES.....	147
APPENDIXES.....	159
Appendix A Clinical Practice Guideline	159
Appendix B Information Letter	167
Appendix C Information Form	173

LIST OF FIGURES

1. Process of Evidence-based Practice	10
2. Variables impacting on infant/primary carer feeding relationship	24
3. Adapted descriptive model depicting interaction between perceived barriers to breast-feeding (Stewart-Knox 2003).	29
4. The basic form of the hermeneutic circle (Bontekoe, 1996 p.4)	56
5. The process of analysis and reflection	59

DEFINITION OF TERMS

ACT Australian Capital Territory

Breastfeeding

This terminology has been adopted by the World Health Organisation and supported by the Australian National Breast Feeding Strategy (ACT Health 2010 p.5).

Exclusive breastfeeding

Infants receive only breast milk, including expressed breast milk and, where required, medicines, but no infant formula or non human milk.

Complementary or partial breastfeeding

The infant may receive semi solid or solid food in addition to breast milk. This may include any foods or liquids, infant formula and non human milk.

Supplementary breastfeeding

The infant may receive one or more fluid feeds including breast milk substitutes eg: infant formula in place of a breastfeed.

CDC Centers for Disease Control and Prevention

FTT Failure To Thrive

Galactogue Described by the participants in this study as a medication or herbal preparation that promotes the secretion and flow of milk.

NCHS National Center for Health Statistics

NHMRC National Health Medical Research Council

Nutritionally Compromised Infant

The Family Centre referred to in this study defines the term as: infants aged 0-3 years who fail to make expected age-appropriate gains in weight.

PAHO Pan American Health Organisation

PANDA Post Ante Natal Depression Association

UNICEF United Nations Children's Fund

WHO World Health Organisation

CHAPTER 1

INTRODUCTION

Oh it's really hard. It's actually amazingly... oh!! I've got a nutritionally compromised infant and although I think it shouldn't be that hard ...you look and your heart, there's this emotional thing where you think, right we're going to have to make a move here ... what are we doing to make a difference? (Participant 2).

I guess I'm frustrated by the fact that they are there for five days and how long does it take to establish or increase the milk ...So in an ideal world it would be great to just be going let's really work on the supply. But in the meantime you've got a baby that... hasn't got the nutrition there and you want that nutrition ... (Participant 6).

I think it was the formula ¹comp that raised the biggest issues amongst the staff. ... I would say that the experience was fairly tumultuous. ... some people embraced it, some people said this is just ... not right. So we had a lot of discussions between the staff members about the guideline and so actively implementing it was I think fairly tricky for a lot of us because of those varied opinions and ideas, despite having been given that guideline. Yeah it wasn't smooth at all. It was quite tricky for different staff (Participant 10).

¹ Sometimes the participants in this study used the word 'comp' when referring to complementary formula feeds.

Context for Research

Implementing a clinical practice guideline for care of the nutritionally compromised infant was a complex phenomenon undertaken by the nurses and midwives at a Family Centre located in Australia. The term “nutritionally compromised infant”, adopted by the Family Centre, defines an infant aged 0-3 years “who fails to make expected age-appropriate gains in weight” (Appendix A, p.1). This term was developed by the Family Centre following a review of the literature regarding language that promoted “engagement with the client”, allowed for a “spectrum” of “levels” identifying poor infant nutritional status and “supported nurses and midwives to define a complex clinical presentation within a primary health care context” (Family Centre Director of Nursing and Midwifery/Executive Officer, Personal communication, December 1st, 2011). Terms used by other experts to describe these infants included faltering growth, undernutrition, underweight, nutritional deficiency, malnutrition, and failure to thrive (FTT) (de Onis, Blössner, Borghi, Frongillo & Morris, 2004; Block et al, 2005; Emond, Blair, Emmett & Drewett, 2007; Fishman et al., 2004; O’Brien, Heycock, Hanna, Watts Jones & Cox, 2004; Rosenberg, Brown & Gawinski, 2008).

Researchers agree adequate nutrition is vital to support growth, particularly in the first 2 years of life (PAHO/WHO, 2004; Wells, 2002). Gabriela Mistral (1948) a Nobel Prize laureate, emphasized the significance of this belief writing “...now is the time his bones are being formed, his blood is being made, and his senses are being developed” (WHO, 2011, p.1). During this time the body is developing at a rapid rate and the consequences of poor nutrition can be devastating especially if slowed growth occurs before 6 months of age. Evidence suggests these infants will have poorer outcomes with lasting effects (Skuse, 1985; Wells, 2002). Children with

FTT demonstrate slow progress in growth outcomes during preschool years, often remaining underweight suggesting chronic poor eating behavior (Wright, 2000). A systematic review (Corbett & Drewett; 2004, p.641) concluded poor “intellectual outcomes” were linked to FTT developed in early years. Emond et al. (2007) supported these findings in a large sample United Kingdom longitudinal study (n=5771) investigating the association between compromised nutritive status in early infancy and IQ levels at eight years of age. Edmond et al. found children with weight faltering in the first nine months of life had a significantly lower IQ at eight years of age. Undernutrition in infancy has been linked to obesity later in life with corresponding risks to associated diseases and mortality (Corvalan, Dangour, & Uauy 2008; Uauy, 2005). Certainly the most devastating consequence of poor nutrition is mortality. The World Health Organisation (WHO, 2008, p.14) stated undernutrition caused approximately “30% of all deaths among children under five” worldwide. Up to 2011 WHO recorded no infant deaths related to nutritional deficiencies in Australia however the Canberra Times reported a 9 month old infant who died from infection linked with severe malnutrition in 2009 (Catanzariti, 2009).

In 2007 analysis of client files identified increased numbers of nutritionally compromised infants seen at the Family Centre. Further investigation of these files revealed several issues. Firstly, these nutritionally compromised infants were often referred to the Family Centre as unsettled infants. Secondly, following admission to the Family Centre, standard settling strategies were implemented as the primary management approach by primary carers in collaboration with nursing and midwifery staff. Thirdly, infant nutritional status appeared to have become less important. It was also evident that nursing and midwifery staff needed more education

concerning identification, assessment, management and evaluation of the nutritionally compromised infant and their primary carer.

A clinical practice guideline and professional development program relating to care of the nutritionally compromised infant was developed to support and direct the care of these infants. The guideline was informed by best available evidence and provided information on the definition for the nutritionally compromised infant, holistic health assessment and management strategies including developing a care plan in partnership with the client to meet the infant's nutritional, growth and development needs (Appendix A).

Following implementation of the guideline and associated professional development program difficulties emerged. The nurses and midwives began questioning the clinical practice guideline as an appropriate pathway to follow, having problems transferring the knowledge they had learned to the primary carers. They were struggling with defining and managing poor infant growth issues, the primary issue for the infant's unsettled behavior, despite sharing a large body of evidence-based knowledge and having a comprehensive process for conveying that knowledge to the primary carer.

The Family Centre operates under a primary health care model informed by the principles and practices of primary health care, health promotion and the social indicators of health. Family care is led by C-Frame standing for connect, collaborate and change. Created by five Australian family care centres, C-Frame assists staff to develop collaborative relationships with families. The Parenting Research Centre (2006, p.1) state

the framework is based on an approach to parenting consultation that emphasises the active collaboration of parents in identifying their needs, their strengths and competencies, selecting modes of assessment, setting the pace of assessment and identifying individual skill development goals. C-Frame provides a process and tools for practitioners to connect with families and work collaboratively towards positive change.

In 2003 the Family Centre developed a working document known as the Parent Interactive Pathway, based on C-Frame, allowing nurses and midwives to assess and engage with parents to affect change through learning. This process leads to enhanced parenting capacity and desired parenting outcomes. In 2007 a Care Plan was added to this document applying the Nursing Process of assessment, identification of issues, setting of goals, plan of action and evaluation of outcomes. Together the Parent Interactive Pathway and Care Plan assist to operationalise the primary health care model.

Also supporting the nurses and midwives at the Family Centre in their clinical practice, current evidence-based guidelines promote high quality care occurring in a consistent, informed manner providing a conduit between theory and practice (Paliadelis, 2005; Thomson, Angus & Scott, 2000). Evidence-based practice, introduced to nursing in the 70s, was intended to promote a shift from a philosophy of nursing care driven by ritual, intuition and control to an approach based on best evidence (Leach, 2006). Best evidence is provided through quantitative and qualitative research and expert opinion (NHMRC, 2000). In the 90s clinical practice guidelines, originating from the United States of America, were introduced to health care, internationally, as a way of incorporating best evidence into practice (Robertson, 2007). Clinical practice

guidelines are pathways designed to allow nurses, midwives, medical officers and clients flexibility to make informed decisions about certain situations, a process common to many other organisations (NHMRC, 2011; Robertson, 2007; Royal Women's Hospital, 2011). This allows clients to be treated as individuals promoting collaborative care. When clinical practice guidelines are embraced and implemented in practice better health outcomes for clients may be achieved (NHMRC, 2011).

Significance of this Study

The Family Centre, referred to in this study, is a residential service providing a five day/four night program for families with children less than three years old experiencing complex health and behavioural issues. It employs a multidisciplinary team including enrolled nurses, mothercraft nurses, registered nurses, registered midwives, a counsellor and community development officer, a professional development officer and two doctors. The Family Centre collaborates with other healthcare providers including paediatricians, general practitioners, community maternal and child health nurses, speech pathologists, nutritionists, Department of Community Services, Office for Children, Youth and Family Support, many community care organisations and other family care centres. Through implementation of a clinical practice guideline and working in partnership with parents, primary, secondary and tertiary health services, the nurses and midwives at the Family Centre assess the infant/carer dyad and begin appropriate management to promote positive long term outcomes for nutritionally compromised infants and their primary carers.

In 2010 10.7% of children aged less than 3 yrs presented to the Family Centre with Failure to

Thrive. This terminology was often used by the referring health providers. It was estimated that the incidence of infants referred as unsettled infants, and following admission to the Family Centre, subsequently assessed as nutritionally compromised infants, was higher (Family Centre Director of Nursing and Midwifery/Executive Officer, Personal communication, December 1st, 2011). A search of literature was unable to locate any reports describing the prevalence for Australia as a whole however statistics for remote areas in the Northern Territory were available. Of the 3534 children aged less than 5yrs who were measured, 13% were underweight (Northern Territory Government Department of Health & Families, 2009, p.4). In the USA and UK studies suggested 1% -5% of infants presented to hospitals as underweight and anything up to 10-20% presented in ambulatory settings including primary care offices and community health clinics (Drewett, Emmett, & Edmond, 2004; O'Brien et al, 2004; Rosenberg et al, 2008; Thomlinson, 2002). De Onis et al. (2004) conducted a time series study of the prevalence of underweight infants less than five years of age worldwide. In 1990 there was an estimated 1.2 million infants (1.6%) who were underweight in the developed countries, including Europe, Japan, Australia, Canada and the United States of America, with a predicted fall to 0.6 million (0.9%) by 2015.

Research from a nursing and midwifery perspective, in an environment found only in Australia, provides information unique in origin, contributing to improving care for nutritionally compromised infants and their primary carers locally and worldwide. Ultimately the outcomes of this study may inform nursing and midwifery care, preventing infants at risk of compromised nutrition and infants with mild to moderate undernutrition, progressing to acute or chronic severe malnutrition in a timely manner.

Purpose of the Study: Illuminating Parts and the Whole

The aim of this study is to describe and interpret nurses and midwives experience of the complex phenomenon of implementing the clinical practice guideline for care of the nutritionally compromised infant. The complexity of this phenomenon implied underlying phenomena lay waiting to be investigated and interpreted, leading the researcher to ask the following questions. What were these nurses' and midwives' lived experiences, personal values and beliefs when implementing the guideline? The objectives of this study are to reveal the essences of those experiences, provide suggestions to enhance health professionals' practice and contribute further knowledge to maternal, child and family health disciplines. The aim and objectives of this study fit with a hermeneutic interpretative phenomenological approach. This approach is both a methodology and a method seeking to explore and interpret the human experience of being and bring to light the underlying meanings or essences related to this experience (Schneider, Whitehead, Elliott, Lobiondo-Wood, & Haber, 2007; Smith, Flowers & Larkin, 2009; Speciale & Carpenter, 2006; Van Manen, 1990).

Summary

This chapter has presented the introduction to this study, including the evolution, significance, justification and purpose for this study. Chapter Two provides a literature review presenting current evidence-based knowledge relating to this area of research. The methodological design used to guide this study is outlined in Chapter Three. Chapters Four, Five and Six present an analysis of the data collected to address the aim and objectives of this study, the significance of the findings from this analysis and recommendations, based on this analysis, for future nursing and midwifery practice and further research.

CHAPTER 2

LITERATURE REVIEW

Introduction

The previous chapter outlined the context, significance, questions to be explored, aims and objectives of this study. To situate the study within the existing body of knowledge relating to this area of research the following review details information about clinical practice guidelines, how an infant becomes classified as nutritionally compromised, factors contributing to the infant's poor nutritive state, definitions for the nutritionally compromised infant, management strategies and possible outcomes for the infant and their primary carer. Given there was minimal existing research related to the nurses' and midwives' experience of implementing a clinical practice guideline for care of the nutritionally compromised infant within residential family care services in Australia the objective of this review was to explore published literature in Australia and internationally in related fields. These included hospital, child health clinic, medical, allied health and community settings.

Clinical Practice Guidelines and Evidence-based Practice

Current evidence-based guidelines for clinical practice in nursing promote high quality care occurring in a consistent, informed manner providing a conduit between theory and practice (Paliadelis, 2005; Thomson et al., 2000). Introduced to health care, internationally, in the 90s, clinical practice guidelines offered a method of incorporating best evidence into practice (Robertson, 2007). Clinical practice guidelines are pathways, including information designed to encourage collaborative care (NHMRC, 2011). Fostering a sense of inclusion, these pathways

allow clients to be treated as individuals. Experts suggested clinical practice guidelines became user friendly and more often adhered to when they were based on sound evidence and relevant to clinical practice (NHMRC, 2000; Knops et al., 2010). The NHMRC (2000) highlighted the transfer of research evidence to clinical practice often takes time. To facilitate this process they recommended providing relevant and reliable evidence-based information, easy access to this information, and an environment conducive to promoting research and informed by research on how to promote the use of evidence-based information.

The introduction of evidence-based practice (EBP) has improved the quality of health care significantly however there are instances where best evidence is not yet available to nurses and midwives (Pearson, Field, & Jordan, 2007). In these situations they are led by expert clinical experience and client needs. In reality, applying evidence-based practice in the workplace more broadly draws on a combination of factors including knowledge generated by research, practitioner expert opinion and client choices (Smith & Donze, 2010). Adapted from Smith and Donze, Figure 1 illustrates this process.

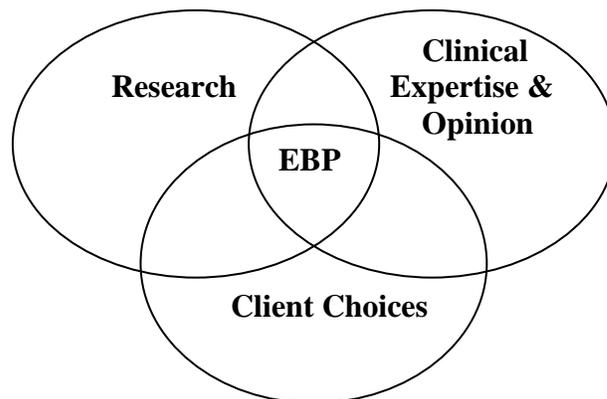


Figure 1 Process of Evidence-based Practice

When best evidence is not available clinical expertise becomes an invaluable component towards developing clinical practice guidelines and it is imperative to acknowledge this may be influenced by health professionals' past experience, level of knowledge and personal beliefs (Pearson et al., 2007).

Experts have suggested the existence of research evidence within clinical practice guidelines does not always lead to nurses and midwives transferring evidence-based knowledge to practice and indicated there are many barriers to successful implementation of guidelines (Schneider et al., 2007). Barriers present from many areas including nurses and midwives as individuals or as a team, the working environment, and from the organization (Thomson et al., 2000).

A factor analysis study of 400 registered nurses working in an Australian hospital identified poor staff access to research findings, staff concern related to the results of using the research and lack of support as major barriers to implementing clinical practice guidelines successfully (Retsas, 2008). Monroe, Duffy and Fishers' (2008) survey (n=40) assessing nurses' knowledge, skills and attitudes regarding evidence-based practice (EBP) before and after supports had been provided found major factors impacting on the use of EBP were the nurses' level of knowledge, support and beliefs about EBP. Koh, Manias, Hutchinson, Donath and Johnstons' (2008) survey (n=1467) found nurses were more amenable to changing their practice if they were facilitated and supported by a change champion. Experts agree for change in practice to occur and be sustained support mechanisms for staff development are extremely important (Pyle, 2006; Ploeg, Davies, Edwards, Gifford, & Elliott-Miller, 2007). Davies, Edwards, Ploeg, and Viranis' (2008) year long prospective study examining the implementation of 6 newly developed clinical practice

guidelines in eleven organizations found staff professional development in the form of in-service assisted the transfer of EBP in all of the organizations. Other factors encouraging nurses to adopt EBP described in Ploeg et al's (2007) qualitative study of twenty-two organizations implementing clinical practice guidelines in acute, community and long-term care settings included optimistic staff outlooks, and collaborative networking amongst the nurses within and outside the organization. This study also indicated pessimistic staff, poor incorporation of guideline content into overall organizational practice, limited resources and time, and high staff turnover hindered staff capacity to use EBP. Davies et al's (2006) prospective study evaluating whether or not seventeen practice guidelines used in hospital and community settings continued to be used in practice after a six month pilot revealed other barriers included very busy work environments, short time allocated to champions to support staff, inadequate continuing professional development, no opportunity for staff evaluation, and poor management commitment to staff support.

The health professionals' culture of practice is a major issue impacting on transfer of research evidence to practice (Winch, Henderson & Creedy, 2005). Changing nurses' and midwives' practice has been observed by experts to require either an alteration in their current approach to care or replacing that approach with a different one (Pearson et al., 2007). Resistance to change is a common trait of human behaviour and Pearson et al. believed this was important to acknowledge. They suggested "resistance can be considered...bad in terms of preventing or blocking something that may be advantageous or even essential; good in terms of tempering and balancing, thus constituting a brake on unplanned change" (2007, p.122). Planned change in practice is possible when nurses are involved in the process of development of clinical practice guidelines and attend professional development sessions about the clinical issue (Johnson &

Griffiths, 2001). When change is in progress, experts agreed immediate clinical support was of the essence (Pyle, 2006; Koh et al., 2008). Nurses' and midwives' reaction to change involves their attitudes and emotions (Pearson et al., 2007). A survey of 59 nurses attending an education workshop regarding a change in practice revealed nurses needed "on-the-spot" assistance in their workplace to develop self assurance and be proactive with their newly learned knowledge (Scott & Marfell-Jones, 2004, p.5). They also required "on-the-spot" support and encouragement to sustain and continue using these different behaviours. When considering barriers to change it is also important to recognize the impacts of imprecise or not enough information in the clinical practice guideline and social factors such as beliefs, attitudes and cultural norms of the client, society and political climate (NHMRC, 2011).

Barriers exist at many levels and there is a need to identify strategies to overcome barriers prior to implementing clinical practice guidelines to facilitate change. Pearson et al. (2007) suggested the use of surveys, interviews and focus groups of nurses, midwives, clients, organization leaders and educators, or piloting the change and then survey or interview staff post pilot to gather information. The objective was to determine staff ideas and beliefs about the planned change in practice and offer them a chance to develop a sense of agency for that change (Pearson et al., 2007). Winch et al. (2005, p.20) reported on "Read, Think, Do!", a process assisting the transfer of research evidence to practice applying a collaborative approach involving nursing staff and a specialist facilitator (evidence-based practice clinical nurse consultant). Recognising the multifaceted nature of investigative procedure, Winch et al. suggested first examining the evidence, then exploring its relevance to practice and then determining the cultural and social norms and beliefs of the workplace environment to determine how to promote sustainable

change in practice. Nursing staff using this approach were more agreeable about the use of research evidence when it was relevant to their daily practice. Reflective practice may also facilitate transfer and implementation of knowledge when appropriate support is provided. “Action learning”, a process of reflective practice between staff where they examine their own experiences and beliefs concerning workplace practice with the intention of using what they have learned to improve direct client care, is extremely useful in improving the staff uptake of clinical practice guidelines (Daley, 2008, p.29). Action learning has been reported to increase staff confidence, enhance staff capacity to solve problems and increase staff exchange of knowledge (Douglas & Machin, 2004).

Examining change theories can be useful when addressing barriers and facilitators for nurses and midwives implementing clinical practice guidelines. Behavioural theory points to the role environmental cues play in influencing and reinforcing behavior and thereby conditioning ongoing behavioural responses to given situations (Koh et al., 2008). Social influence theory postulates behaviour is influenced by others either intentionally or unintentionally through social norms and cultural transfer of beliefs and habits (Koh et al., 2008). Positive support systems including appropriate role modeling by peers and change champions together with provision of relevant information and positive feedback can increase the propensity for a positive cultural shift and facilitate change amongst nurses and midwives (Koh et al., 2008). Yarwood’s (2008, p.46) qualitative study of 18 New Zealand community based nurses found nurses acknowledged their values and beliefs “influenced and informed their practice”. One nurse stated “we all have to recognize our judgements, you know, because we all come with our own baggage...”

In summary, the transfer of research evidence to practice is a vital component in implementing clinical practice guidelines when aiming to improve health care outcomes. However, it is also imperative to acknowledge the major influences clinical expertise and client beliefs, and their associated barriers and facilitators play in determining the successful uptake of evidence-based guidelines. The human capacity for change is enhanced when feelings and self worth are acknowledged, and when shared dialogue and action are incorporated into the early planning phases of how to implement evidence-based practice guidelines.

Classification of the Nutritionally Compromised Infant

The clinical practice guideline developed for the Family Centre defined a nutritionally compromised infant as “an infant who failed to make expected age-appropriate gains in weight” (Appendix A p.1). Normal growth in individual children can vary a great deal. Infant growth charts provide a mechanism for illustrating a child’s growth pathway. Current growth charts, based on data collected from cross-sectional representative samples of many children, provide pathways or percentile lines most commonly travelled. Charting an individual child’s anthropometric indices (age, weight, height, and head circumference) on these growth charts presents a comparative illustration of growth over time. The weight for age indice is most often referred to in studies internationally (Fishman et al., 2004).

Mei, Grummer-Strawn, Thompson and Dietz (2004) indicated individual children may differ in their growth curves in peak periods of rapid growth when compared to those of the cross-sectional group used to develop the growth charts. Wright (2000) suggested it was difficult to be certain the infant was not achieving their expected age specific weight gains because there was often variation in

normal growth velocity patterns particularly in early infancy. Some researchers argue identification of undernutrition based on external growth measurements could present problems with many references providing no independent definition or conversely presenting too many conflicting measures (Bassali & Benjamin, 2006; Wells, 2002; Wright, 2000).

Some of the terms used by other experts to describe the nutritionally compromised infant include failure to thrive (FTT) and faltering growth (Block et al, 2005; Feld, Hyams, Kessler, Baker & Silverman, 2004; O'Brien et al., 2004; Rosenberg et al, 2008). During the 20th century it was commonly accepted that failure to thrive (FTT) was identified when the infant's weight for age had dropped below the 2nd, 3rd or 5th percentile on the growth chart (Ward, Kessler, & Altman, 1993; Wells, 2002). However this definition did not account for those children with genetically predetermined minor catch down growth. Catch down growth occurs when a child's length and or weight for age indice crosses down through percentiles then tracks along a percentile once reaching their genetic potential. Nor did these definitions account for those nutritionally compromised infants who had been born on a higher percentile, had fallen down through 2 or more percentiles but had not reached the 5th percentile (Wells, 2002; Wright, 2000).

Now it is generally accepted an infant is identified with FTT if they have fallen 2 or more percentiles, are not maintaining an established pattern of growth and/or are below the 2nd, 3rd or 5th percentile (Krugman & Dubowitz, 2003; O'Brien et al., 2004; Rosenberg et al., 2008). These authors suggested poor growth should be apparent for 3 to 6 months before making a diagnosis of FTT. One could argue, however, any change in trend of growth patterns should be investigated to determine its cause and assist in preventing major growth deficits for the infant. Feld et al. (2004) reinforced this notion

indicating that the prerequisite of waiting for children to fall significantly in their growth for a lengthy period of time hinders the identification of initial signs of compromised infant nutritive state. They argue growth faltering could flag undernutrition. Growth faltering occurs when an infant becomes stationary in their growth or crosses downwards through percentile pathways (World Health Organisation, 2008). The World Health Organisation (2008, p.31) recommended children's growth was "stagnated" when "a flat line" occurred in their growth pattern and that crossing downwards through percentiles could be an indicator a child was at risk.

History of Growth Charts

In 1977 the National Centre for Health Statistics (NCHS) developed infant growth charts that were adopted by the World Health Organisation (WHO) for international use (NCHS, 2007). Data collection methods for these charts were later questioned by WHO as being applicable to the wider international community. Data came from a longitudinal study of infants, aged zero to three years, of European descent, and living in one area of the United States of America. WHO argued there were insufficient measurements collected that would equate with the rapidly changing growth rate in early childhood, the statistical methods used to develop the growth chart curves were problematic and that representation of breast fed infants was very limited (WHO, 2006).

In 2000 the Centre for Disease Control and Prevention (CDC) presented a revised version of the 1977 NCHS growth charts based on their National Health and Nutrition Examination Survey (CDC, 2007). These charts were based on five nationally representative surveys conducted between 1963 and 1994. Larger numbers of babies across different states with different ethnic backgrounds were used

(Kuczmarski et al., 2002). The CDC (2007 p.1) stated “the revised growth charts for infants contain a better mix of both breast- and formula-fed infants in the U. S. population”. Myers et al. (2008, p.9) revealed the surveys included “predominately” artificially fed infants, inadequate sample sizes (especially in infants under six months of age) and a “skew” towards heavier weight in the older age groups that may have been influenced by upwards trends in obesity.

In 2006 WHO developed Child Growth Standards charts based on a sample of children from six countries including Brazil, Ghana, India, Norway, Oman, and the United States of America. The WHO Multicentre Growth Reference Study (MGRS) was designed to provide data describing how children should grow by including in the study’s selection criteria certain recommended health behaviours conducive to optimal child growth and development such as breastfeeding, provision of standard paediatric care and smoke free environments (WHO, 2006). The MGRS resulted in prescriptive standards for normal growth, as opposed to descriptive references. The standards can be used anywhere in the world regardless of ethnicity, socioeconomic status and type of feeding, since the study also showed children everywhere grow in similar patterns when their health and care needs are met (Myers et al., 2008; WHO, 2006). Myers et al. (2008, p.10) argued that the WHO (2006) growth standards only represented a select group of infants thriving in ideal environments and were not representative of the “real world”.

In 2007 the Australian Federal Government (Standing Committee on Health and Ageing, 2007, p.108) reported:

The new charts thus reflect ‘maximum growth rates’ for breastfed infants under ‘optimum conditions’, rather than growth rates that can be ‘realistically achieved’ in the

first six months. The new WHO growth standards have not been endorsed by the NHMRC. Currently the NHMRC recommends the revised CDC 2000 growth charts adapted for use on Australian children in clinical practice. Health professionals need to be careful to emphasise to mothers that the growth charts present a reference rather than a standard that has to be achieved. Although the new WHO growth standards have been released, the committee considers it premature to make a recommendation towards their adoption by all states and territories without further detailed consideration by health professionals.

Differing opinions about which growth charts should be adopted for use are evident throughout the literature. In 2009, in Australia, some services had decided to use the WHO (2006) growth charts and others continued to use the revised CDC 2000 growth charts (Department of Human Services Victoria, 2006; Myers, Paterson, Edwards & White, 2008). The United Kingdom released an adapted version of the WHO (2006) charts in 2009. The UK-WHO Growth Charts, a blended version of the UK90 and WHO (2006) data, were developed by the Science and Research Department at the University of Glasgow, a project led by Professor Charlotte Wright. The UK-WHO growth charts differ to other growth charts by having no percentiles lines between birth and 2 weeks of age thereby taking into account that infants may lose and regain their birth weight during that time and emphasizing the importance of reviewing growth relative to birth weight instead of percentile position (RCPCH, 2010). Less emphasis has been placed on the 50th percentile in these growth charts in an effort to reduce parental and health professional perceptions that infant growth should follow the 50th percentile. A new low birth weight chart for infants born before 32 weeks gestation has also been included providing an opportunity for comparative growth progress in this age group.

In 2010 the WHO (2006) charts were being used in the United States of America, Canada, most of Latin America, Bangladesh, Bhutan, Cambodia, India, Indonesia, Laos, Malaysia, Mongolia, Sri Lanka, Vietnam, Iran, Oman, Palestine, Yemen, Fiji and New Zealand (Dietitians of Canada et al., 2010; Grummer-Strawn, Reinold & Krebs, 2010; Myers et al., 2008). Australia, Denmark, France, Italy, Norway, Sweden and a number of Eastern European countries are currently undertaking formal reviews relating to growth charts. The Family Centre, referred to in this study, used the revised CDC 2000 growth charts when this research was undertaken and was waiting for further direction from the Australian government before changing their practice (Family Centre Director of Nursing & Midwifery/Executive Officer, Personal Communication, December 1st, 2011).

Comparison of breast fed infants' growth patterns to those of formula fed infants revealed breast fed infants grow at a faster rate than their formula fed counterparts in the first six months of life. Breast fed infants' rate of growth slows in the following months when compared to formula fed infants (WHO, 2006). Breast fed infants faltering in their growth in the first 6 months, when charted on the WHO (2006) growth charts, appear to be faltering more than when charted on the CDC 2000 growth charts. When using the WHO (2006) growth standards charts, if faltering growth occurs and is not fully assessed and managed by skilled practitioners, there is concern exclusive breast feeding will be undermined by implementation of supplementary and complementary formula feeding as a quick fix solution (Binns, James & Lee, 2008; Corby & Secker, 2006; Grummer-Strawn et al., 2010; Sachs, Dykes & Carter, 2006). After six months of age breast fed infants faltering in their growth patterns appear to be faltering more when charted on the CDC 2000 growth charts in comparison to when charted on the WHO (2006) growth

charts (WHO, 2006). This may also lead to questionable management strategies such as complementary formula feeding and introduction of higher calorie solid foods.

Experts support regular infant growth tracking using percentile charts as an effective identification measure for FTT (Bassali & Benjamin, 2006; Batchelor, 2008; Wells, 2002).

There is, however, ongoing debate regarding the implications of heavily relying on infant growth charts to accurately measure infant growth and development (National Centre for Health Statistics, 2007; Standing Committee on Health and Ageing, 2007). This discussion about growth monitoring has created conflict and anxiety among health professionals and primary carers (Sachs et al., 2006; Wells, 2002). It is important to determine the differences between natural growth variations in infancy and those caused by undernutrition. Monitoring growth increases the chances of detecting compromised infant growth but it can also serve to initiate inappropriate feeding management in infants experiencing normal growth variations. A critical review of evidence relating to child health screening and surveillance indicated frequent infant weight checks raise primary carers' anxiety and lead to intrusive feeding practices (Oberklaid, Wake, Harris, Hesketh & Wright, 2002). Oberklaid et al. (2002) suggested community child health professionals were able to identify approximately 80% of infants with FTT before weighing. In contrast Binns et al. (2008) indicated health professionals briefly viewing nutritionally compromised infants before weighing them often perceive the infants as younger than their actual age and are unable to accurately identify infant growth deficit.

Collectively most experts indicated growth measurement was the most effective way of

identifying the nutritionally compromised infant followed by accurate collection of history and physical examination (Bassali & Benjamin, 2006; Bergamin & Graham, 2005; Standing Committee on Health and Ageing, 2007; WHO/UNICEF, 2006; World Health Organisation, 2008). No worldwide agreement on frequency of growth measurement or growth charts has been reached. Many sources agreed, in order to prevent an infant progressing from mild to severe nutritionally compromised status, growth should be monitored regularly in the first 12 months (Bassali & Benjamin, 2006; Bergamin & Graham, 2005; Standing Committee on Health and Ageing, 2007; WHO/UNICEF, 2006; World Health Organisation, 2008).

Factors contributing to the Infant's Compromised Nutritive State

Aetiology of the nutritionally compromised infant has over time become known as multi-factorial in origin. It appears the inter-relational complexity of factors associated with the root cause for the infant's compromised state has made it difficult to determine appropriate assessment (Batchelor, 2008; Bergaman & Graham, 2005; Locklin, 2005; Stein, 2004; Wells, 2002).

Historically the nutritionally compromised infant had been viewed through the lens of medical and social models. The former concentrating on organic factors regarding illness, biological abnormalities and anatomical dysfunctions, and the latter focusing on inorganic factors relating to neglect, deprivation, psychological and social issues (Bassali & Benjamin, 2006; Drotar & Sturm, 1988; Ward et al., 1993; Wells, 2002). This division effectively led the health professional up one path or conversely down another, often serving to misconstrue the true nature of the issue hence was later found impractical and inaccurate (Oberklaid et al., 2002;

O'Brien et al, 2004; Wells, 2002). Ward et al. (1993, p.210) acknowledged this belief indicating "most researchers found this distinction inadequate, because all children with Non organic FTT have the organic disorder of malnutrition and because psychological and social problems are often operative in Organic FTT cases". Rosenberg et al. (2008 p.371) confirmed this claim stating "up to 80% of cases of failure to thrive will have some nonorganic contribution, and determinations of mixed etiology are fairly common". According to three separate population based studies major organic factors play a role in less than 5% of presenting nutritionally compromised infants and evidence of neglect is approximately 4% (Drewett, Corbett & Wright, 1999; Skuse, Reilly & Wolke, 1992; Wright, 2000; Wright, Callum, Birks & Jarvis, 1998). Using a holistic approach in assessment, the research site for this study, has determined infants referred to the Centre with FTT, were found, more commonly, to have a combination of variables that had impacted on their growth (National Centre for Classification in Health, 2004; Family Centre Director of Nursing & Midwifery/Executive Officer, Personal Communication, December 1st, 2011).

Often causes are interconnected as Krugman & Dubowitz (2003, p.1) illustrated in the following three examples.

A child may have a medical disorder that causes feeding problems and family stress. The stress can compound the feeding problem and aggravate the FTT...

When parents are overly anxious about a child's feeding, coercive practices can lead to feeding behaviour problems and FTT.

A depressed mother may not feed her infant adequately. The infant may become withdrawn, responding to the mother's depression and feed less well...

To remain focused on the central issue, infant nutritive status, currently accepted aetiology for the nutritionally compromised infant is divided into the following categories. Infants not gaining weight and growing as expected may not be receiving enough nutrition or are unable to consume nutrition or are unable to retain and absorb nutrition (Locklin, 2005; Bergaman & Graham, 2005). It is not uncommon to have a combination of these categories occurring at the same time.

Frequent infant night waking and constant crying often occur in conjunction with an absence or slowing of infant weight gain and infant feeding problems, such as breast refusal, rejection of formula and or solid foods (Fisher & Rowe, 2004). In an Australian longitudinal study of 2 groups of infants 4-12 months old (n=58 and n=59) admitted to a mother-baby unit with frequent night waking and day time catnapping, a third of these infants displayed feeding difficulties, including breast, bottle and solid refusal and mothers had poor breast milk supply (Fisher, Rowe & Feekery, 2004). It is common for nutritionally compromised infants to have a history of feeding problems related to primary carer lack of knowledge and feeding mismanagement (Batchelor, 1999; Wells, 2002). The feeding relationship between the infant and their primary carer plays a key role in infant feeding and there are many variables impacting on that relationship. Figure 2 illustrates these variables.

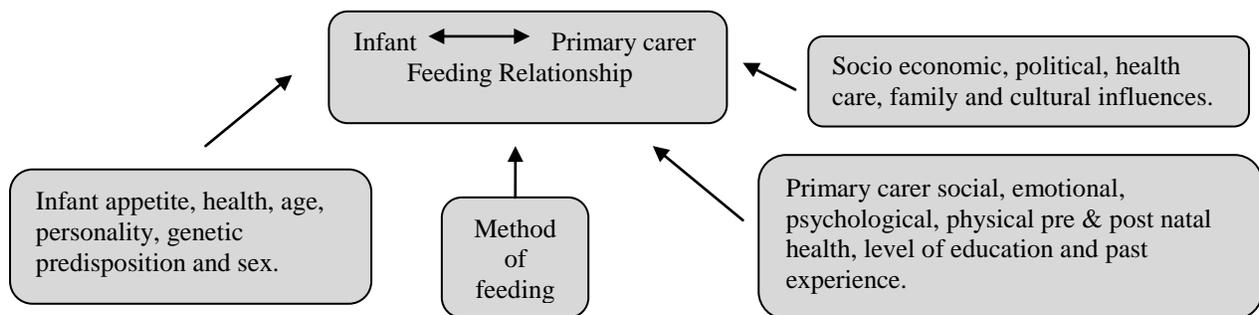


Figure 2 Variables impacting on the infant/primary care feeding relationship

Whilst it is beyond the scope of this review to explore all of these variables the following are very relevant to the context of this study.

Breast feeding

Experts agree the benefits of breast feeding are many (Australian Government Department of Health & Aging, 2009). Breast feeding mothers and their infants have an opportunity to develop close attachment. Breast feeding women, given appropriate support, recover quickly after child birth and have reduced risk of developing breast and ovarian cancers. Breast fed babies have more protection from gastro enteritis, respiratory conditions, otitis media and in later life have less propensity to becoming obese and developing heart disease (NHMRC, 2003; WHO, 2008). Breast feeding provides financial security for families and appropriate nutrition for infants (WHO, 2008). Breast feeding is recommended exclusively up to the age of 6 months then, with the introduction of complementary foods, partially after 6 months. It is recommended breastfeeding continue up to 12 months or later (NHMRC, 2003). Experts support the concept of demand feeding for breast fed infants based on research evidence (WHO, 2009).

Less than Optimum Breast Milk Supply

Because maternal milk supply can vary over 24 hours, infant behavior can also vary (WHO, 2009). In some instances infant behavior and maternal milk supply can be affected by the infant's inability to attach effectively to the breast and suckle efficiently. This may lead to reduced intake of milk triggering less milk being produced and resulting low supply (WHO, 2009). Observing infant behavior at the breast can be very useful in determining maternal milk supply (Walker, 2002). If supply is low the infant may fuss at the breast pulling off frequently

and or refuse the breast, or conversely, stay at the breast for a very long time or demand to feed very frequently (WHO, 2009). Assessment of maternal milk supply is a complex skill demanding a high level of expertise relating to the physiology of breast feeding and infant behavior.

A reduction in breast milk production causing low supply will lead to reduced infant calorie intake (Edelstein & Sharlin, 2009). This may then result in a lethargic and sleepy baby who does not have the energy to demand feeds and suckle efficiently. Coupled with a mother who lacks knowledge of infant behavior and the early signs of compromised infant state, thinking she has a perfect baby who sleeps all the time and is undemanding and therefore not waking the infant to feed, these factors lead to less milk generated and a nutritionally compromised infant (Walker, 2006). Often when mothers do become aware there is an issue maternal stress can then trigger a decreased oxytocin release leading to decreased milk ejection and this has been shown to also inhibit breast milk supply hence a vicious cycle develops further escalating the problem (Wells, 2002).

Mothers Lacking Education

Literature suggests in developed countries women are limited in their exposure to witnessing other women breastfeed and this phenomenon may impact on their ability to breastfeed successfully (Earle, 2002). Compounding this issue the Department of Health and Ageing (2009) described, in their qualitative exploratory research report investigating the attitudes and experiences of breastfeeding amongst pregnant women and mothers, few women were proactive in seeking knowledge about breastfeeding prenatally expecting that it was an instinctive process

that would happen naturally. Mothers indicated their primary resource for antenatal information was antenatal classes where they perceived breast feeding education to be a very small portion of what was covered and the reality of breastfeeding after having their baby was not what they had anticipated prenatally. Hauck, Graham-Smith, McInerney and Kay (2010, p.3) elaborated on how some mothers perceive the advice they are given from multiple health professionals to be conflicting, describing a difference between maternal expectations and the reality of breast feeding particularly when mothers were feeling vulnerable referring to “a first-time mother, a mother with an unsettled infant or a infant who was not responding to strategies”. Hauck et al suggested these factors could affect the mother’s self confidence and alter her capacity to understand knowledge shared.

Inconsistent Professional Breastfeeding Support

Clifford and McIntyre (2008) revealed health professionals often did not receive adequate breastfeeding education in their training and better skills and knowledge would lead to more appropriate sharing of information with mothers pre and post natally. An English critical ethnographic study (Dykes, 2005, p.1) of 39 midwives and 61 breast-feeding women in postnatal wards found most interactions between midwives and women were affected by midwives’ inability to spend enough time with the women because of their busy working routines. Dykes indicated “the organisational culture within the postnatal wards contributed to midwives experiencing profound temporal pressures and an inability to establish relationality with women. Within this context, the needs of breast-feeding women for emotional, esteem, informational and practical support were largely unmet”. This lack of support, especially for women experiencing psychological and social difficulties may lead to infants receiving less than optimal nutrition.

Lack of Timely and Appropriate Support

An Australian Parliamentary inquiry (Standing Committee on Health and ageing, 2007, p.101-102) revealed lactation advice was regarded by mothers as confusing, judgemental and lacking at times.

Obtaining an appointment for breastfeeding assistance in a week's time does nothing to address the immediate problem of being unable to latch a hungry infant to an engorged and bleeding breast.

The inquiry indicated health organizations were becoming aware of the necessity for consistent guidance with many developing guidelines and professional staff development packages relating to breastfeeding to promote standardized care. Nelson's (2007) phenomenological study with 12 maternal-newborn hospital nurses in the United States of America determining their experience of inconsistent professional breastfeeding support suggested it was also important to provide an opportunity for all staff to contribute in the development of breastfeeding guidelines promoting collaboration and consistency in care.

Cultural Influences

The Department of Health and Ageing (2009) described mothers having difficulty coping after leaving hospital due to physical discomfort, sleep deprivation, lack of knowledge and anxiety. They found the mothers' partners and family were often worried about the mother and baby and suggested to the mother to offer the baby formula in an attempt to help mother and baby. When mothers accept this advice and offer their babies formula in place of some breastfeeds this may lead to reduced infant suckling at the breast which may lead to a reduction in breast milk supply.

Later, if the infant refuses the bottle and prefers to suckle at the breast but limited breast milk is available the infant may become nutritionally compromised.

Attitudes explored in an Australian cross-sectional research survey of the general community (n=2500) suggested support for breastfeeding was lacking in the community with “over 80% of participants” preferring to offer formula outside of the home and “70%” suggesting the social environment in the community was not geared to invite mothers to breastfeed (McIntyre, Hiller & Turnbull, 2001, p.27). A Northern Ireland qualitative study of “expectant mothers” (n=12) exploring factors influencing maternal feeding decisions revealed main barriers to breast-feeding were lack of choice and autonomy related to family decisions, going back to work, awkward social situations and social isolation (Stewart-Knox, Gardiner & Wright, 2003, p.266). This study illustrated how cultural norms impacted on infant feeding.

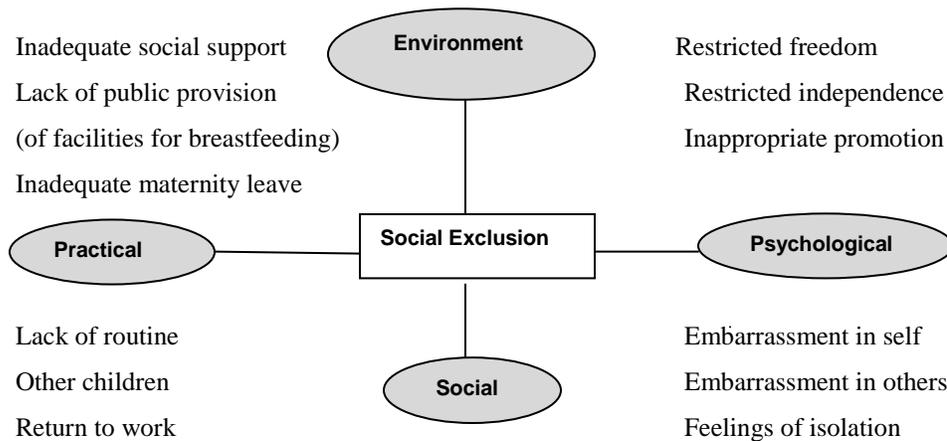


Figure 3 Adapted descriptive model depicting interaction between perceived barriers to breast-feeding (Stewart-Knox et al., 2003).

Cultural influences hold a significant place in construction of parental beliefs and practices and

this is demonstrated frequently with infant feeding (Andrews, Boyle & Carr, 2002; Wilmoth & Elder, 1995). Fraser, Norton, Morgan and Kirkwood (2006) indicated parental lack of knowledge and erroneous ideas of the nutritional needs for their infants led to infant feeding problems. Lucas et als' (2007 p.1) systematic review of 19 studies exploring “parental and other lay views about the meanings and importance of infant size” revealed parents beliefs of infant wellbeing in terms of their “size and growth” were influenced by their idea of what was normal.

Increased maternal anxiety and effort to feed their infant can create infant aversive reactions to feeding (Wright, Parkinson & Drewett, 2006). A USA Quality Improvement project (Pak-Gorstein, 2004) which included a quantitative and qualitative study of immigrant Somali families and their nutritionally compromised infants presenting with a history of food refusal, found overfeeding was common. This was associated with maternal anxiety about breast milk supply, a belief that a plump baby was more acceptable and resulting use of formula as a complementary food. This project found when families forced an infant to have too much food this led to obesity in infants with robust appetites. Conversely, infants with less appetite developed feeding aversion behavior causing compromised infant nutritive status.

Formula Feeding

Lee (2007) reported women felt access to information on formula milk use was “patchy”. The significance of these comments in the context of possible causes and management for nutritionally compromised infants cannot be ignored. Lack of education on appropriate formula type, quantity and preparation can lead to inappropriate use of formula and compromised nutrition of the infant. Lee (2007) described women’s feelings of anxiety and fear concerning

limited access to information. Women were unsure about how to make up bottles appropriately and felt anxious about feeding their baby in a way they feared was risky. Confusion about use of formula was exacerbated by lack of available information given by health professionals. Lee (2007 p. 1076) discussed the social construction of infant feeding practices “breast is best” and made the comment “there is relatively little research of a more socio-cultural kind that seeks to investigate women’s experience of feeding their babies in a context where breastfeeding is strongly promoted”. She suggested “an unfortunate outcome of the social cultural trend to moralise health may be that it becomes harder in this context for a culture of empathy and trust to develop between women and those responsible for providing healthcare” (2007 p.1088).

Maternal Mood

Anxiety

A longitudinal study of 87 women explored the correlation between maternal mood pre and post natally and maternal feeding practices at 1yr (Farrow & Blissett, 2005). Anxiety was significantly related both pre and post natally to controlling and restrictive maternal feeding practice at 1yr and raised maternal anxiety reduced the woman’s capacity to determine her child’s hunger and satiety cues.

Attachment

Feldman et al. (2004 p.1089) provided evidence of the link between feeding disorders and poor attachment in their comparative control study of 94 infants aged 9-34 months revealing mothers chose to have less physical contact with their children and their children displayed signs of “touch aversion”. Ammaniti, Ambrozzi, Lucarelli, Cimino & D’Olimpio’s (2004) comparative

cross-sectional study (n=333) examined infants under three years with a feeding disorder and FTT and dysfunctional mother-child feeding interactions. They found mothers exhibited unhappiness and stress, were emotionally distant from their child and had a reduced capacity to read and respond to their child's cues. Interactions were conflictual, directive and lacked empathy. Child food refusal, inadequate eating, heightened or reduced engagement by babies and increased oppositional defiance in toddlers occurred at mealtimes. In time these factors may lead to children receiving inadequate amounts of food with subsequent risk of compromised nutritive condition.

Postnatal Depression

Women experiencing postnatal depression are often presumed to have difficulty parenting effectively. It is, therefore, essential to determine if postnatal depression plays a role in poor infant growth in order to provide appropriate management strategies for the mother, the infant and their family. The available evidence surrounding the effects of maternal depression on poor infant growth is conflicting with some studies showing no effect and other studies linking postnatal depression with faltering growth and FTT.

Ramsay, Gisel, McCusker, Bellavance and Platts' (2002) Canadian prospective study (n=409 infants aged 1week -14months) revealed maternal depression was not linked with poor infant growth or inadequate feeding practices. Drewett et al. (2004) corroborated these findings in a UK population-based birth cohort study (n= 587 FTT infants under 9months) demonstrating postnatal depression was not related to an increase in incidence of FTT. However it did reveal preterm births were associated with postnatal depression and a higher incidence of FTT. An

Indian cohort control study (Patel, DeSouza & Rodrigues, 2003) of 171 infants 6-8 weeks of age determined postnatal depression was a 'strong and independent predictor' of poor growth in South Asia. Rahman, Iqbal, Bunn, Lovel and Harrington (2004) supported these findings in a prospective cohort study conducted in Pakistan of 160 infants aged 2-12 months of depressed mothers, adding inadequate growth is determined by both antenatal and postnatal maternal depression. O'Brien et al. (2004) found in their UK community based case control study of 196 mothers of children less than 2 years with faltering growth, maternal postnatal depression was higher in the first 2 years of their infant's life compared to 567 mothers who did not have infants who were displaying poor growth. Wright et al. (2006) supported these findings in past studies confirming the link between postnatal depression and poor weight gain in infants up to 4 months however by 12 months the incidence of postnatal depression was no different when compared to mothers with infants who were not nutritionally compromised. A European randomized control multicenter study (n=929 women and their children) conducted with women diagnosed with postnatal depression and their infants (n=180) found there were no significant differences in infant growth at two years of age between mothers with postnatal depression and mothers without postnatal depression in the five countries of Belgium, Germany, Italy, Poland and Spain (Grote et al. 2010).

Biological, psychological and social factors all contribute to postnatal depression and it is common for a combination of these factors to influence the condition (PANDA, 2009). The effect these factors hold is often determined by the environment surrounding the women. This may partly explain the differences between studies conducted in different countries.

Aetiology of the nutritionally compromised infant presents an intricate weave of aspects contributing to the infant's condition. These include physical, emotional, psychosocial, cultural and educational factors. The complexity of the relationships between these variables dictates an assessment of the nutritionally compromised infant from a primary health care perspective or social view of health, acknowledging the range of factors impacting on health and wellbeing (Government of South Australia Department of Health, 2004).

Definition

Terms such as 'Failure To Thrive' (FTT) and 'growth failure' have been and continue to be used to describe the nutritionally compromised infant. FTT, a term adopted by health and social disciplines, has a long history evoking a discourse charged with anxiety and negativity. This term dates back to the early 20th century when infants, raised in foundling hospitals and receiving inadequate care, exhibited poor growth. It was assumed lack of developmental stimulation was the cause of the infant's poor growth (Batchelor, 2008; Wells, 2002; Wolke 1996). Neglect and emotional deprivation were seen to be the major contributing factors of FTT when no organic factors could be isolated. By association this connection led to discourse linking maternal neglect with FTT that is still prominent in the 21st century despite studies like Whitten et al. (1969) who demonstrated the major cause for infant growth failure was the infant's poor nutritional intake. In 1985 Skuse (p.173) called for "a classification of the condition, founded on facts not concepts" in an attempt to promote a shift towards evidence-based practice. He suggested "non-organic failure to thrive should be viewed in a multidimensional context" introducing the concept of looking through the lens of a primary health care model.

In the late 20th century researchers determined FTT should be defined in terms of physical growth falling below anthropometric norms because growth could be measured without bias (Drotar & Sturm, 1988; Wright 2000). Experts agreed inadequate nutrition was the central underlying cause of FTT (Drotar, 1985; Skuse, 1985).

In the early 21st century the terms faltering growth, undernutrition, nutritional deficiency and malnutrition are common and often used in conjunction with FTT (Blissett et al., 2002; Block et al., 2005; Edmond et al., 2007; Fishman et al., 2004; O'Brien et al., 2004; Wright, 2000).

Although there has been a move towards a focus on undernutrition, associated terms such as malnutrition and underweight have also created some misunderstanding. Fishman et al. (2004) asserted it was important to distinguish between the terms underweight and malnutrition suggesting anthropometric indices assisted in identification of underweight through observation of external factors but the indices were not a marker of internal physiological status indicating malnutrition.

Terminology used to describe the nutritionally compromised infant has evolved over time. It appears the term FTT attracts criticism for a number of reasons. Firstly, it ascribes a judgement based ideology that does not promote help seeking behaviour, secondly, it limits the collaborative process, and lastly, it does not describe the root cause of the infant's condition. In recent times the terms, undernutrition and faltering growth have been adopted. Undernutrition is an accepted term worldwide. Faltering growth is more commonly used to describe the nutritionally compromised infant in developed countries. The Family centre, referred to in this study, after synthesizing the literature on language that would assist nurses and midwives in their

practice to connect with the client and address the range of degrees of poor infant growth and nutrient status seen at the Family Centre, adopted the term, 'nutritionally compromised infant' (Family Centre Director of Nursing & Midwifery/Executive Officer, Personal Communication, December 1st, 2011).

Management Strategies

Assessment

The management of nutritionally compromised infants is defined by the underlying causes contributing to the infant's nutritive state and focused on improving the infant's nutritional requirements whilst addressing those issues (Locklin, 2005). Gathering a comprehensive health and feeding history and conducting a thorough feeding assessment will allow the health professional to determine the causative factors that may contribute to an infant becoming nutritionally compromised. Collection of a psycho/social history provides an opportunity to understand both protective and risk factors that may impact on the primary carer's ability to provide optimum nutrition to their infant. A thorough physical and developmental examination may provide confirmation of and possible causes for compromised nutritional status of the infant. Finally, review of infant growth patterns allows an assessment of the infant's growth over time. These steps will inform the plan of care (Bergaman & Graham, 2005; Krugman & Dubowitz, 2003).

Implementation of Care

Although literature described similar management strategies related to improving breast milk supply and breast feeding techniques, other methods for offering infants nutrition, types of

nutrition, and education and support for primary carers, there were differing opinions on how to calculate the amount and caloric value of nutrition provided to the nutritionally compromised infant and when to intervene and commence management strategies. (Bergaman & Graham, 2005; King, 2008; Krugman & Dubowitz, 2003; Walker, 2006; WHO, 2009). Dietician, Rosan Meyer (2008) believed the nutritional management for faltering growth was dependent on its level of severity and underlying causes, and currently no guidelines existed that were universally acknowledged as standard management. The potential for confusion and conflict to arise among health professionals and clients may be increased with the absence of standardised information in clinical practice guidelines to assist health professionals to provide appropriate and consistent care. The concept of collaborative care, focusing on families and their infants as individuals, provides nurses and midwives with some structure in guiding them towards desirable goals for their clients.

Collaborative Care: Health Professionals Experience

Schmied, Cooke, Gutwein, Steinlein and Homer (2008) used Action Research to explore midwives views of postnatal care and the barriers and facilitators associated with providing quality care. Midwives (n=31) emphasised the importance of developing a collaborative relationship with women and assisting them to meet their goals in a flexible manner.

Collaboration was again identified as an important concept by Greenland (2005). In her exemplar, describing a critical incident in a hospital paediatric unit involving a mother with a 3 month old nutritionally compromised infant and nursing staff, Greenland illustrated how, as a result of a nursing handover report, a presumption was made that the child's condition was related to inadequate maternal parenting rather than a physical problem. The nurse on the

oncoming shift caring for this mother decided to employ a collaborative approach, engaging with the mother, enquiring about her needs and her infant's needs. This led to a change in the mother's behaviour with her disclosing she felt blamed and her infant's condition caused her distress and fear. Her solution to these feelings was to distance herself from her infant. Eronen, Pincombe and Calabretto (2010) concurred with this nurse's practice of collaboration and empowering clients indicating that child health professionals should focus on improving parents' decision making abilities and level of confidence by using reflective listening skills, displaying empathy, giving support, providing appropriate education and information on available care strategies and offering positive reinforcement of developing parenting capacity.

Parent group education can assist the process of sharing information and supporting collaborative care. Lamond (2010 p.8 & 9) suggested group facilitation was very successful when informed by "evidence-based research, adult learning principles and learning styles, primary health care principles, family and infant mental health attachment theory, cultural safety and father inclusive practice". She emphasized this type of education should aim to achieve positive results guided by a social view of health assisting parents to develop self assurance and increase their level of parenting knowledge and skills and connection with their child.

Collaborative Care: Parents' Views

A Scottish prospective longitudinal qualitative study (Hoddinott, Craig, Britten & McInnes, 2010 p. 25) of 36 families with 220 interviews exploring the early infant feeding experiences of parents and their significant others indicated women felt care was lacking due to staff being "busy" and "lack of continuity of care". Hoddinott et al. highlighted that parents assumed staff

would be available to them and they favoured proactive offers of assistance. Following discharge from the hospital women described staff lack of time and unpredictability of post natal home visits as an issue.

A qualitative study (POPPY Steering Group, 2009, p.11) undertaken with 42 mothers and 13 fathers examining parents experiences found parents perceived “information overload” as an issue with more time needed to digest the volume and content of information shared. Parents displayed anxiety at the thought of being judged harshly, expressing their vulnerability in their early parenting phase. Being given conflicting advice intensified their sense of decreased self worth and confusion. They inferred staff should be more aware of the effects conflicting advice could have on parents’ capacity to develop their parenting confidence.

Collaborative Care: Multidisciplinary Support

Experts suggest management is undertaken in hospitals with severe cases of FTT and malnutrition but more often occurs in the community when infants are mildly or moderately affected with under-nutrition (Krugman & Dubowitz, 2003; Locklin, 2005; WHO, 2008). It is clear the multi-factorial nature of causes leading to compromised infant nutritive status demands a multidisciplinary response (Bassili & Benjamin, 2006; Batchelor, 2008; Rosenberg et al., 2008; Wells, 2002). Even in the 5% of nutritionally compromised infants where organic causes have been isolated, multidisciplinary support will be required by primary carers and their families for ongoing nutritional feeding education and support (Bassali & Benjamin, 2006).

Possible Outcomes for the Nutritionally Compromised Infant

Several intervention studies have demonstrated improved outcomes for the nutritionally compromised infant. A randomised control study (Black, Dubowitz, Hutcheson, Berenson-Howard & Starr, 1995, p.807) in the USA on a community based intervention with FTT infants < 25 months old (n=64) receiving weekly home visits for one year from “lay home visitors, supervised by a community health nurse” revealed an improvement in cognitive development in younger children. A follow up study of these infants at age 8yrs found these children had “fewer teacher-reported internalising problems and better work habits” (Black et al., 2007, p.59).

Wright et al’s (1998) randomised control study in the UK of a multidisciplinary home intervention with 229 FTT infants at age 3yrs reported children’s growth and appetite had improved. Raynor, Rudolf, Cooper, Marchant and Cottrell (1999) in their UK randomised control study of specialist health visitor intervention with 83 FTT infants aged 4-30months reported the intervention resulted in high levels of weight gain especially in the first 12 months, less dietary referrals, social service involvement and hospital admissions for the study group compared to the control group.

Powell, Baker-Henningham, Walker, Gernay and Grantham-McGregor (2004) examined the effect of introducing “psychosocial stimulation” via a home intervention program for 139 Jamaican undernourished children (9-30 months old) in a cluster randomised control study. They found this intervention improved infant development, maternal knowledge and parenting practice in the intervention group in comparison to the control group.

Evidence for community based intervention and residential based care is encouraging with improved outcomes for infants however there is little exploration of the nature of the relationship between the health professional and the primary carer that would assist in sustaining positive results for the infant and their primary carer. It was also apparent further research needed to be undertaken in a more current context that included information on whether breast feeding was sustained in the longer term. Experts agreed collaboration with other health professionals using a multidisciplinary approach led to more desirable health outcomes for nutritionally compromised infants and their primary carers (Falkenstein, Kerstan & Chilton, 2007; Krugman & Dubowitz, 2003; Rosenburg et al., 2008).

Summary

In uncovering evidence-based knowledge linked to this study this chapter has enriched our understanding of the purpose and content of the clinical practice guideline for care of the nutritionally compromised infant. The review has also provided some insight about some of the barriers and facilitators nurses and midwives may encounter when transferring research evidence to practice, undergoing change, identifying and assessing nutritionally compromised infants and implementing management strategies to assist with their care. This review has also illuminated a gap in the literature. No evidence of other nurses and midwives experience of implementing clinical practice guidelines specifically for care of nutritionally compromised infants in other fields existed. The following chapter describes the methodology and method employed throughout this study.

CHAPTER 3

METHODOLOGY & METHOD

Introduction

Chapter 2 has provided a canvas of knowledge currently known in relation to this area of research. This chapter describes the methodology and method of hermeneutic interpretative phenomenology used to inform and guide this study. I will discuss my phenomenological attitude, the relevance of the methodology to nursing and midwifery, participant information, ethical considerations, data collection and analysis procedures.

Hermeneutic Interpretative Phenomenology

Ajjawi & Higgs (2007, p.614) described hermeneutic interpretative phenomenology as a paradigm recognising a human science that is subjective in nature and therefore is well suited to the aim and objectives of this study.

In this type of research, findings emerge from the interactions between the researcher and the participants as the research progresses (Creswell, 1998). Therefore, subjectivity is valued; there is acknowledgement that humans are incapable of total objectivity because they are situated in a reality constructed by subjective experiences. Further, the research is value-bound by the nature of the questions being asked, the values held by the researcher, and the ways findings are generated and interpreted.

Dating back to the seventeenth century, hermeneutics is referred to as the “theory of interpretation”, bringing to light, through textual description, the nature of lived experience (Smith et al., 2009, p.3). Phenomenology, known as the study of human lived experience,

explores those aspects of our experience that we value and are especially significant to our sense of being and inform our perceived reality of the world (Smith et al., 2009).

Hermeneutic interpretative phenomenology has been influenced by the philosophical approaches of hermeneutics and phenomenology with the works of Husserl, Heidegger, and Gadamer, becoming prominent in the twentieth century (Klenke, 2008; Schneider et al., 2007; Smith et al., 2009; Speciale & Carpenter, 2006).

Husserl, often referred to as the “father of phenomenology”, believed phenomenology was “a science of consciousness” (Klenke, 2008, p.223). He suggested only in human consciousness did objects or phenomena exist refuting the naturalistic science inquiry of examining objects outside of human consciousness in the belief they were autonomous from the researcher. In order to describe phenomena with conviction Husserl thought it necessary to focus only on the immediate experience and phenomena would reveal themselves. Husserl indicated the underlying premise of phenomenological exploration was to describe the experience as it presented itself eluding the researcher’s task was only to illustrate the participants lived experience (Smith et al., 2009). This methodology is known as descriptive phenomenology. Husserl demonstrated an epistemological approach studying the nature of phenomena through mindful awareness, proposing this occurred by ‘bracketing’ or putting aside feelings, beliefs, preconceived ideas and prior knowledge of phenomena (Schneider et al., 2007). Van Manen described this process as “suspending one’s various beliefs in the reality of the natural world in order to study the essential structures of the world” (1990, p.174).

Heidegger and Gadamer, whilst acknowledging and building on Husserl’s work later deviated

from this notion, presenting an ontological approach. They examined the connection between awareness and phenomena (Schneider et al., 2007, p.109). Schneider et al. illustrated the significant differences between these approaches suggesting Husserl asks “how is this phenomenon known” using the concept of bracketing where as Heidegger asks “how is this phenomenon understood through experience of the phenomenon” (2007, p.111). Heidegger and Gadamer’s hermeneutic interpretative phenomenological approach acknowledges the researcher’s past and present lived experience, knowledge and beliefs related to the phenomenon indicating any prior knowledge, notions, preconceptions and assumptions should be explicated (Schneider et al., 2003; Speziale & Carpenter, 2006). Explication allows the researchers’ views to be transparent promoting her conscious awareness of these thoughts and opinions whilst she examines those presented by participants during the research process (Speziale & Carpenter, 2006).

I have chosen the path of explication, acknowledging the view that in some sense humans are all connected thus any knowledge and emotion we have or aspire to have is influenced in some way by our collective lived experience and therefore deserves to be openly declared. It is with integrity that I share this process. The following explication reflected some of my lived experience of ‘being-in-the-world’ with children. Van Manen (1990, p.175) describes ‘being-in-the-world’ as “a Heideggerian phrase that refers to the way human beings exist, act, or are involved in the world – for example, as parent, as teacher, as man, as woman, or as child”. This process was attended by writing a journal before and during data collection. Brief excerpts from my journal are included.

I am a registered nurse and midwife currently working at the Family Centre and mother of 2 children holding 19 years of experience of 'being in the world' with children. I believe in balance and moderation, providing options, having common sense, recognising there are many ways of seeing, recognising there are many ways of caring, offering opportunity through collaboration, sharing power and empowering, that everybody has a capacity to learn and a right to be heard.

I believe that all infants deserve to be fed, this has to be our priority, feeding an infant is complex, the feeding relationship is complex. Learning to read infant behaviour is the key, learning to know the signs of low breast milk supply with confidence and conviction is essential. I believe good family mental health is imperative for now and the future.

I believe it is easy to be led and challenging to lead – having information, knowing information and believing information, it is a collective issue. I believe confusion and anxiety paralyse one with fear and rob one of confidence – anger can lead to somewhere or nowhere - it all depends on support enveloping one - having a guide in the fog to lead one out to the sunshine.

I believe change is inevitable. It is how one copes during the process that is important. Support is the key, without that one cannot grow. I believe we must all be advocates for the child only then can we guarantee a future of hope where family can thrive.

Hermeneutic interpretative phenomenologists seek to explore the participants' experiences of

their lived experience, how they make sense of those experiences, their perceptions of those experiences and to understand what is happening to the participant by interpreting their experience. Hermeneutic interpretative phenomenologists describe the essence of that experience through language (Speziale & Carpenter, 2006). Speziale and Carpenter (2006, p. 78) describe essences as “elements related to the ideal or true meaning of something, that is, those concepts that give common understanding to the phenomenon under investigation”. In this way hermeneutic interpretative phenomenology is able to illuminate the meaning of the phenomenon revealing knowledge previously obscured (Schneider et al., 2007). Polit and Beck (2008, p.227) claim phenomenology “is especially useful when a phenomenon has been poorly defined or conceptualised”.

In this study hermeneutic interpretative phenomenology acknowledged the experience of nurses and midwives was influenced by their perspectives on their experience, their cultural and historical background and their ability to imagine what the future could hold. Hermeneutic interpretative phenomenology facilitated the exploration of the nurses’ and midwives’ lived experience providing an insightful understanding of their actions and beliefs from their perspective. This methodology is well matched to the exploration of phenomena important to the nurses and midwives because their experience of working with families with nutritionally compromised infants is intertwined with their clients’ life experiences. Hermeneutic interpretative phenomenology offered a vehicle to enable the voice of nurses and midwives, assisting myself and the nurses and midwives to provide a description of their experience as it was experienced by them, allowing the essence of that experience to emerge (Klenke, 2008).

Van Manen (1990) builds on Husserl, Heidegger and Gadamer's approaches, describing a method for actioning hermeneutic interpretative phenomenology. Since this study was concerned, primarily, with nurses and midwives caring for infants and their carers it seemed appropriate to draw on Van Manen's text to inform the study's methodology and method because he described the process in relation to children and parents. Van Manen addresses a "human science research approach" suited to describing nurses and midwives lived experience, interpreting that experience through language and uncovering the essence of that experience (1990, p.1). He describes how one comes to know an essence through textual interpretation.

The essence or nature of an experience has been adequately described in language if the description reawakens or shows us the lived quality and significance of the experience in a fuller or deeper manner (Van Manen, 1990, p.10).

In this study I have sought to uncover essences by exploring and presenting a literature review, the participants' accounts and interpretative analysis, conscious that each reader of this study will draw their own conclusions and may interpret the participants' experience differently depending on the nature of their lived experiences. This, I think, is the intent of hermeneutic interpretative phenomenology; to create an opportunity for essences to be revealed at many levels of consciousness not only for the researcher but also for participants and readers of the study. As essences presented themselves in this study both I and the participants came to know the 'phenomenological nod'. Van Manen (1990, p.27) stated "a good phenomenological description is an adequate elucidation of some aspect of the lifeworld – it resonates with our sense of lived life". The phenomenological nod occurs when readers of the study nod to indicate they recognise the experience or essence described by the researcher, they 'get it'.

METHOD

Participants

This study used a purposive sample to generate data specific to the phenomena and consistent with interpretative hermeneutic phenomenological methodology (Speziale & Carpenter, 2006). Polit and Beck (2008, p.355) describe purposive sampling as a strategy the researcher uses to select participants who “will most benefit the study” increasing the likelihood of gathering information relevant to the phenomenon being explored. In this study the following participant attributes were considered essential to generate rich data.

- they were currently undertaking clinical work at the Family Centre,
- they had attended the in-service providing evidence-based knowledge relating to care of nutritionally compromised infants and their primary carers at the Family Centre,
- they possessed varying ranges of experience and education in infant, child, maternal and family health including working with nutritionally compromised infants and their primary carers, and
- they had been educated as enrolled nurses, mothercraft nurses, registered nurses and midwives.

The inclusion criteria of all these professional groups was sought because it was considered that inclusion of participants from all these backgrounds was crucial to enhance the depth of the data and capture the possible range of lived experiences in relation to this phenomenon. Twenty nurses and midwives met the inclusion criteria and fifteen nurses and midwives elected to participate in this study.

Recruitment & Consent

The study was promoted to potential participants via letter between January and March 2010.

Nurses and Midwives interested in participating were sent an information sheet and consent form (Appendix B). The information sheet outlined the nature of the study including the aim and objectives, an explanation of the research process and my availability and contact details to answer any questions. At the time of this study I did not hold a nursing management position at the Family Centre and was available to answer questions raised by potential participants.

Ethics

Ethics approval for this study was sought and granted by the University of Canberra Committee for Ethics in Human Research on the 19/1/2010 (project number 09-121). Approval from the Executive Officer/ Director of Nursing and Midwifery of the Family Centre was also granted. Steps taken to ensure participants' free and voluntary consent and participation in the project included the following. The information sheet, describing the details of the study, and voluntary consent and participation form were enclosed in a sealed plain envelope marked confidential, addressed and mailed to potential participants. To be sure decisions about participation in the study did not harm any existing or future affiliations between participants, the researcher and the Family Centre the information sheet provided potential participants with assurance choosing not to participate in the study would not disadvantage potential participants in their workplace. It outlined participants' right to withdraw from the study at any time and provided assurance of confidentiality.

All potential participants were aware the researcher was employed by the Family Centre as a

nurse and midwife performing a non management clinical and research role and was bound by the rules of confidentiality in the Australian Nursing & Midwifery Council (ANMC) (2008) Codes of Ethics and Professional Conduct. All potential participants were given the opportunity to ask questions concerning the study and requested to read and complete the consent form prior to participating in the study. As registered nurses and midwives all potential participants were informed they were bound by the rules of confidentiality in the ANMC (2008) Codes of Ethics and Professional Conduct.

Prior to interviews and the focus group rules of confidentiality were discussed with participants and they were asked to agree to keep confidential all matters relating to participants. To maintain participants' privacy and promote confidentiality interviews were conducted at the University of Canberra away from the participants' workplace. All interview and focus group transcripts were deidentified. The transcripts were stored on a password protected computer file and the printed hard copy was stored in a locked filing cabinet accessible only to the researcher during the course of the study. On completion of the study the data was stored by the University of Canberra and will be held there for a period of five years before being destroyed.

Rigor and Trustworthiness

The conduct and progress of the study was monitored using the mechanisms of rigor and trustworthiness determined through the standards of credibility, auditability, fittingness and confirmability (Schneider et al, 2003; Speziale & Carpenter, 2006; Taylor, Kermode & Roberts, 2006). Credibility refers to the capacity of the participants and readers of the study to identify the phenomenon portrayed in the research and that the data was reflected truthfully by the

researcher (Polit & Beck, 2008; Taylor et al., 2006). In this study credibility was achieved through “member checking” by validation from participants of the researcher’s interpretative analysis; prolonged engagement with participants and the phenomenon; multiple methods of data collection; data collection and analysis consistent with interpretative hermeneutic phenomenology incorporating both the researcher’s and participants’ voices; timely consultation with University supervisors knowledgeable in interpretative hermeneutic phenomenology; and researcher training in qualitative research methods (Speziale & Carpenter, 2006, p.149).

Auditability relates to the visual and auditory account recorded by the researcher that allows others to determine the degree of consistency achieved in the research design (Taylor et al., 2006). An audit trail of tape recorded interviews, typed transcripts, field notes and written record of the research process realized auditability. Taylor et al. (2006) define fittingness as the capacity for the research findings to generate meaning within other settings apart from the study.

Fittingness was accomplished by providing validated rich and descriptive information from participants creating an opportunity for nurses, midwives, family care practitioners and the wider community to determine the relevance of knowledge generated from this study to their own experience, practice and research pursuits (Schneider et al., 2003). Confirmability denotes the extent the research can be corroborated by others regarding its capacity to reflect accurate, relevant and meaningful interpretations portraying the participants’ experience (Polit & Beck, 2008). Confirmability was attained by providing findings reflecting credibility, auditability and fittingness standards (Schneider et al., 2003; Speziale & Carpenter, 2006; Taylor et al., 2006).

Phenomenological Direction

Van Manens’ (1990) concurrent procedural steps, adapted by Speziale & Carpenter (2006,

p.84-85) and outlined below, were used to guide this study.

Concurrent Procedures	Steps
Turning to the Nature of the Lived Experience (Includes literature review)	1.Orienting to the phenomenon, formulating the phenomenological question, explicating assumptions and pre understandings.
Engage in Existential Investigation (Data collection & literature review)	2.Exploring the phenomenon, generating data using personal experience as a starting point, tracing etymological sources, searching idiomatic phrases, obtaining experiential descriptions from participants, locating the literature, and consulting phenomenological literature, art and so forth.
Engage in Phenomenological Reflection (Coding, interpreting & literature review)	3.Conducting thematic analysis, uncovering thematic aspects in lifeworld descriptions, isolating thematic statements, composing linguistic transformations & gleaning thematic descriptions from artistic sources.
Engage in Phenomenological Writing (Interpreting & describing)	4.Attending the speaking of language, varying examples, writing, and rewriting.

The following information details these four concurrent steps in relation to this study.

Turning to the Nature of the Lived experience

My personal experience in the clinical working environment at the Family Centre, undertaking a preliminary literature review and explication of my beliefs and ideas in a personal diary led me in this phase of the research to develop the research question and define my personal stance in relation to the presenting phenomenon.

Engaging in Existential Investigation

An intensive literature review, outlined in chapter two, allowed me to gain a comprehensive understanding of the research associated with the area of this study and to place the research phenomenon within the context of the wider scope of knowledge available by exploring the textual origins related to the phenomenon. Collection of data from participants of this study built on the available text, enriching and providing new information to address the research question.

Data collection

Methods of data collection included eleven semi-structured in-depth one to one interviews and one focus group of four participants. One to one interviews have many advantages including access to rich data sources, ease of locating one person's beliefs and ideas within the conversation and promotion of participant comfort and privacy (Denscombe, 2007). Focus groups provide information rich data through small groups of participants, presenting the opportunity for participants to be prompted by the others to recall information and share in more detail their experiences (Speziale & Carpenter, 2006). Focus groups offer an opportunity to

collect many participants' recollections in a brief time period however some participants may be reticent in disclosing their experience in the company of other colleagues (Polit & Beck, 2008). Another disadvantage presents when one participant becomes more dominant in sharing their experience and persuades other participants to adopt their viewpoint (Speziale and Carpenter, 2006). To overcome any participant control exercised and promote a safe environment the interviews and focus group were facilitated by the researcher, who had prior training on interviewing techniques and group facilitation skills, and were held at the University of Canberra.

Participants were free to decide what type of interview suited them. The interviews and focus group were conducted over one hour with participants and were held between March and September, 2010. An information form outlining details of the interview time, date and format was sent to participants prior to interview to assist them in preparation (Appendix C).

An interview guide comprised of open-ended questions based on phenomenological lifeworld existentials was used during the interviews. Van Manen (1990, p.101) stated "all phenomenological human research efforts are really exploration into the structure of the human lifeworld, the lived world as experienced in everyday situations and relations". Lifeworld existentials include *temporality* where lived time is subjective time encompassing past and future reflections as experienced in the present, *corporeality* referring to our physical body, *spatiality* referring to the environment we inhabit, and *relationality* describing the relationship we share with others within our personal space (Munhall, 2006; Van Manen, 1990). From these concepts the following open-ended questions were developed.

- ▶ Tell me about your experience of implementing the practice guideline for care of the nutritionally compromised infant at the Family Centre. (*Temporality*)
- ▶ What is it like for you when informing the primary carer of their infant's diagnosis? (*Corporeality*)
- ▶ What is it like for you when assisting the primary carer to care for the nutritionally compromised infant? (*Corporeality, Spatiality and Relationality*)
- ▶ What is it like for you when relating to others the experience of caring for the nutritionally compromised infant? (*Relationality*)

Other open-ended questions included in the interview guide were based on the researcher's clinical experience, relevant literature and the aim of the study. They included

- ▶ What are the facilitators and barriers for you when implementing the clinical practice guideline for care of the nutritionally compromised infant?
- ▶ Why do you make the choices you make in relation to this experience?

Open-ended questions consistent with interpretative hermeneutic phenomenology and the aim of the study allowed participants to respond freely promoting depth and richness in their presentation of the phenomenon (Polit & Beck, 2008). An advantage of semi-structured interviews was the option of comparisons between participants' accounts during analysis. Polit and Beck (2008, p.220) point out "certain comparisons are relevant and illuminating".

The participants' accounts were audibly recorded to assist with accurate data collection then

transcribed verbatim. During interviews and the focus group the participants' body language and vocal intonations were recorded in field notes and later matched to transcribed data highlighting the participants' emphasis on emergent themes.

Engaging in Phenomenological Reflection & Writing

The process of interpretative hermeneutic phenomenology has been portrayed as circular and repetitive (Crist & Tanner, 2003).

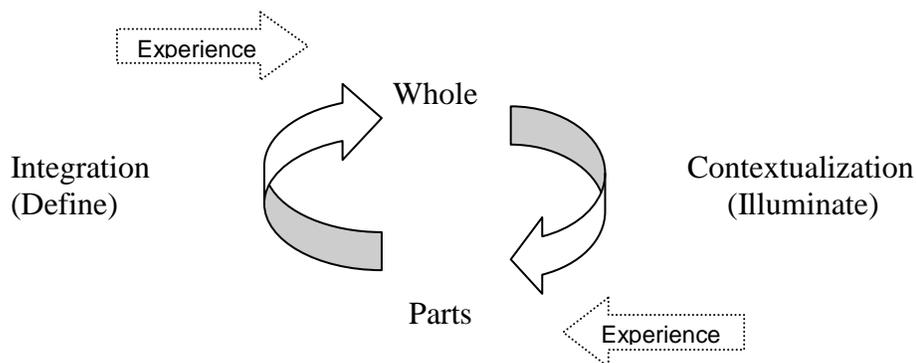


Figure 4. The basic form of the hermeneutic circle (Bontekoe, 1996, p.4)

The hermeneutic circle illustrates a representation of phenomenological reflection where comprehension and interpretation of data are perceived as a revolving journey between understanding parts of the data and forming an overall understanding of the phenomenon (Ajjawi & Higgs, 2007).

Phenomenological Analysis

Analysis of data began during interviews progressing during transcription and following transcription through reading, rereading and interpretation of transcripts. An iterative process

evolved as interviews progressed with prior interviews being analysed as current interviews were in progress. This process allowed the nature of the nurses and midwives experience to be uncovered.

After participants' interviews were transcribed, they were imported to the Nvivo 8 computer program. Nvivo 8 is a data analysis program that can be used to organize data into manageable components (QSR International, 2008). The term, coding is used to describe this process. Significant statements from the participants' transcripts were identified and catalogued under thematic headings, used as codes to reflect the content of the participants' statements. When all the participants' transcripts were coded, 52 thematic headings, listing the participants' significant statements, emerged from the whole. Further analysis of these 52 categories identified relationships between them drawing them together to form 28 thematic clusters. Each cluster was given a thematic heading. All individual participants' transcripts were then reconstructed with their significant statements listed under these thematic headings and interpreted by the researcher. Interpretation included reading and re reading their significant statements, returning to literature, reflecting and reorganising the order of the thematic headings to capture the nature and flow of the experience as seen through the eyes of each participant. This interpretative account, including participants' significant statements, and their original transcript was then returned to each participant for validation. Participants' comments were positive with only minor additions to the thematic interpretations. All participants gave feedback indicating they felt their interview had been interpreted to their satisfaction. Participants also suggested participating in the interview, reading the transcript and reading my interpretation of the transcript had provided them with an opportunity to reflect on their practice.

The participants then returned the transcripts and thematic interpretations including their significant statements with their comments. Participants' comments were acknowledged and all fifteen interpretations including their significant statements were then combined as a whole. The thematic headings were utilized to organize the data. Rereading and interpretative analysis continued, using a more intensive manual coding system with coloured post it notes and undertaking further review of literary text to aid illumination of major themes and essences in the data. During this process I isolated thematic statements, composed linguistic transformations and gleaned thematic descriptions from the data (Van Manen, 1990). Van Manen (1990, p.93) indicated the purpose of 'isolating thematic statements' was to create an opportunity for the researcher to "hold on to" themes as they emerged. "Composing linguistic transformations" allows the researcher to interpret and translate the data through the act of "writing notes and paragraphs" informed by reading, rereading and literature review (Van Manen, p.95). "Gleaning thematic descriptions" is described by Van Manen as a phenomenological attempt to "grasp" the essence of the phenomenon in a "phenomenological description" by cultivating a "certain narrative" representing the essence in a faithful or truthful manner (1990, p.97). The 28 thematic clusters were reshaped once more revealing the four major themes presented in chapter four.

Reflection and Discussion

A deeper interpretation of the participants' experience, outlined in chapter five, was generated through further literature review and analysis of the emergent themes through phenomenological writing and rewriting, providing an insightful understanding of the essences of the phenomenon in its parts and as a whole.

The process of analysis and reflection is outlined below.

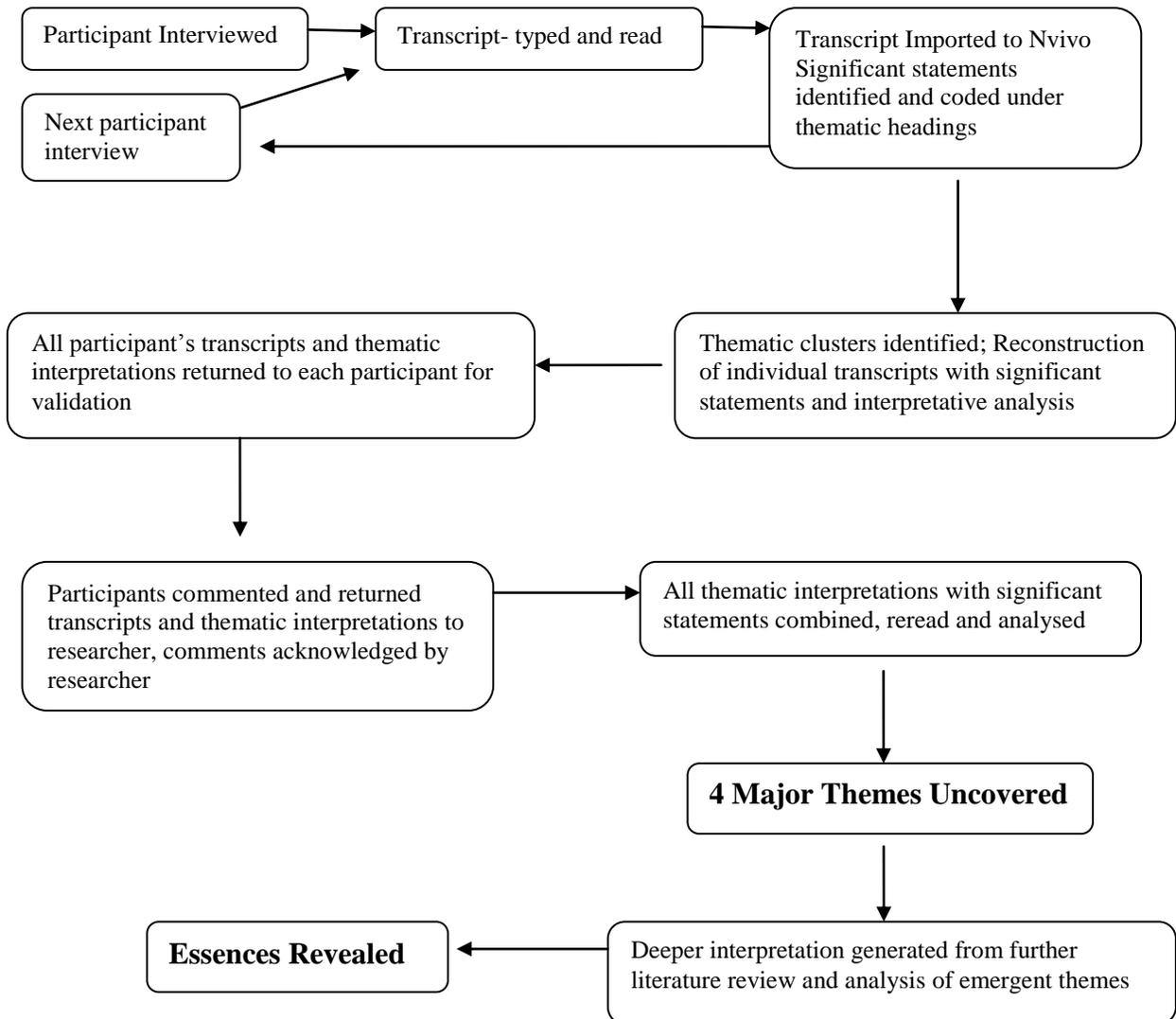


Figure Five: The process of analysis and reflection

Summary

This chapter has described the philosophical and historical underpinnings of hermeneutic interpretative phenomenology and its significance to the nurses and midwives in this study. It has outlined methodological design, participant details, ethical concerns, data collection and analysis. A hermeneutic interpretative phenomenological design was employed recruiting a

purposive sample of fifteen nurses and midwives from the Family Centre who participated in either an interview or a focus group facilitating data collection. Interpretative analysis was informed by Van Manens' (1990) concurrent procedural steps. Chapter 4 provides excerpts of the participants' accounts of their lived experience and my interpretation of their descriptions, reflecting the emergent themes.

CHAPTER 4

PHENOMENOLOGICAL ANALYSIS

Introduction

Chapter 3 outlined the methodology and method of hermeneutic interpretative phenomenology. In this chapter I present the findings of this research study. Four themes were uncovered during analysis. In phenomenological terms a theme is the “form of capturing the phenomenon one tries to understand” (Van Manen, 1990, p.87). The themes in this study are the meaningful parts of the participants’ experience painting a picture of the whole. The themes derived from the participants’ experiences included the following.

- ▶ Pathway to Awareness
- ▶ Depth of Practice
- ▶ Identifying and Acknowledging the Primary Issue
- ▶ Mother’s Milk

These themes represent an aggregate of all the participants’ interpretations of the factors that influenced their experiences. Therefore, they provide a rich description of the phenomenon as experienced by the participants collectively. Van Manen (1990, p.90) described themes as “stars that make up the universes of meaning we live through. By the light of these themes we can navigate and explore such universes”. In this study I have presented each theme separately. First, a general statement about the theme has been provided, followed by the participants’ significant statements that reflect the content of the theme and my interpretation of their descriptions. The headings included in each theme are provided as signposts, highlighting the

participants' significant statements. The order of the themes is not a reflection of the pattern in which participants shared their accounts during their interviews. Instead, it is designed to highlight their collective lived experience of implementing the clinical practice guideline.

Pathway to Awareness

This theme described the participants' experience before implementing the clinical practice guideline, the process of change they experienced during and after implementation and the facilitators and barriers they encountered. The signposts in this theme include Before Implementing the Guideline, The Guideline in Practice, Facilitators, and Barriers.

Before Implementing the Guideline

Participants described nursing practice being conflicting, vague and “*very difficult*”, indicating the absence of a pathway to guide their practice affected their capacity to identify the nutritionally compromised infant. One participant elaborated

There was no guideline and that's probably why we missed them... everybody was really doing different things with these babies, right down to, were they nutritionally compromised or not? I mean the definition - there really wasn't a definition and it was people's perceptions of what the issue was and at what time should we make a move to actively change the situation for these babies... And sometimes it came down to the strongest personalities. You know, I can recall coming to work on an occasion and told, make sure this baby doesn't get any formula²comps because they passionately felt that

² Often participants in this study use the words supplementary and complementary (comp) when referring to expressed breast milk or formula feeds the infant is having in conjunction with breast feeding.

this baby was okay just to continue as is (Participant 10).

Participants commented on the focus on infant settling as the primary issue instead of infant nutrition, prior to implementing the clinical practice guideline, describing some uncertainty when conducting infant health assessment.

.....people were so hell bent on improving the sleep, not realising that they (infants) couldn't sleep if they were starving They were coming in starving and they were going out starving, still, all for the benefit of sleep really. It seemed that way (Participant 13.)

Because we'd often discuss this in the office...I think we're settling hungry babies... I mean these are the eight and nine-month-olds because a younger baby - I don't know, it seems to be much easier to say the baby's hungry ...but with a nine and ten-month-old multiple night waker, it's not as easy (Participant 11).

The Guideline in Practice

After implementing the clinical practice guideline the participants indicated they had a comprehensive pathway to follow and demonstrated more confidence in their professional roles.

...it lets you explore whether it is actually a sleeping issue or a feeding issue so that if it is a feeding issue you can address that properly... I certainly feel very confident having a ³policy that I can fall back on. I've got a guideline and I've got a very clear idea of what I need to do as a practitioner and to follow through with that (Participant 3).

³ Participants sometimes used the word, policy, when referring the clinical practice guideline.

Participants suggested a significant change in their practice occurred, following the introduction of the guideline, leading to early identification of nutritionally compromised infants and promoting “safe practice” to develop a care plan with positive outcomes.

...the guideline certainly made us pick them up. And that was the big thing, to catch them (Participant 10).

So when the policy first came out I think, well for all, it was probably felt safe practice then that we had some guidelines to help determine a care plan. I feel positive with implementing this policy, as the policy is developed and is continuing to develop... because I have only ever gained a very positive reaction from the families (Participant 2).

I think overall our practice has changed so it's easier to implement these guidelines now. ... I don't think the policy has changed ...So it's just us. ...These things pan out in the end, or they take a while for people to work it through... We're not just looking at the weight... we're looking at the bigger picture, what the baby looks like... The breast feeding assessment, not just doing one, because one feed could be good. Doing a couple... (Participant 11).

One participant commented on the clinical practice guideline as “useful” and “easy to implement when there's obviously a major problem” referring to the breast feeding client who presented in the early postnatal period with a nutritionally compromised infant (Participant 4).

I think with me, and I'd say the vast majority of staff are able to think okay this is where

the policy - we can use it quite easily at that time.

This participant found it “*difficult*” when issues became more complicated.

I personally find it more challenging when it's not so cut and dried ... So when we see a baby that we're a bit worried about - does this baby actually fit this policy, I find that I really need to discuss with the team leader or somebody else who's very experienced. So I would say it's difficult sometimes.

Some participants conveyed a sense of relief and challenge when the clinical practice guideline was introduced then a journey of frustration, confusion and growth when putting the guideline into practice.

...I was quite excited when it first came in because it had been a long time coming ...I just thought for all those years that we were trying to settle hungry babies it was a really welcomed policy...(Participant 5).

...initially I thought it was fairly straight forward. But then the more you started implementing it you could see the more questions arising from it that people seem to have very different takes on things, understanding of it. It is only really now, and this how many - a year, two years, that I think people are beginning to have a fairly similar view of things, a bit more conformity happening (Participant 6).

Some participants experienced an emotion charged journey as they developed their expertise, describing feelings of apprehension and challenge in first encounters with clients then becoming more at ease as their confidence and experience developed. One participant described her professional ethics and responsibility as challenging at times but necessary.

I suppose with experience I think I have got better at it. I remember the first case that I had to handle was particularly tricky. ...but I think with experience you get better at it...in most cases what I've found is that the parent is relieved and very receptive to the information. In a small amount of cases they're not. It's always a challenge but you just need to take a deep breath and they need to be informed. I feel that's my professional duty. So it needs to be done sensitively but it's a task that's not always easy. ...you have got to keep you own personal feelings to one side even though it can be quite distressing to see a baby that is obviously not doing well and is very nutritionally compromised... But you have got to, for the welfare of the child and the development of its brain, you've got to do everything you can to make that situation better (Participant 1).

Some participants conveyed a sense of urgency to act quickly when caring for the nutritionally compromised infant with a strong emphasis on addressing the infant's needs.

We don't want them coming in a hungry baby, not tracking [achieving optimal growth] and going home a hungry baby.... you know, what have we done. We can't waste time. We can't even waste one feed...(Participant 2).

... You know you might have a lethargic baby ...Heck, you've got to do something about that right now (Participant 10).

Participants described their experience as “difficult” at times when providing guidance and facilitating the primary carer to acknowledge the significance of the primary issue. Participant 9 commented

...the ones...who don't want to hear it ...under any circumstances and will go all around the world, if you like, to avoid the reality. I don't have any trouble sitting with people's discomfort, anger and distress. Sometimes ...you need to really point out the reality of it. Ultimately, what is it they want for their baby? Everyone wants the best for their baby and if the best for their baby is going to be to have some more nutrition, so that they'll grow, I think that perhaps it's not fully understood - the importance or the significance if the head circumference and the length are going off - that that's really significant.

Participant 13 indicated she was confident in the skills and knowledge she had developed over time becoming an “*advocate*” for the nutritionally compromised infant and supporting the primary carer when informing them of their infant’s primary issue and exploring options for management.

Well, I suppose over the years with a little bit of wisdom and sensitivity, more sensitivity, I am conscious ...it is confronting to them. It's very confronting. ...I am the advocate for the baby...But if we look at all the things, increasing their supply if they're breast feeding or if they're bottle feeding, what are they doing? Are they watering down the food or are they not giving the baby enough....gently, gently at first but also trying to make them understand that the baby will feed better if we build the baby up...I think just showing them the evidence is probably the very best...I really don't have an issue saying that to a parent.

Facilitators

Participants highlighted some of the factors assisting them to implement the clinical practice

guideline included highly developed staff clinical skills, past experience of positive outcomes, collegial support, and opportunity to attend an in-service specific to care of the nutritionally compromised infant. Participants described how attending the in-service impacted on their practice by developing their expertise, knowledge and skills and increasing staff motivation and flexibility.

.... it's ...the skill of the midwife or the staff, in relating to the mother to help her understand. ... (Participant 12).

I think the staff have seen the results of it and so they are always very willing and able to try everything and inform everybody of what's happening....just in our whole being more aware of, around the table (at mealtimes) ... be there for the parents and seeing exactly what is happening (Participant 13).

I think now there's a lot more consultation with other staff and the manager with regard to where to go and what to do with this baby. I think that's really good because no one person gets to make the decision.... we're more safe in our decision making now (Participant 10).

Since attending the in-service ... it definitely made me take notice of things, made me more aware of those issues, of nutrition as more of an important factor.... made me more aware of what to look for...(Participant 12).

The safe and supportive environment of the Family Centre had been observed by participants to

be highly valuable by providing healthy family food and “*cooking facilities*” and offering a five day residential stay assisting primary carers to support each other, share their experiences and focus on their infant. Participants also suggested primary carers having supportive partners and an environment promoting family meal times at the dinner table encouraging positive role modeling also assisted their practice.

... It's shared experiences with the other mothers there, I think is an absolutely imperative part about why we work. It is not just about what we do. It is about their lived experience at the Family Centre with other people experiencing similar things. So they don't feel alone (Participant 5).

.... the skill of the Family Centre is in creating that environment for people to absorb what they need to absorb and integrate it...(Participant 12).

...focus on that baby, most definitely that does make a difference (Participant 13).

Past experience of positive outcomes to share with clients, coupled with an evidence-based guideline, were also valued facilitators as well as continuity of care through consistent staff client allocation.

So I think that's easier when I can say, we know this, and we know that when the baby's put on a few more calories we'll see an improvement in the sucking. Most people feel really relieved with that.... I feel that I'm actually telling somebody I know this is evidence-based practice. We know this, and I think that's what the mum wants to hear as well (Participant 4).

Generally we have time to spend with them feeding (Participant 6). ... Having clients for more than one day is really helpful... I think we do that well.... They try and allocate clients consistently.... (Participant 8).

Participants described developing a collaborative relationship with primary carers as integral to implementing the clinical practice guideline successfully and achieving a positive outcome for the infant and their carers. They outlined this process as one of sharing information, promoting and respecting the primary carers' decision making capacity, offering guidance and professional expertise, being respectful of the carers' connection with their infant and acknowledging the carers' reactions to the issues they faced and their need for support. One participant stated

...share some knowledge with her about my findings. How does she feel about it. So I sit with her on the lounge.... and share...Getting her verbal permission about where we are going with the care plan.... because it's in collaboration but it's very much this is what we think would be the best ... you've got to work very consistently, very much you have got to build a rapport with her so the collaborative relationship's important... (Participant 2).

She commented on the importance of listening to the primary carer and validating their experience describing her perception of a primary carers' reaction when she shared information in a more collaborative fashion with them being "grateful" and "relieved".

They've often been to paediatrician after paediatrician.... they're been to MACH nurse after MACH [Maternal and Child Health Nurse] nurse including lactation consultants and I believe their voice is not being heard... I think the women are grateful, I think the women are relieved for the first time they are truly being heard.

Another participant emphasised the importance of being sensitive to the primary carers emotional well being and maintaining a “non judgemental” attitude when sharing information.

... not to be judgemental of them. I've learned to go very gently with her becausewe forget sometimes about her vulnerability and her sensitivity. It's a very vulnerable time for any mother anyway but to be also accusing her of starving her baby is a huge issue so I think it's really something we need to go very, very gently with. ... I've got to really tread careful here. It's an important time to get this message across but once again, I would want to do it slowly, gently, a more gentle approach (Participant 14).

Participant 10 stressed the importance of staff providing consistent information to primary carers to promote positive infant and parenting outcomes.

... we simply can't afford to be on different planes with this one, because it's such an emotional thing that we're dealing with the clients. And it's their sense of success or failure as a parent.

Participant 3 discussed the confusion and frustration primary carers experienced when confronted with enormous amounts of new information often perceiving this information as conflicting. She recounted her experience with a mother provided with a number of feeding options for her 7 month old infant who was fussing with breast and bottle feeds.

She had a lot of input from my other colleagues and when I met this mother she was quite frustrated and very confused... She said “I don't know what I'm doing, I've been told to do this and then someone else has told me to do that” ...I think she wanted just one thing where as in her baby's situation... it was a combination so she could start with one then

go to another and if she still needed another option the cup was available. ...I think she'd just been given so much information that on day 3 she just "well I don't know what I'm doing I've been told to bottle I've been told to breast I've been told to cup feed I just don't know".

She described how the mother worked her way through this steep learning curve experiencing relief and developing more confidence.

I think she had come to that realisation that instead of stressing and not being able to enjoy her baby she had relaxed a bit knowing well I've got options here so we'll start with and if that doesn't work I've got other options and it was more about enjoying the baby rather than spending that time stressing over feeding. So she left feeling a little bit happier and able to enjoy her baby a little bit more.

Barriers

One of the barriers outlined by a participant, hindering the process of implementing the clinical practice guideline, included difficulty accessing the client at an appropriate time.

.... getting to the mother when she is not asleep and the baby is not doing settlingI find that is frustrating. ...if they are in the middle of a settling session or if they are trying to have a shower or something, or it gets to 10 o'clock and they have gone to bed early...(Participant 6).

Other barriers described by some participants included time constraints and heavy workloads impacting on the availability of more experienced staff to those staff requiring more education and support. Participants referred to a workload including 3 or 4 clients allocated to each staff

member. Further discussion with these participants revealed they were referring to an allocation of 3 or 4 families each. A family more commonly included the primary carer and their child or two children as the clients. Another family member or carer, although not admitted as a client, often stayed to support the primary carer.

I need to discuss this with my team leader. Where is she, well you know, we have all got 3 or 4 clients each but I think what we really need to do is sit down, when can I have 5 minutes with whoever the team leader is (Participant 2).

I'm finding it very hard ...being the team leader and keeping an eye on the new staff, as well as having full clients (Participant 5).

Participant 11 indicated a lack of management support over the weekends reduced her ability to implement the guideline successfully when she faced difficult decisions requiring a higher level of expertise from the clinical nurse and midwifery manager.

...she [clinical nurse and midwifery manager] wasn't there. But then you don't have them on the weekend ... (Participant 11.)

Another participant commented on the amount of documentation staff were required to complete. She was concerned this limited the time staff spent with their clients. She shared her experience of how staff were apprehensive when writing a plan of care.

...there is so much documentation...there's just a lot of writing ... they've got this blank paper, blank document to... oh!!! what am I going to do with this baby and I think... that's the part that's the hardest part, where are we going with this? (Participant 2).

Participant 13 discussed one of the barriers to effectively implementing the guideline concerned staff practice of being reticent in acting swiftly with the plan of care.

...Not waiting ...until day three, day four, which is still occasionally, in recent times, happening.

Participant 10 commented on some of the staff's passionate commitment to promoting breast feeding, referring to their conflictual attitudes when they were considering complementary feeding with formula as a management option and the impact this had on other staff and clients.

...the tricky bit was staff attitudes towards it really. Some people out and out said no, this is ridiculous, this will kill breastfeeding and we're here to promote breastfeeding ...Having such a divided household within the nursing staff, that makes it really tricky because we can't ensure continuity of care.

Participant 4 described some of the clients' beliefs and expectations as barriers to implementing the clinical practice guideline. This process was often compounded by the primary carers' level of exhaustion and sleep deprivation.

The other big thing is what the clients want to do, and what their beliefs are, and that's sometimes really difficult (Participant 4).

...we had a very skinny baby with a mother who was very keen just to breast feed and the baby wasn't doing well and she was quite obstinate about it and I just remember how, uhm, feeble, I suppose, that baby was. It's sort of a hungry sort of a cry and I suppose the mother not seeing the situation for what it really was.... the parents can come in and

they're sleep deprived ...they can be quite hell benton getting the baby to go to sleep and it is just that one vital connection that is being missed and if we can get a fuller tummy hopefully we will get some more sleep. But some parents take a bit of convincing about that, that they are almost fixated on sleep... (Participant 2).

In summary, participants indicated the clinical practice guideline provided them a clear pathway towards recognising the infant's primary health issue and promoted their knowledge, confidence and consistency in practice. For some participant's implementing the guideline was confronting at times in complex situations, when the workplace was busy and with differing staff and client beliefs. The participants revealed change could be challenging and rewarding and they required appropriate support during the process despite their level of experience and expertise.

Depth of Practice

During the process of implementing the clinical practice guideline participants reflected on why infants became nutritionally compromised. In this theme they demonstrated their capacity for critical analysis of the underlying issues and shared their experience and beliefs of variables impacting on infant feeding. The signposts, Breast feeding, Formula Feeding, Embedded Cultural Norms, Parental Anxiety, Lacking Knowledge and Skills, Maternal Infant Attachment, Altered Perceptions, Postnatal Depression, Traumatic Memory and Organic Origins are included to guide the reader through this theme.

Breast Feeding

One participant illustrated some of the barriers women who choose to breast feed have to successfully establishing and generating optimal milk supply, including lack of appropriate pre and postnatal education, and unrealistic expectations and minimal support in the early postnatal period. She described how primary carers believe they can manage independently and illustrated the domino effect this scenario generates with increased risk to an infant becoming nutritionally compromised as a consequence of declining breast milk supply.

I don't think that the breastfeeding classes.... are contextualised enough.... by that I mean, talking about what impacts on your lactation. That it doesn't just suddenly arrive one day. I don't think that people recognise that it's not really established for six to eight weeks (Participant 9).

They [mothers] don't realise that they will need more support ... I think that if you get behind in terms of tiredness, then you'll become stressed... If you're so shredded and

tired, you're not going to make as much milk (Participant 9).

Participant 9 shared her experience about a primary carer with a “*six week old significantly nutritionally compromised*” infant where the primary carer was “*struggling with her breast feeding*”, recovering from a Caesarian section delivery and caring for an “*invalid parent*”.

She was far too busy. ...She had a very unwell parent...and family commitments... she clearly didn't have enough lactation. I think she probably hadn't established well. ... she'd had a Caesar so she probably hadn't had the chance [to establish breast feeding] and had probably started doing too much, too early. Because it just seemed to be the way it had to be. ...She was worried about her baby and when she took the nappy off to change it, it was like, oh my goodness. This little baby doesn't have a bottom.

Participant 14 commented on the impact of busy lifestyles in today’s Australian society and pressures on women to return to work during the early postnatal months. She inferred when women return to the work force in the early postnatal period they require more sleep and sometimes this can lead to sleeping through their infant’s calls for night feeding placing the infant at risk of compromised nutrition and reducing the opportunity to build and maintain optimum breast milk supply.

I can also see the influences of a faster life because they - their pressure is that they need to get back to work and they also need sleep to keep their sanity.

Formula Feeding

Participant 13 outlined the risk of undernutrition to formula fed infants when primary carers, through lack of education, were incorrectly preparing formula or offering insufficient amounts of

formula.

...if they're bottle feeding, what are they doing? Are they watering down the food or are they not giving the baby enough.

Embedded Cultural Norms

One participant described the impact force feeding and lack of education may have on an infant leading to infant food refusal and risk of compromised nutrition or a nutritionally compromised infant. She demonstrated how primary carers' cultural beliefs leading to anxious behaviour resulted in force feeding and discussed primary carer perceptions of what constitutes a healthy baby.

....sometimes it's very much culturally. They want their babies to be round and that's to them a healthy baby. They do stuff them or they do hold them or they do force the food or they force the bottles (Participant 13).

Some participants suggested a connection between primary carers' busy lifestyles and lack of support and the primary carer not providing an infant enough time to take appropriate amounts of nutrition or achieve enough sleep. One participant indicated

...the reason that this baby is nutritionally compromised is often not because the parents are not offering the milk, but there's something causing the baby not to take enough milk such as a totally chaotic lifestyle and overtired baby (Participant 10).

Another participant discussed how the need to be busy becomes subtly pervasive through the home routine resulting in limited “*modeling*” of social eating norms within the family leading to

poor infant feeding behaviours.

...the ones that say, oh he doesn't want his bottle or he doesn't like it. ... You've got to sit and be at feeding time with a child, whatever it's having - breast, bottle or food on a plate. ...we're such a doing world. If people are sitting down, they're watching TV or playing on the computer or they've got something that they're doing.... distracted ... I think we've lost some of the social skills of family meals.... So how do you expect to teach a little one to eat if they're not getting modeling? ...I suspect that a lot of the parents that we meet these days didn't grow up around the family meal table...They often say they ate in front of the telee or whatever (Participant 9).

Participant 13 discussed the primary carer's lack of knowledge, busy lifestyles, exhaustion and inappropriate feeding strategies with toddlers who received more milk and less nutrient dense solids leading to compromised nutrition.

...you do see toddlers that are given too much milk and not enough solids. ...18 months, two years, five, six, seven bottles a day. It's convenience usually for those mothers. The children don't have to eat because they're drinking and they give them drinks to shut them up at night.Because they come in and you can see they haven't got a clue on how to cook their baby a normal natural meal. I think people don't sit at a table anymore, there's no sitting down or they don't put the baby at the table when they're eating.

Parental Anxiety

Participant 9 indicated primary carers heightened anxiety levels lead to parents hovering over their children at meal times anticipating their children will react to foods that are offered,

resulting in the parents restricting the types and amounts of foods.

...one of the ways of manifesting anxiety is to project it into allergies, sensitivities, fussiness ...The obsession with choking. ...when they're starting solids.... I think we live in a fear driven society which is really anxiety provoking. So it's all just part of that fear milieu - the helicopter...it's a confidence thing to know that, okay, sometimes they do gag and carry on a bit but I can deal with this... I can think of a particular case where they were excluding almost everything from the child's diet and the child was almost living on rice paper ... But the child, I think, was not gaining well and not eating normally for a - I think he was somewhere between 11 and 13 months old. He should've been having a family diet. There wasn't a family diet....People sometimes get very restrictive views about what food's okay and what food's not okay. They read some fad thing and then think that that's all okay.

Another participant indicated these situations were sometimes challenging when these parents' restrictive feeding behaviours led to their infants receiving less than their nutritional requirements for healthy growth and development.

...when they won't see it if they've got the baby on rice water or rice milk with no nutritive component at all (Participant 13).

Participant 8 described her experience where the primary carer was aware the infant was not receiving enough nutrition but was still lacking knowledge and skills to address the issue resulting in the infant modeling maternal reactionary stress and refusing to feed.

I think the child was probably around about that four month mark a vicious cycle

when mum was tense as soon as it became feed time and baby was then tense and it went around in circles (Participant 8).

Lacking Knowledge and Skills

Participant 3 related how lack of routine and appropriate education for families with special needs coupled with an infant who does not demand attention led to a nutritionally compromised infant. She described a busy family including mother, father, toddler and 5 month old baby. The parents were “*intellectually challenged*”, had difficulty telling time, poor literacy skills and “*just lost track of time*” and the infant “*didn’t complain it wasn’t getting a feed*”. This participant portrayed the infant as “*a very lethargic little baby, very pale*” infant, speculating “*it just didn’t have the energy to protest*”.

Maternal Infant Attachment

Participant 3 revealed how the connection between infant and mother played a role in an infant becoming nutritionally compromised recounting an experience with a mother with mental health issues and her 18 month old toddler. She stated she thought

the child was actually not able to eat because he was concerned about the mother. It seemed to be that the mother was willing him not to eat. He was picking up on the mother’s stresses...

Another participant described a link between poor maternal/child attachment and the risk of undernutrition to the infant in an encounter where she observed a toddler with a “*very poor appetite*” and their primary carer who “*didn’t have much patience with food at all*”, offering the

toddler “*some food*” and restricting meal times. She stated the primary carer “*totally missed the hunger cues*” of the toddler and “*didn’t seem very concerned about that*” (Participant 12).

Participant 5 described complex issues she felt could contribute to an infant becoming nutritionally compromised revealing the challenge and uncertainty she experienced. She referred to the mother’s lack of response to her infant’s hunger cues and coexisting poor emotional and social attachment between mother and child resulting in passive infant feeding behaviour.

...this week we've had a family that had a baby that had dropped three percentiles and there was I thinka possible degree of neglect.maybe she was missing - she just didn't have it in her psyche or her intellect to be aware. There was an attachment issue, plus, plus, plus. ... a baby that's older, past wanting it, past demanding it, not attached, looks neglected, like skinny and dirty clothes and she only baths it once every four days.

Altered Perceptions

Participant 12 related another experience caring for a 15 month old child at risk of compromised nutrition and the primary carer’s altered perceptions.

...She saw her child as chubby and fat when he was quite clearly... on the lower range of normal. ...her ...reason for admission was settling. She was particularly challenging to work with because ...She seemed quite unwilling. ... She was very focused on the sleep....she quite clearly was attentive and loved him and was appropriate during the day. But at night time, she was very focused.... on her sleep needs and he just had to learn to sleep.... She was not at all upset by - well, she just thought no, he'll just cry

himself to sleep and that's okay. It was difficult ...she had her fixed ideas.

Postnatal Depression

Participant 12 referred to a link between maternal depression, anxiety and infant undernutrition.

So if a mother's depressed and anxious, that might well be a factor in not having the energy or the necessary animation to encourage infant feeding.

Traumatic Memory

Another participant discussed older infants who have been born prematurely and as a result of many medical interventions and their prematurity had developed oral aversions sometimes resulting in poor milk and solid intake leading to compromised nutritive status later in the infant's life.

Some of those old prems - those poor little prems who've had things shoved in them, up them, down them and their oral aversions. I'm not surprised.... they have oral aversions after what they've been through. there are probably more of those than there used to be.... (Participant 9).

Organic Origins

Participant 13 indicated organic causes are sometimes a factor contributing to infant undernutrition.

Those babies might have some syndrome, they might have something wrong with their oral processes...

Participant 14 commented on the infant who “*isn't absorbing the milk*”.

I can remember one ...where there was something physically wrong and that was why the baby wasn't - because it appeared the mum's supply was fine and it was having reasonable amounts.

One participant described a situation where the primary carers were “*loving and supporting*” of their infant and still unable to assess if their infant was hungry because the infant did not display hunger cues.

...I wonder about some babies who intrinsically don't give those cues...what about a child who doesn't give - not because there's not appropriate caring, loving and supporting - but it is just that intrinsically in that baby it doesn't give hunger cues for whatever reason....(Participant 8).

To summarise, participants illustrated their high level of knowledge on a wide variety of health issues specific to the nutritionally compromised infant and their primary carers indicating this was complex work.

Identifying and Acknowledging the Primary Issue

Participants indicated two critical first steps to developing an appropriate plan of management for the nutritionally compromised infant and their primary carer. Firstly, identifying the primary issue of poor infant nutritional status and factors contributing to the infant's condition, and secondly, openly acknowledging the primary issue of poor infant nutritional condition. In this theme participants described their lived experience of assessing and interpreting infant growth and nutritive state and their experience of using the term 'nutritionally compromised infant'. Signposts include Holistic Health Assessment, Interpreting Infant Growth Patterns, Differing Perceptions of Infant Health Status, Factors Clouding Participants' Capacity to Identify the Primary Issue, Feeding Assessment and Beneath the Language.

Holistic Health Assessment

Participants indicated holistic health assessment, including collection of infant and primary carer health, psycho/social and nutritional history, and undertaking infant examination, feeding assessment and review of growth patterns, was an invaluable tool assisting their practice.

...doing the full weigh, check, measure, full physical assessment, hearing the story of the past, the history of the infant, the history of the mother and the story of where they have come to since pregnancy to this point no matter how many weeks or months...

(Participant 2).

Participant 11 elaborated on the link between unsettled infant behavior, primary carer exhaustion and infant undernutrition. In response to past experience implementing the guideline she had

developed a pattern of holistic assessment with all infants presenting as unsettled, highlighting the importance of always including a review of infant/primary carer feeding practices.

...my practice has changed, so what I say is, if they come in for sleep, “well, before we do anything we're going to do a full assessment ...just to make sure your baby's not hungry”.

Some participants believed holistic infant health assessment was a complex skill developed over time.

...it's not just about percentile charts. It is about obviously the total picture...

(Participant 5). But that comes with experience doesn't it? (Participant 6). It does...

(Participant 5). You can see that skinny baby. You can see the folds falling off. Not everybody can see that...(Participant 6). We do a lot of assessment...It's not just based on the weight (Participant 7).

One participant described the infant growth chart as only part of holistic health assessment emphasizing the importance of focusing more directly on the infant and their primary carer.

I've never ever looked at the growth chart as being a golden standard of growth. I mean I see it as a parameter, as a guide,they've not producedthe chart yet that's perfect. ...I see that growth chart purely as a tool....it's a guide that can give you an idea as to what's happening but I think then you have to go back to the mother and back to the baby to really assess it (Participant 15).

Another participant described a high level of skill and knowledge in identifying the nutritionally compromised infant possessed by some staff.

The nurse came on and this little girl, she actually had a rash which the nurse hadn't seen for a long time. She immediately honed in that this girl was quite malnourished (Participant 12).

Participant 10 revealed some inconsistencies between staff related to health assessment with some staff focusing mainly on infant growth patterns.

...sometimes it looks like they're not looking at the big picture. They're looking at those graphs and nothing else...

Interpreting Infant Growth Patterns

Some participants suggested it was difficult to perform an accurate assessment describing some confusion when interpreting infant growth charts referring to the pattern of infant growth. One participant commented

Well, at first I found it just a little bit confusing to get your head around and had a few questions about what a nutritionally compromised infant was, so whether they'd fallen one percentile or two percentile or three, or over one month, two months or twelve months, because there's all those variables that I found confusing (Participant 11).

Participant 4 indicated a lack of information in the guideline on growth patterns of “normally developing breast feeding” infants decreased staffs’ ability to make decisions about the primary cause for the infant’s compromised nutritive state.

One thing I think our policy doesn't have that I think would be really useful, is when you look at the trends in a normal developing breastfeeding baby...

During assessment nurses and midwives at the Family Centre transcribe anthropometric measurements including infant age, weight, height and head circumference from the infant's local health record and the measurements they have done onto the CDC growth charts. Participant 4 discussed the importance and frustration of reviewing these measurements suggesting the local health record sometimes lacked documented evidence of the infant's measurements.

One thing that I'm aware of with my paediatric background...was that weight is very easy to measure, and it is perhaps in isolation one of the least reliable indicators of infant health. So we always look at it with the other parameters of length and head circumference... Sometimes it is hard, because sometimes you don't have all the graphing that you would have liked.

She indicated a high level of experience and skill was needed to interpret infant growth charts describing some of the challenges she and others have encountered.

I also think it's a really skilled practitioner who's able to interpret the graphs and I think they're reference points and a part of the whole picture, and I think that becomes very challenging.I think, oh gee what is normal, and defining the tracking. Sometimes it's a really easy picture and you can think, yes here they are tracking. When they cross one percentile it might be an indication for worry - it might not be.on admission, there's so many variables you consider when you are thinking about a graph. The variables of what the parents look like...the difference between if... fully breastfed and.... artificially fed. ...I think it does cause ...a bit of confusion for me ...I know other people struggle a little bit as well.

Differing Perceptions of Infant Health Status

Participants described some of the other challenges of recognizing an infant who is nutritionally compromised. One participant gave an account of a 7 month old infant born on the 10th percentile and continuing to track on the 10th percentile. This infant was later described as nutritionally compromised. She described how more than one staff member had differing opinions on this infant's condition when reflecting on the infant's growth pattern and indicated a need for more direction within the clinical practice guideline in this type of situation. She commented

we as a team within our organisation again need to look at our definitions... I'm just thinking they're the problems we've got at the moment.... interpreting the policy (Participant 2).

Another participant recounted an event where she had returned to work after days off to find an infant she believed to be nutritionally compromised, describing a “skinny” infant with a weak suck and “low weight gain”. She discussed the differing perceptions of staff.

So I remember a particular case where it was looked upon as more of a low weight gain but the graph was just OK looking at the baby it just looked like a failure to thrive to me. ... I remember addressing that and saying “look we have got to feed this baby up it's just not doing well”. So you've got to be prepared to stick to your guns with some cases because clinicians who have cared for the child prior to you coming on may see it differently (Participant 1).

Factor Clouding Participants' Capacity to Identify the Primary Issue

Participant 3 suggested multiple factors, including the primary carer/s fragile emotional state, an

unsettled infant, heavy workloads and time constraints for staff to complete paper work when admitting clients, were barriers clouding recognition of the primary issue.

I think because this mother had come from a fair distance she was emotionally drained when she got there. The baby was quite unsettled... and I think there was a lot happening with just the staff trying to get through all the paperwork with mum...

Poor continuity of care, inadequate reflective listening skills, inexperience, heavy workloads and an exclusive breastfeeding philosophy were discussed as contributing factors affecting some participants' capacity to identify the primary issue of poor infant growth.

....sometimes there isn't that opportunity for that continuity of care ...can have multiple carers and that really is an issue....(Participant 10).

....maybe haven't got such good reflective listening and also when they're examining those babies, they're not really aware of - so maybe it's the skill and knowledge. So people's levels they're at, but sometimes it's very surprising the ones who do it. Maybe they're busy, maybe they're stressed, maybe they miss it...whether they feel that they only want that baby breast fed (Participant 13).

Participant 12 discussed the complexity of health assessment suggesting time was needed to undertake an accurate collection of information.

....often at the Family Centre things aren't immediately obvious on admission.... Things become apparent over the course of the day or the night....

Feeding Assessment

Participants emphasized comprehensive review of feeding history and breast feeding assessment over 24 hours as an important assessment tool, indicating this required expert skill and knowledge. Some participants described the assessment of breast milk supply as one of the major challenges when implementing the guideline.

With the breast feeders there's always that question of how much breast milk is the baby getting (Participant 10).

...we need really good observational feeds, you need good history taking, looking at all the history. Really carefully looking at the baby, 24 hours of looking at every feed and just thinking what is happening at every feed...you can't just tell from one feed.... I think this is probably the biggest area of, I'd say a little bit of confusion.... if someone goes off a percentile then you just really have to be confident that you've observed feeds, because I think that's what it's about and the unsettled behaviour, that's just one part of the clinical picture. I think that's what people find hard. I think more experienced practitioners find it easier, because they've been there for a bit longer and yeah, I think it's hard sometimes (Participant 4).

Participant 3 stressed the importance of assessing the infant's behaviour noting infant feeding cues.

...it was mouthing at my shoulder and my arm and just continually crying. He was obviously distressed and just acting like a very hungry baby...

One participant highlighted the difficulty she encountered when assessing an older infant.

I couldn't do an assessment because every time you were in the room he came off and smiled at me, like they do, so I couldn't actually do an assessment (Participant 11).

Another participant commented these complex assessment skills “*take awhile to learn too, cause a lot of what you see can be very subtle*”. She commented on the depth of knowledge, skill and experience required to achieve expertise in feeding assessment of infants at different ages comparing her past experience in other workplaces to her experience at the Family Centre.

.... my experience... in the postnatal setting.... was the establishment of feeding... When I came to the Family Centre ... I had to get used to and learn how a baby of six months of age feeds...the feeding patterns in babies differ so you need to learn about all of that and I also found that, this is a bit of a sad thing to say, but my experience of watching babies feed in the hospitals was often interrupted by other duties around the ward so it wasn't unusual that you wouldn't see a whole feed ...when I came here... I was able to spend more time watching the babies of different ages feeding... you need to be very mindful of what babies do when they feed and to watch how they feed (Participant 1).

Beneath the Language

Controversy and struggle to accept the language, ‘nutritionally compromised infant’, used in the clinical practice guideline, was reflected in some of the participants’ experience. They portrayed their understanding of the use of this term and the effects this had on their practice.

One participant expressed frustration over a staff member’s avoidance of using the term

‘nutritionally compromised’ when caring for the clients, recounting an event where a 6 week old infant was “*clearly nutritionally compromised*”. Staff who had been caring for this infant had documented ‘nutritionally compromised infant’ in the care plan. The next staff member attending these clients had actively “*crossed off*” this description in the documentation in the mother’s presence. She later described her reasons for this decision. The participant understood the nurse thought using the language “*compromised*” disempowered the primary carer and this nurse’s focus was instead to “*encourage*” and “*inspire women*”. The participant later went to the primary carer and discussed how she felt about the language ‘nutritionally compromised infant’ and was relieved to find out she had not felt disempowered but was happy to acknowledge the primary issue.

I said to her “did you feel in any way disempowered by that or you know that that was demeaning to you with your breast feeding” and she said “not at all, I understood my baby had a weight issue and if that’s the language that you use more than happy to go with it” and she felt fully educated and fully informed (Participant 2).

Another participant discussed her “*concern*” with documenting the language “*nutritionally compromised*” in paper work the primary carers were using, suggesting the language laid blame on the primary carer for their infant’s poor nutritive state. She commented

...would concern me ...actually writing ...nutritionally compromised on the form where the parents can actually read it. ...I think what might be better for the parents to read would be assessment of... because it's usually breastfed babies.... So it's just assessment of ... breastfeeding and milk supply...because I sometimes think that when mums see nutritionally compromised, and maybe it's how I thought I might feel, is I suddenly think

gee, I'm the only one that can give this, if I'm breastfeeding, give this baby nutrition and if it's nutritionally compromised it's my fault. Whereas if we just, if the mother knows the weight's going down but we're just assessing and assessing her milk supply it doesn't seem like ...they're to blame...(Participant 15).

In review, participants demonstrated different levels of learning and experience with some reliant on infant growth charts and others extending their expertise using a holistic approach for assessment. All participants indicated a high level of experience was valued when conducting health assessment. In their efforts to achieve accurate health assessment many participants indicated they were frustrated and confused as a result of a perceived lack of time to undertake health assessment, their knowledge limitations in interpreting poor infant growth patterns and conflicting staff beliefs about the importance of particular indicators such as infant growth trends on their growth charts. The participants' accounts relating to using the term 'nutritionally compromised infant' revealed some inconsistency between their beliefs and their approaches to developing a collaborative relationship with the primary carer. All were driven by their need to rescue the primary carer from the potential grief and sadness they could experience when informed of their infant's poor nutritive state however the paths the participants chose to take in this pursuit differed considerably.

Mother's Milk

Participants indicated a higher percentage of nutritionally compromised infants seen at the Family Centre were breast fed. This theme describes participants' beliefs, values and experience when they were implementing the guideline with mothers who had low breast milk supply. Signposts highlighting the participants' significant statements included Travelling a Journey Together, Complementary Formula Feeding, Personal Beliefs, Time, Baby Led Feeding or Not, The How of How Much, Life after the Family Centre, and Striving Towards Improved Practice – Searching for Evidence.

Travelling a Journey Together

Participant 3 recalled her experience with a mother with low breast milk supply who was informed her infant was nutritionally compromised describing the mother as “*visibly upset about it*” but “*was quite open to the concept that her baby really did need to be fed*”. She explained how this mother's past experience influenced her current feeding choices and described the journey they travelled together outlining the mother's fears and concerns, offering her support and education.

.... she was crying through the whole time... her mother had problems breast feeding her and... had been told to give formula...but she [daughter] ended up becoming quite over weight and... she [daughter] was very afraid that her baby was going to end up being overweight and that she wouldn't be able to continue with the breast feeding. ... I explained about a ⁴supply line because her baby was quite suitable, of an age, and would

⁴“A supply line consists of a plastic container of expressed breastmilk or formula hung around the mother's neck; a fine tube leading from it is taped to the mother's nipple, and as the infant sucks on the breast he or she gets both milk from the breast and expressed milk or formula from the supply line” (NHMRC 2003 p.360).

have coped really well. But once I explained the procedure mum said “no, I don’t want anything to do with that”. She really felt she didn’t have enough time at home to be able to do that. The expressing, she felt, was probably going to be time consuming enough and she felt that was adding extra stress having to manage a supply line. She wanted just to continue coping with the bottles... I think mum was a bit concerned as to whether the baby would take more of the formula than the breast milk but as we explained to her as the baby stimulated her breast more and her milk supply came in, because she had also started on medication as well to increase supply, that the baby would be then be getting more breast milk so her comps would actually reduce. And she was quite pleased about that. I think knowing that there was hope, she could see light at the end of the tunnel.

One participant described breast feeding mothers feeling “*anger, shame, distress or guilt*” when informed that their infants were nutritionally compromised and facing the decision to offer their infants supplementary formula feeds. She highlighted the importance of “*validating*” these mothers’ feelings.

....some people are so attached to not giving their children any supplementary feeds, that they find it a real struggle....they can be very distressed because it's not what they want to hear. I guess, the more attached they are to perhaps, the more strong ideas they have about exclusive breastfeeding to the exclusion of all else, the more difficult it might be for them to hear. Sometimes people have very strong ideas about feeding infant formula... even to the fact they don't see it as detrimental - that their child might actually be compromised. ...Those feelings can build great anger, shame, distress or guilt. Guilt's common - I've been starving my baby. I guess shame but they might not identify it. But it

is often shame about being found out - to be wanting as a breastfeeding mother or a neglectful parent or something. So it's validating their feelings but not validating that shame is a good thing to have about it. Well, it's good it's being discovered but validating their feelings... or... some parents... might have been chugging along and become quite concerned themselves but have been irrationally validated that things are okay, when they're not okay, by health professionals (Participant 9).

Another participant described differing responses from breast feeding mothers suggesting it could be rewarding and difficult working through these issues with the mothers but felt very supported by her peers through this process.

...sometimes it's so cut and dried, it's almost a relief, you can see the client's think, great I've been really worried about this. Especially if it's a breastfeeding mother establishing feeding, you can say actually we can do this, and this will help ...I think you can see the clients think, oh that's great... Other times it is really difficultyou might have parents who are very, very disappointed about having to give any ... formula ...in that situation, I've found everybody to be so supportive at the Family Centre... experienced practitioners and there's always someone that you can share that story with and say hey, what do you think... So you're actually quite sure of your diagnosis before you go, [to the client], because I think that's really important not to alarm anyone unnecessarily (Participant 4).

Participants described a range of emotions in the following scenarios as they travelled difficult paths with breast feeding mothers and their nutritionally compromised infants. They illustrated

the process some breast feeding mothers underwent demonstrating resistance to change, experiencing sadness and grief because they could not have their dream of exclusive breastfeeding, and then, coming to terms with achieving more realistic expectations and making change to provide optimum nutrition to their infant.

I think what I hate is - the hardest part, I find, is informing the mother of a six or eight week old baby that her baby is nutritionally compromised,and we have to comp to quota, and she just desperately wants to breast-feed...and they're upset. ...Well, you do it. It's just you know that it's probably going to compromise their breast-feeding. But then you have to realise that their breast-feeding is already compromised anyway to get to that stage... (Participant 11).

We get a few clients in that resist and resist right the way through. We get clients that resist and then accept - like they'll carry it out but they're actually extremely sad about it because it's hurting them a lot to do this. I feel deeply for those clients, because they know they have to do it but their heart's telling them something else...(Participant 10).

Complementary Formula Feeding

Participant 4 raised the issue of conflicting views amongst staff about giving an infant a complementary feed with formula.

I think there's a difference in what some of my colleagues want to do as opposed to some of the other colleagues. I have found for example, some people would be very reluctant to sort of comp...

One participant discussed her views about some staff's apprehension that complementary formula feeding "*undermined*" breast feeding. She highlighted the importance of assessing and managing every mother/infant dyad on an individual basis, referring to differing levels in severity of the infant's compromised nutritional state.

...I guess the concern that some of the staff have is that breastfeeding is undermined.

Yes, it's generally undermined, inadvertently, because addressing the nutritional state takes priority. I think that's a bit of a difficult - I think every case is a bit different. Yes and I think it depends on what level of - how extreme the case is... (Participant 12).

Participant 14 described her experience of assisting the breast feeding primary carer to care for their nutritionally compromised infant once a care plan including complementary formula feeds had been established by other staff members and the primary carer. She indicated this was a challenging process for her at times but her major priority was to support the primary carer in their decisions, using a collaborative approach to care.

I suppose I detach a little bit, I just think well this isn't what I would have chosen to do but I'm not going to undermine this ... Because I think the mothers, she doesn't need to be undermined or told another theory ... she doesn't need any more advice... I suppose because it's only a few days I just think, well if this is what's happening then I accept what I can't change...

Participant 4 also indicated some personal struggle supporting the use of formula as a form of management and believed it was imperative to "*have really good evidence*" relating to this issue in the clinical practice guideline. She described her personal experience of "*fully breast*

feeding” her own children and was aware she was influenced by this experience but also maintained a professional stance, separating her personal views from her professional responsibility by following evidence-based practice guidelines.

We know that it changes gut - we know all the positives if you like, fully breastfed, we know about the link with asthma and formula. Lots of different things, and I think it's a big deal really. So we want to have really good evidence for doing it [using formula] (Participant 4).

Personal Beliefs

Other participants shared some of their beliefs and experience guiding their practice.

I've had a lot of experience. ... my child health experience...I make my choices on being informed...I'm willing to change my practice according to whatever the research is telling us to do because that's how we should be working....(Participant 10).

I am a strong breastfeeding advocate. But I'm also a realist...So I think that makes me really quite able to deal competently with people who are really strong on breastfeeding...While we do the best, sometimes it [breast milk supply] just isn't there.... So I think I can give understanding to those people as well as perhaps help them bridge the gap between how much lactation there is and how much their baby needs... I'm also a strong advocate for a mother's sanity...(Participant 9).

Participant 15 preferred a conservative management approach in the short term indicating she felt maintaining breast feeding was the priority.

I see preserving the mother's right to breastfeed and helping her as the most vital thing. So not getting those weight gains initially is something that ... I sort of think well okay, that's fine... Because the baby's been going along anyway, two days in the baby's life isn't going to hurt it ...they're mostly always hydrated anyway.

Another participant appeared driven by her compassion for mothers who had experienced traumatic births when assisting them to achieve their goal to continue breast feeding.

You don't want to break their hearts and if they've had a really dramatic birth and they're just desperate to hang onto breast-feeding. We want to do that. We want to help them (Participant 11).

Participant 3 indicated a strong belief of not allowing her personal experience to dictate how primary carers choose their preferred method of infant feeding as long as the infant is having his nutritional needs met.

I think I'm professional enough to not let that interfere... I can appreciate that some parents are happy to use a bottle and that's fine as long as the baby is getting his nutritional needs met I don't see that there's a problem using whichever method is most effective.

Participants demonstrated frustration, confusion, conflict, struggle, concern and anxiety as they discussed factors influencing their decisions to offer the nutritionally compromised infant complementary formula feeds and their views on the potential effects of complementary formula feeds.

Time

The concept of time raised previously by participants, in the themes Pathway to Awareness and Identifying and Acknowledging the Primary Issue, surfaced again in the participants' accounts in the theme, Mothers' Milk. One participant raised the question of how much time staff had when assisting the mother to determine the need for complementary formula feeding. On one hand, time was needed to assess if maternal milk supply could be increased enough to meet the infant's growth requirements and on the other hand, there was a sense of urgency to address the infant's condition as soon as possible to promote their developmental potential and correct any nutritional deficiency.

I'm frustrated by the fact that they are there for five days and how long does it take to establish or increase the milk supply and then at what point do you make the choice to start the comps?... So in an ideal world it would be great to just be going let's really work on the supply. But in the meantime you've got a baby that's tired and is really sleepy because it hasn't got the nutrition there and you want that nutrition, I think, to get them interested [in the breast] ...(Participant 6).

Another participant recounted an experience where she admitted an infant diagnosed with gastro oesophageal reflux who was not achieving expected weight gains. The infant was under the care of a general practitioner and paediatrician who had increased the infant's anti reflux medication just prior to admission. This participant described how it was difficult for her to undertake an accurate assessment and implement a plan of care for this infant within her 8 hour shift. She felt more than one breast feeding assessment and infant observation needed to be undertaken over a

24 hour period to determine if low milk supply or infant discomfort associated with reflux or a combination of both were the cause of this infant's altered growth pattern.

...how long before we have to do something. It was tricky, because I think there was definitely a medical reason for his behaviour. It could have been about supply, but it was very hard to actually say with only watching one breastfeeding assessment, really what was going on. So that was difficult to formulate a plan then and I couldn't be sure... You think was there also an element of supply. Was the fact that he wasn't on the breast very much affecting supply, which is a valid thing that could be the case, or was it really because he just wasn't able to - because of his issues, really suck and take advantage of what was at the breast (Participant 4).

In another scenario a participant commented on the clinical practice guideline. She felt it provided the option of assessing low breast milk supply and determining a plan of care suitable to addressing the infant's and mother's needs. However she indicated time was needed to determine the outcome of this plan and in this instance, 2 days later, another nurse/midwife suggested another management option, including complementary formula feeds, was more appropriate. This participant found this scenario confusing and frustrating.

...the policy does say for breastfeeding babies to assess the supply...It doesn't say comp straight away with the nutritionally compromised breast feeder...that's where it can get confusing because this breast feeder,...I saw her on night one, thinking we need to watch these feeds, get her to feed eight times a day, cluster feed, maybe go a bit longer over night. But cluster feed in the afternoon and rest her up and keep monitoring these feeds and keep seeing, well, do you think we need a comp?...That's where that gets confusing

because someone came in on the beginning of day three - and said this baby is nutritionally compromised. We need to comp right now (Participant 5).

Another participant described how the decision to offer complementary formula feeds can be further complicated when the mother had commenced galactagogues to stimulate supply prior to admission, and the mother shared on admission the infant was displaying improved behaviour although this was not reflected in the infant's weight gain. Participant 8 implied that more time was needed to evaluate the effectiveness of the management strategies, put into place before admission to the Family Centre, during the clients' stay at the Centre.

I think the other issue that sometimes I'm in two minds over. You take some of their history and yes, the baby ...is nutritionally compromised. But mum has started some galactagogues at home and things are sounding as if they're on the cusp of about to shift upwards and improve. But we still haven't seen it shown out in the weight necessarily. But maybe behaviour is changing a little bit (Participant 8).

Participants voiced their struggle and anxiety in making decisions regarding implementing complementary formula feeding indicating this issue was clouded and complex. They expressed concern regarding the potential negative outcomes of offering complementary formula feeds and the influence of time on their decisions to act.

...let's just see what happens by day three. ... But then does that leave you... well I've only got a day left, things aren't really changing...(Participant 8). That's why we have to jump on them [initiate complementary feeding] on day one because by day three they weren't putting weight on. So that's where I get a little bit nervous about it (Participant

7). *So you are jumping on them. But sometimes they could be actually getting there (Participant 8). Yes, just doing it themselves. Yes. It's very difficult, isn't it? (Participant 7). That could then throw back that supply thing even - another step backwards (Participant 8).*

Participant 15 indicated 48 hours were needed to gather enough data to determine if a mother had poor attachment technique and or was not offering enough feeds and or had a low breast milk supply. She implied staff needed to have more “trust” in their observational breast feeding assessment skills.

I think if you concentrate on that for that first 48 hours ...and then just see what that gives you, and then if you know.... yes the positioning was corrected ...we've added another feed, then you could say ... we've done all those things but maybe her supply is a bit down...I think we've just got to trust ourselves to look and see what problem there is with that feeding with the mother first.

Some participants indicated a preference for offering nutritionally compromised breast fed infants smaller volumes of complementary formula feed, providing the infant with enough energy to gain weight and encourage the infant to demand the breast and stimulate the supply, instead of the volumes outlined in the clinical practice guideline. They suggested this was more likely to lead to a positive breast feeding outcome in the long term provided clients had appropriate follow up care after discharge from the Family Centre.

...how I look at it is ... what we're trying to do is send the mother home, she will continue breastfeeding and that we actually try and give a volume of a comp that's actually going

to give them a weight gain but still allow mum to keep on feeding... I don't think the problem of the babies losing weight is going to be corrected unless... you just feed them up with comps. I mean they'll gain weight. If I sat there and ate five cakes I'd put on weight and we know that... So we get an outcome at the end to say yea, they've gained weight but ...maybe the mums might end up giving up breastfeeding... I think sometimes we've got to address more the mother than we do the baby and sort of be a little bit tentative but a little bit - I suppose it's like being a little bit brave.....I'm not saying I wouldn't be clenching my teeth and holding my breath...unfortunately, sometimes, in our practice, there are those periods where you've got to hold your breath and take faith in the fact that what you're doing has got a lot of reasoning behind it and it's practical and it's sensible and in the end you will get an outcome, but maybe not as quickly. But maybe more beneficially for the mother in the long term (Participant 15).

Another participant suggested there was an expectation of infant weight gain to occur during the clients' Family Centre stay. She highlighted the need to address the infant's nutritional status and promote their growth as well as promoting breastfeeding. This participant's comments demonstrated her sense of inner conflict with the challenge of balancing the short and long term benefits of improved nutrition on infant growth with the long term benefits of breast feeding for both the infant and their mother.

I always think that ...we're in a huge hurry and that's why I think we overreact and want huge comps and we often want ...the quick fix-it ...I feel that quick fix-it undermines the breastfeeding so that's where my fear comes in. Whereas I think if we took a quieter, smaller approach it would probably take longer but I do think then we'd have more hope

of in the long run ... sticking with the breastfeeding...I do also see ...it's no use a baby being unsettled any huge amounts of time because that undermines the nutrition... So I think it's something that needs to be watched carefully ...you have to take that into account with the amount of what you're comping them (Participant 14).

Baby Led Feeding or Not

Participant 15 believed larger volumes of complementary formula feed affected infant breast feeding behavior and compromised the mothers' capacity to generate more breast milk.

So if you're giving a lot of comp I think it's going to compromise how the baby goes to the breast....

Another participant described her uncertainty related to waking the nutritionally compromised breast fed infant, less than 3 weeks of age, offering full quota of complementary formula feeds at timed intervals and the effects this might have on the infant's ability to self regulate breast feeding, stimulate supply and successfully establish breastfeeding.

...I find sometimes they're too sleepy. Then they have to be woken for the next feed and don't feed effectively from the breast. We give them another comp and so the scenario goes on. So I feel it sometimes impacts on the breast-feeding... We're not sure if it's to the detriment of the breast-feeding because we don't see it in four days...(Participant 11).

Another participant recounted an experience caring for a breast fed 7 week old infant who had crossed down 2 percentiles and was described as "sleepy" and "looked skinny". After assessing a breast feed, maternal milk supply was thought to provide approximately "80%" of the infant's

nutritional requirements. When considering if complementary formula feeding was necessary for this infant the participant had several concerns including some apprehension offering all of the complementary formula feed required for this infant, based on his expected weight and the effects these amounts might have on the infant's ability to self regulate breast feeding and stimulate supply.

....I think it is a complex issue with establishing breastfeeding, because you find that the baby gets very fullSo then you get a sleepy baby that's not going to suck effectively from the breast (Participant 5).

Participant 3 recounted her experience and concern suggesting it was difficult to determine whether the infant was not self regulating and waking for feeds because it was lethargic as a result of its compromised nutritive condition or because the infant was receiving larger complementary formula feeds.

...I know sometimes on night duty these little ones sleep and you actually have to wake them at that 4 hour mark to do the feed cause it's really difficult if you've got a very drowsy baby and all it wants to do is sleep and it may be because... the comp feed, it's after the breast feed, being so large that they're not hungry enough to wake. So it's a hard call.

Another participant commented on her experience of offering nutritionally compromised breast fed infants, less than 6 weeks of age, the full amount of complementary formula feed via bottle, indicating confusion when the infants readily take all of the quota and raising questions relating to infant maturity and their ability to self regulate their feeds and determine the difference between breast and bottle.

I find the ones under six weeks tend to take all their comp. I don't know whether it's just because ... they're not used to the breast fully and they'll just take it or that they're really, really hungry as a sort of way of life. I don't know. That's my perception (Participant 11).

Some participants suggested the language used in the clinical practice guideline was important to understand in the context of acting on the infants' hunger and satiety cues commenting on the word "offer". They acknowledged the need to work collaboratively with the primary carer and provide the infant an opportunity to receive nutrition using a developmentally appropriate approach.

I think that magic word offer ...has really been highlighted in the last maybe six months that we are very much emphasizing offer, rather than try and get the whole thing in and that then gives the baby some space to, I've actually had enough, I'm doing okay (Participant 8).

....we definitely write in our care plan, for the implementation ... offer, this is what is to be offered to your baby... because language is a big part of how we share this knowledge with the families... (Participant 2).

Participant 10 suggested some babies are unable to regulate their nutritional needs when they have a strong suck sometimes taking more than they need.

And I know we say we offer it - only offer it and the baby takes what it wants. But we do know that babies will slug down more than they need. You know these little

babies with a strong suck.

She outlined several scenarios where a breast feeding assessment undertaken by staff indicated “the baby’s obviously getting some” breast milk and “then on top of that, the baby gets offered a full” complementary formula feed and sometimes extra feeds. She commented on the guideline recommendation of offering “full amounts” as difficult expressing concern and unease. Her comments suggest an underlying belief of feeling restrained in using her professional expertise and experience as her guide in what volume of complementary formula feed to offer the infant.

...I know we can't work out how much a breastfed baby has, but there is no negotiating on the volume of comps. There's no offering half comps, it's a full one or none. And I find that's a bit hard...baby comes in, isn't attaching very well to the breast.... We fix that attachment. The baby's doing lots of nice suck swallows, but we will still continue to give full comps until we see day three, day five and then they'll start to reduce them. When in factthe mother's maybe got the supply and the baby wasn't taking it. ... Or the baby who is lethargic, offer extra feeds. So in theory that baby is getting three more feeds in a day than what he normally would. And then on top of thatmum's expressing. And then on top of that he has to be offered full comps. ... Like I know the baby needs comps... I find it a contradiction that breastfed babies actually get offered a lot more milk than a bottle fed baby does.

The How of ‘How Much’

Participants indicated if it was determined the infant needed complementary formula feeds through health assessment, there was confusion about how to calculate appropriate amounts to offer when basing the calculation on the infant’s expected weight. Confusion appeared to be

embedded in how to interpret where the infant's weight would be expected to be if the infant was achieving expected growth for age.

.... just recently a situation arose where a baby had dropped two percentiles, it was like seven weeks old ... Now the definition of expected weight what is that? (participant 5)

...there are some people who look at that birth percentile and go, this baby should be on that percentile, we'll comp up to there. Rather than look at the week by week weight gains.I think that causes a bit of confusion for some people (Participant 10).

Participant 11 commented on past “*extremes*” relating to other staff practice in determining if an infant was nutritionally compromised and how much to offer the infant when complementary formula feeding. She suggested practice has become more uniform over time since introducing the clinical practice guideline.

Now, my experience is good. Everyone, I think, seems to be on the same page. Give it a year ago, it wasn't. But I thought there were extremes. You had the extremes of people comping to quota when the babies weren't nutritionally compromised, maybe only fallen one percentile, if that. Then you'd get the other extreme where they'd fallen two or three and nothing was done.

Participant 2 commented staff were “*struggling*” with what information to give to primary carers regarding “*when to reduce the comps, how to reduce the comps to promotebreastfeeding*” alluding to a need to provide further information within the guideline to address this issue.

Participant 13 indicated the guideline allowed staff an opportunity to be flexible with the plan of care inferring these decisions were dependent on the level of infant undernutrition and maternal milk supply.

You do have to support breast feeding, there comes a time when if it's a one percentile drop, ...I do think that we could stop comps if the weight gain has been okay and then in the last two days even, concentrate on just the breast. See if we can build that supply up and do it, and sometimes you can. But if it's more than one, going over towards the two [percentiles], I think they need help because they're not going to recover. They're not going to come around, they don't have the capacity and that to suck and regain their energy.

Life after the Family Centre

Participants expressed anxiety and concern regarding the discharge plan for infants and their primary carers. Some were unsure of what information to include in the plan and how to share this information with the primary carer and other community health professionals involved with their care after discharge, and indicated a need for more detail regarding discharge plans to be included in the clinical practice guideline. Others alluded to the possibility that after discharge some mothers could be at risk of further decline in their breast milk supply because of the demands of their home and work lives.

I found it quite confronting the other day when I had a clientwho was breastfeeding, who had been comping and then to make the plan for discharge, what would be the continued management? ...She was going home to a toddler and I thought, now, what's the path for follow up with this person? Will they need me to feed on the information

about what has happened? (Participant 6)

... when they come to the Family Centre it's sort of an ideal world. ...So, in a way, ... if they are not getting better while they are in that sort of nurtured environment, is it realistic that ... their supply is going to improve when they go home to full on demands of family life ... (Participant 8).

So there is not enough I think in the policy on discharge. ... So we are comping this many feeds here. So what's the program for when you go home on how to diminish them if things are going well? That would be good to have it outlined clearly, this is something you could try (Participant 7).

Participant 13 commented on other health professionals available to support primary carers with nutritionally compromised infants following discharge from the Family Centre, including maternal and child health nurses, paediatricians, speech pathologists and nutritionists through the local hospital and community health services.

We would certainly put them through to a paediatrician or a speechy or the feeding clinic. ...with the early days now, we're finding that they are picking them up...There's that service available ...Now they have the groups...and they go out that afternoon to help them if they can see that that baby is compromised...the mums are getting help quicker.

Participant 2 demonstrated increasing confidence implementing the clinical practice guideline

based on past experience and client feedback and encouraged positive outcomes for primary carers in their breast feeding.

I've personally have had 2 letters and 2 photos of women that have...used the supply line, comped with formula, felt very safe with the practice and the policy that we've implemented and have gone on to continue to fully breast feed so I always share that with families saying don't feel this is the end of breast feeding...

Striving Towards Improved Practice – Searching for Evidence

Participants outlined their beliefs on what would assist and enhance their ability to implement the clinical practice guideline. They suggested following up clients after discharge and collecting and analyzing data relating to outcomes on how the infant and primary carer were progressing with feeding and growth. They indicated sharing this information with other primary carers with nutritionally compromised infants would enhance their ability to make appropriate choices.

...knowing whether they continue breastfeeding or what happens to them after with the follow up? ... to be able to follow that up and say, well look, this is what we've done and this is what works (Participant 1).

I would love to be able to say, we've got evidence suggesting that if we do this, this is what's going to happen. What are these babies doing a bit further on, what's their growth like, what's their breastfeeding rate like? (Participant 4).

One participant suggested further research on the numbers of women who continue to breast feed in the long term with and without complementary feeding could be useful for her practice (Participant 2).

To recap, participants revealed their strong commitment to promoting breast feeding and the conflict they felt when considering the best interests of the infant and mother. They appeared torn between addressing the immediate issue of providing the infant optimal nutrition with haste and promoting breast feeding and infant health and development in the longer term, demonstrating a cautious approach towards implementation of the guideline, questioning its efficacy and calling for more information and evidence to be provided within the guideline. The underlying conflict the participants exhibited was characterized by their confusion, frustration and concern. Differing levels of experience appeared to compound these feelings.

Summary

In conclusion, chapter 4 has provided a description and interpretation of the participants' lived experience illustrating the four phenomenological themes that emerged from the data. Chapter 5 reflects on these findings uncovering the essences of their experience.

CHAPTER 5

PHENOMENOLOGICAL REFLECTION

Introduction

Chapter 4 presented the emergent themes of the nurses' and midwives' accounts illustrating the depth and richness of their experience. In this chapter the participants' experience is examined in more depth and married with relevant literature. Van Manen (1990 p.78) indicated "the meaning or essence of a phenomenon is never simple or one- dimensional" emphasizing meaning has many layers and components. The intention of this phenomenological reflection is to illuminate the essences and the fundamental nature of the participants' experience.

The clinical practice guideline for care of the nutritionally compromised infant was developed in response to identification of a primary health care concern and a need for specific guidance relating to this issue for the nurses and midwives at the Family Centre. When reflecting on the three major factors linked to successful implementation of evidence-based practice, clinical studies, clinical experience and patient preferences, the absence of any or all of these factors has the potential to significantly affect the process (Smith & Donze, 2010). The participants' accounts reflected their sense of improved practice when using the guideline however they also revealed some apprehension in their ability to make informed decisions regarding care of the nutritionally compromised infant because they felt the guideline lacked some essential information, some participants lacking experience found it confronting using the guideline and some were conflicted in their beliefs about parts of the guideline. Challenging attitudes and

expectations from the primary carers added to the participants' anxiety affecting their capacity to implement the clinical practice guideline effectively.

Change is Challenging

The process of change participants experienced when implementing the guideline was highlighted in their accounts. Participants acknowledged change was a journey where growth and many conflicting emotions were experienced requiring strategies to be put in place, presenting viable options for available support and opportunities to develop appropriate attitudes, beliefs and knowledge. Literature supports these findings, recommending the primary facilitators to successfully implementing clinical practice guidelines included consultation with and support from the organization, clinical practice managers and peers, guiding staff in development and utilization of a comprehensive implementation strategy (Koh et al., 2008; Pearson et al., 2007; Ploeg et al., 2007; Pyle, 2006). When coupled with professional development outlining information in the guideline and its significance to their practice, nurses and midwives may be supported to change their practice (Davies et al., 2008; Johnson & Griffiths, 2001; Prentice & Stacey, 2001).

Interviewing staff following implementation of a guideline was suggested by Pearson et al. (2007) as a method to consider staffs' responses to change and develop their sense of agency for change. Having a change champion to support staff through the process of change has also been reported by experts to benefit staff (Koh et al., 2008). By ensuring the participants' voluntary inclusion in this study and respecting and promoting their contributions, the researcher adopted the role of change champion and provided the participants with an opportunity to voice their

experience of change. Addressing the barriers and promoting the facilitators for change, identified by the participants, and including the participants in this process may further aid the participants in their practice. Facilitators and barriers associated with the process of change revealed a strong emphasis on support, education, attitudes and beliefs. Many of these facilitators and barriers have been found in previous studies relating to the implementation of guidelines (Davies et al., 2006; Johnson & Griffiths, 2001; Pearson et al., 2007; Ploeg et al., 2007; Retsas, 2008; Winch et al., 2005).

The participants suggested the clinical practice guideline provided a platform for facilitating change allowing the primary carer to focus on the primary issue of providing nutrition to their infant. Empowering the primary carer through positive reinforcement of their acquired skills, appropriate use of language, allowing them time to digest information, assisting them to develop their skills, providing evidence-based information, sharing past experience of positive outcomes, providing options for care, and ensuring flexibility in care plans and provision of consistent information were regarded by participants as highly beneficial towards implementing the clinical practice guideline effectively. Similarly, Yarwood's (2008) study found creating collaborative relationships between community nurses and clients, empowering the primary carer and their family to care for their infant, were integral to achieving desired outcomes.

Demonstrating empathic understanding of primary carer needs through reflective listening, showing compassion and providing education promoting the principles of adult learning was very important to the participants. Previous research supports the participants' beliefs suggesting acknowledgement of primary carers' vulnerability in their early parenting phase, allowing

parents time to digest information given, and offering empathic understanding and support facilitated parents in making change (Eronen et al., 2010; Greenland, 2005; Lamond, 2010; POPPY Steering Group, 2009).

Barriers limiting the capacity of participants and primary carers to achieve desired change included the primary carers' perception of receiving conflicting information and unrealistic expectations particularly when they were experiencing the effects of sleep deprivation, exhaustion and altered perceptions. Previous research has revealed it was not uncommon for parents to have less sleep in the first 2 years of their child's life leaving them feeling drained and irritable with impaired motor and cognitive abilities and poor motivation (Karraker, 2008). Lee (2008, p.705) highlighted new parents reduced functioning capacity due to sleep deprivation, emphasizing this type of sleep deprivation over a period of 1 week can be compared to having the "legal blood alcohol limit set for driving a car".

C-Frame, connecting with families, working collaboratively, and promoting positive change, provides the framework at the Family Centre for nurses, midwives and clients to achieve desired outcomes. Through C-Frame, the Family Centre illustrates an underlying philosophy of facilitating staff and clients in their learning by providing an environment that is informed by research and promotes evidence-based practice through staff and client access to evidence that is relevant to nursing and midwifery practice and client needs. Throughout this study it was clear participants were guided by C-Frame bringing the concept to life through well developed communication skills, facilitating, collaborating and empowering primary carers in their journey

towards change. Some participants found this a challenging task at times revealing a need for further knowledge, experience and opportunity for professional development and reflective practice regarding care of the nutritionally compromised infant and their primary carer.

Focus on Education and Support of the Primary Carer in Caring for their Infant

As the participants sought to identify the underlying causal factors for infants becoming nutritionally compromised the essence of their experience became clear, revealing their focus was on how to educate and support the primary carer in caring for their infant. Participants suggested more prenatal and postnatal primary carer education on infant feeding and improved primary carer access to health professionals highly skilled in this area were vital towards achieving better health outcomes. They indicated health professionals need to have an understanding of how cultural influences from family, friends, social media and work impacted on primary carers and their infants, describing the phenomenon of primary carers being distracted and having to be 'busy'. Literature supported the participants' views revealing a lack in parent education in relation to appropriate infant feeding, cultural issues impacting on parents' feeding decisions and possible poor outcomes resulting from parents initiating inappropriate infant feeding strategies (Fraser et al., 2006; Pak-Gorstein & Graham, 2004; Wright et al., 2006). Participants inferred health professionals needed to acknowledge primary carers' lack of knowledge, inappropriate prior knowledge and unrealistic expectations of infant feeding behavior, and their need for support and time to develop skills, indicating this was essential when developing an appropriate plan of action to address the primary issue of poor infant growth.

Feeling unsettled at Times when Approaching Infant Health Assessment

A strong belief of the necessity to approach infant and primary carer health assessment through the lens of a social view of health incorporating physical, emotional, psychosocial and cultural health aspects was revealed in the participants' experience. Literature supports the participants' beliefs stressing the importance of operating from a primary health care model that acknowledges the wider spectrum of health and allows the health professional to assess client issues in a holistic manner (Government of South Australian Department of Health, 2004). Participants indicated assessment undertaken by experienced nurses and midwives with a high level of knowledge and expert observational and investigative skills, in an environment conducive to gathering information, was a facilitator when implementing the clinical practice guideline. It was evident some participants required more support to perform accurate health assessment when primary carers were sleep deprived and their nutritionally compromised infants were unsettled. Aimed at achieving positive outcomes for individual primary carers and their infants this would foster the development of participants' knowledge and skills.

The essence of the participants' experience emerged from their accounts when they revealed they felt unsettled at times when they approached infant health assessment of growth and feeding. It was evident from participant's comments some staff were relying on the infant growth chart as their primary source of assessment, indicating there may be a need for further education for these staff relating to holistic health assessment. Sachs et al., (2006, p.1) indicated maternal and child health nurses and mothers frequently rely on the infant growth chart as the primary method of identifying undernutrition rather than assessing feeding, suggesting this type of assessment "takes time and skill". Some participants indicated the Family Centre offered more time to

assess feeding compared to the hospital postnatal setting and their skills were developing. Other participants revealed having difficulty assessing breast milk supply, suggesting more time was needed to undertake accurate assessment during the clients' five day stay at the Family Centre.

The participants' stories revealed their confusion when interpreting infant growth patterns. Their experience is similar to findings in an English ethnographic study that found both primary carers and health professionals had a poor understanding of the growth chart (Sachs et al., 2006). An Egyptian regional workshop introducing WHO (2006) infant growth charts identified problems amongst some nurses including them struggling with comprehending reference population percentiles and interpreting individual children's growth patterns to identify an infant at risk of undernutrition or an infant experiencing growth deficit to determine when to intervene with their health care (Hussein, 2005).

Participants implied the guideline lacked clarity on how to interpret infant growth patterns, creating staff conflict over the definition of a nutritionally compromised infant. Findings from previous research mirrored the participants' reactions highlighting inconsistency with definitions related to poor infant growth and infant growth charts currently used nationally and internationally (Batchelor, 2008; O'Brien et al., 2004; Standing Committee on Health and Ageing, 2007; WHO, 2006). It is, therefore, not surprising nurses and midwives have had difficulty gathering standardized knowledge in this area. With the demand for more evidence-based practice it is necessary to have uniformity in definitions, growth measurement and growth charts to promote consistent practice (Batchelor, 1999; Feld et al., 2004; Wells, 2002). The participants' comments were echoed by the NHMRC (2000) who suggested lack of information

or imprecise information in a clinical practice guideline has the potential to impact on practice presenting a significant barrier to change.

Difficulty identifying the nutritionally compromised infant may be coloured by infant presentation, their degree of undernutrition and the perceptions of health professionals and primary carers (Thomlinson, 2002). Often identification is dependent on the assessor's level of skill and education and influenced by their environment, beliefs, attitudes, society values and norms. Barriers described by the participants affecting their capacity to acknowledge the primary issue of poor infant nutritive state and delayed growth included the primary carers' heightened emotional state, infant unsettled behavior, time constraints, heavy workloads, less continuity of care and an exclusive breast feeding philosophy exhibited by some staff. Accurate assessment of infants' nutritive status is essential in providing the building blocks for establishing a plan of care to address their issues, and the participants' differing perceptions of the infant's nutritional state on assessment created a barrier to achieving an appropriate plan. Addressing this barrier is a critical component towards effectual implementation of the clinical practice guideline.

Torn between the Need to Rescue the Primary Carer or the Infant or Both

Participants' experience of using the language, 'nutritionally compromised infant', was divided and this was reflected in their feelings of discomfort, frustration and anxiety. On one hand, discomfort was voiced by some participants who expressed concern there was a risk mothers could feel they were to blame for their infant's condition when this term was applied by the health professional. Previous research supported this view in relation to the term FTT, indicating

caution was needed when considering that a range of health professionals could be involved in the care of the infant and primary carer (Batchelor, 2008; Black et al., 2006; Feld et al., 2004).

Batchelor (2008, p.148) suggested

A problem with such a diagnosis is that it is still used and understood differently by different professionals, so potentially leading to assumptions and misunderstandings about causal factors. Once this label is attached there is a risk that some professionals will assume neglect has been established...

On the other hand, other participants asserted the language offered primary carers an opportunity to focus on their infant's nutrition needs. All participants agreed the language used in their practice should have promoted a collaborative relationship between the primary carer and themselves. It was apparent there was a need to define the primary issue and choose language promoting positive sustainable outcomes for both the infant and their primary carer however participants appeared conflicted in their beliefs on where the focus of the language lay.

Language offers nurses, midwives and primary carers the foundation to build positive relationships and provide direction toward achieving desirable goals therefore it is crucial to address the concerns voiced by participants and promote their efforts to employ the Family Centre's framework for care, C-Frame. Mosby's Medical Nursing and Allied Health Dictionary (2006, p.1203, 406) describe 'nutritional' as "pertaining to the quality of food or eating behaviour that provides nourishment through assimilation of food to tissues" and 'compromise' as "delaying satisfaction in one area of the body to reduce stress in another". When these words are attached to the word, infant, new meaning is born through interpretation of others. Wright

(2000, p.5) describes an account of how two professions perceived an infant diagnosed with FTT.

To a general paediatrician, it might conjure up a respectably clad child, sitting on an anxious mother's lap as you study growth charts and test results in the hope of inspiration. To a social worker it might imply a wasted, miserable child found in a cold, dirty house.

Each perspective carries an assessment of potential causes for the infant's condition attempting to ascribe meaning to the image presented. It appears the crux of the participants' account is what the term 'Nutritionally Compromised Infant' means and the implications of ascribing a central cause to the definition for the health professional, the carer and most importantly the infant.

In developed countries the term, faltering growth, has been adopted in response to the 'blame the victim' culture associated with the term 'Failure to Thrive' thereby shifting the emphasis away from judging the primary carer and instead, promoting a culture of collaboration between the infant's primary carer, their family and health professionals (Blissett et al., 2002). Basford and Slevin (2003, p.369) assert "discourse presents a way of seeing things ... recognized by the social group as the truth of the matter...this is not only true of the dominant members who benefit from this interpretation of reality, it is a 'common sense' which is shared and accepted as the natural order by the remaining members who are in fact subordinated to it". The participants in this study have acknowledged the power of language as a key factor in developing collaborative relationships with primary carers empowering them to care for their infants and promoting positive outcomes. Some participants illustrated their anxiety with using the term

‘nutritionally compromised infant’ and the possible negative outcomes associated with the use of the term. These negative outcomes included primary carer hostility towards staff, primary carers feeling guilt and grief because they perceived they had been starving their child and primary carers experiencing fear of being judged negatively by others for their child’s condition.

Often terms used in health care are associated with anger, fear and grief. In Thomlinson’s (2002) phenomenological study of the lived experience of 12 families of children with FTT, carers described the overwhelming sense of fear they lived with feeling victimized, alone and powerless. This study found families confided in health professionals with well developed reflective listening skills feeling they were then valued as the primary carers of their children Batchelor (2008, p.156) commented “we know that really listening to carers is the key factor in building a partnership, yet time and again studies of service users highlight how often we fail to do this”. Wells (2002 p.42) highlighted “this is an issue that requires improvement, for failure to acquire parental support jeopardises the potential success of any treatment”. Past studies suggested mothers perceive the nature and causes of their nutritionally compromised infants very differently to health professionals (Batchelor, 1999). Exploring primary carer beliefs assists in identifying what they consider might be causing the problem and any maladaptive behaviours they are open to changing. An understanding of their views enables health professionals to provide the most appropriate education focusing on the primary carers’ goals (Sturm, 1991). It is apparent an emphasis on collaborative practice to validate parents need for respectful inclusion is essential (Thomlinson, 2002). Reduction in parental anxiety is vital to successfully managing the nutritionally compromised infant. Developing a collaborative relationship with the primary carer and their family will facilitate education on appropriate feeding practices and empower

them to utilize available supports (Blisset et al., 2002). In this study participants demonstrated well developed skills in reflective listening and empathic understanding with clients, who had often been to other health providers, prior to admission to the Family Centre, and felt they had not been listened to or included in the decision making process in relation to their child's condition.

In the reality of nursing and midwifery practice caring for an infant who is nutritionally compromised is difficult and collaborative care in these situations requires nurses and midwives who have attained a high level of skill and experience in assisting primary carers to come to terms with their infant's nursing diagnosis. Warnock et al's survey (2010, p.1543) of 236 nurses exploring "the role of the nurse in the process of breaking bad news in the inpatient clinical setting and the provision of education and support for nurses carrying out this role" found nurses were often called upon to inform clients of bad news and they had obtained only minor training and support in this area of expertise. Literature revealed information on the topic of nurses breaking bad news to parents was often in the context of the nurse acting in a supporting role to medical practitioners and allied health professionals (Kelsey & McEwing, 2008). Previous research did not reveal any information directly relating to nurse led practice involving primary carers of nutritionally compromised infants. Marsden et als' (2006 p.15) literature review on communicating information to parents whose children are overweight also found little information relating directly to this issue, however they found it useful to look to other studies such as Fallowfield and Jenkins (2004) who established health professionals could enhance their skills in sharing bad news with clients by demonstrating confidence and concern instead of remaining aloof, giving clients time to ask questions, provide appropriate literature, being

respectful to the parents and caring towards the child. These study results may also apply to nurses and midwives communicating challenging information to primary carers of nutritionally compromised infants. A qualitative study (Sices et al., 2009, p.705) undertaken with mothers of children with normal development, mothers with children who received early interventions services and early intervention specialists discovered many mothers preferred staff to inform them of the child's diagnosis using a "nonalarmist" manner whereas other mothers appreciated a "more direct" manner using "labels" to identify their child's issues. These findings suggest primary carers are all individuals requiring relevant informed information given in a manner sensitive to their particular needs. This task is much more difficult when the diagnosis has not been confirmed or there are conflictual attitudes regarding the diagnosis between staff caring for these clients. It is imperative exhaustive health assessment has been attended and a shared understanding of the language used for the infant's diagnosis has been reached prior to addressing the issue with the primary carer (Batchelor, 2008).

Emotional Conflict when considering the Best Interests of the Infant and Mother

Some participants found it difficult and challenging when assisting mothers with complementary formula feeding, demonstrating denial, doubt, detachment, grief, confusion and anxiety.

Overall, participants strived to promote a culture of 'breast is best' and some participants believed this was compromised by complementary formula feeding. In some instances this belief overshadowed the infant's nutritionally compromised state. Participants indicated they required 'good' research evidence and support to make a change in practice. Despite the intensity of these emotions it was evident the participants attempted to achieve a balance

between promoting breast feeding and addressing the infant's compromised state through collaboration and support with the mothers and each other. Some participants shared their personal beliefs relating to breast feeding, acknowledging their values and ideals influenced their practice. This finding is not unlike Yarwood's (2008) study where family care nurses emphasized how important it was to recognize their own beliefs, values and assumptions in relation to their practice. Other participants indicated their personal beliefs and personal experience of infant feeding did not impact on their practice. All participants acknowledged breastfeeding mothers experienced many negative emotions relating to introducing complementary formula feeds to their infant and suggested reflective listening, validating the mothers' feelings and sharing with the mother their past experiences of positive outcomes facilitated their practice and allowed the mothers an opportunity to be heard.

Some participants' comments suggested that when determining appropriate actions in a timely manner for both the infant and their mother, the level of the infant's poor growth status should be considered and would illuminate pathways for management. Meyer (2008) supported this finding however she emphasized that existence of universally acknowledged standardized guidelines for clinical practice in this area were lacking. Some participants in this study indicated the guideline allowed staff to determine a plan of care tailored to the individual needs of their clients. Other participants believed more information was needed in the guideline to assist in their decision making and inform the plan of care.

Some participants indicated they believed offering complementary formula feeds to the breast fed nutritionally compromised infant altered their feeding responses and placed breast feeding at

risk. They raised the question of whether very young infants could have immature feeding regulatory mechanisms and speculated if complementary formula feeding altered infant feeding behavioural cues placing the breast fed infant at risk of further feeding problems in the short and long term. Some participants' comments relating to infant self regulatory behavior and infant/maternal feeding assessment highlighted their skills and knowledge were developing but they required more support, education and time to perfect their expertise. Facilitators assisting these participants to navigate their way included the language 'offer', other nurses' and midwives' high level of skill and knowledge, past experience of positive outcomes and an ability to reflect positively on evolved practice. Lee Whorf (1956) illustrated the underlying power that language can have in alerting one to become more aware stating "language shapes the way we think, and determines what we can think about" (Carroll 1997). Responding promptly to infant cues of hunger and satiation allow an infant to self regulate their nutritional requirements (Academy of Breastfeeding Medicine Protocol Committee, 2009; WHO, 2009). The language 'offer' allows the infant an opportunity to lead this process and provides the mother an opportunity to learn and be led by her infant hence developing an intimate relationship with her infant.

Some participants also inferred breast feeding mothers may be at risk because of the potential short and long term consequences of reduced time breastfeeding that could be associated with complementary formula feeding. There was a lack of available literature supporting or refuting the participants' concerns however one small study was of interest. A Slovenian prospective intervention study (Hren et al., 2009) involving 31 exclusively breastfed term infants, aged 1 to 3.5 months with nonorganic FTT who received complementary formula feeds after each breast

feed, revealed supplementation over 31 days resulted in improved growth in 72% of infants and breastfeeding was maintained in 81% of infants. While this study was conducted in a different context and included a small sample size it does highlight the need for conducting further research into this aspect of practice.

Contrasting views on management strategies for breast fed nutritionally compromised infants and their mothers were evident in the participants' accounts. Some participants questioned some of the management options provided in the clinical practice guideline, suggesting it should include more current evidence-based information on when to introduce complementary formula feeds, quantities of formula to offer, and when to reduce these amounts during the clients' admission to the Family Centre and after discharge. Others indicated the guideline offered flexibility and direction on implementation of care. Participants suggested maternal support following discharge from the Family Centre was extremely important when mothers had commenced complementary feeding. In the theme, Mother's Milk, the dialogue of some participants suggested an underlying belief that choices of management for low breast milk supply, adopted at the Family Centre, were influenced by the uncertainty of appropriate follow up care following discharge from the Family Centre. Taking into account the mixed aetiology of nutritionally compromised infants, experts suggested the provision of multidisciplinary support for families was extremely important (Bassali & Benjamin, 2006; Batchelor, 2008; Rosenberg et al., 2008; Wells, 2002). Strengthening the existing collaboration between Family Centre staff and multidisciplinary service providers through further communication is essential when determining a management and discharge care plan that will be fully supported by all those who use it.

The participants' accounts reflected a strong emphasis on working toward sustainable breast feeding and some participants felt their capacity to promote this ideal was limited by an underlying 'quick fix' culture within their workplace and the Australian society. In the following account (Corbett & McGrath, 2003, p.38) of the experiences of field staff working with parents of infants with poor nutritional status in Afghanistan they discussed the impacts of a 'quick fix' culture on nutritionally compromised children and their parents suggesting a more sustainable solution was needed to achieve positive long term results. Although this account describes a situation in a country experiencing extreme poverty and lack of education it is interesting to note the similarities with participants' comments related to the notion of a 'quick fix' culture driven by organizational pressure to achieve results within a specified time frame.

Good feeding practice starts with knowledge. If there is no knowledge about nutrition, then no food will be able to improve the nutritional status in the long term... providing training, takes time, and the results often won't be visible within the project period. We distributed BP5 biscuits in our programme ... all children gained weight and the mothers were happy. Six weeks after the last distribution we measured all children again and most of them lost weight, some having returned to the previous weight. What did we gain? Nothing - this is quick impact without any long term benefit, and is, I feel, a waste of money and capacities.

The participants comments are worthy of further exploration within the context of developed countries and their available resources and education. It should be emphasized, however, that the concept of 'time' is paramount when considering the outcomes for the nutritionally compromised infant (Edmond et al., 2007; Wells, 2002; Wright, 2000). Experts support the notion of addressing compromised infant nutrition quickly underlining the importance of

providing adequate nutrition in a timely manner to support the rapid growth and development of infants in early infancy.

Growth in both weight and length is very rapid after birth, compared to later ages. ...At six weeks of age, over one third of total energy intake is directed to the costs of growth, whereas by one year of age this proportion is reduced to about five per cent ... Poor organ growth during this period can have significant effects on later function, leading to poor health in later life (Wells 2002, p.37).

The Fundamental Nature of the Participants' Experience

The essence of the participants' experience was unveiled through their struggle to come to terms with the conflict and anxiety they felt in relation to their strongly held belief that breast was best to promote optimal infant growth and development and this may have been compromised by implementing some of the management strategies outlined in the clinical practice guideline. It was clear all participants believed for the most part the guideline management strategies were necessary to improve infant health outcomes but they continued to search for alternatives to alleviate their discomfort. The theory of cognitive dissonance, first described by Leon Festinger in 1956, describes the essence of the participants' experience, explaining when two conflicting beliefs are held concurrently this will produce a heightened state of discomfort known as dissonance (Festinger, 1985). Striving for internal consistency in their beliefs the participants were driven to seek information affording them a more comfortable state of being. Throughout this study the participants have sought to relieve their dissonance by questioning the definition of the nutritionally compromised infant, exploring the potential of accurate health assessment, seeking further research evidence, creating strong collaborative relationships with their clients

and searching for feeding management options. Support during this endeavour was critical and radiated in their descriptions. It was their lifeline through the uncertainty and confusion they encountered in their journey of challenge and growth. Participants demonstrated a philosophy of care based on a social view of health and their commitment to action the C-Frame. In order to achieve this pursuit they called for clearer definitions for the nutritionally compromised infant , further information on interpreting infant growth issues and more research based strategies aimed at promoting optimal infant growth and sustainable breast feeding. Reviewing the Clinical Practice Guideline in the light of these findings would seem to be essential.

Summary

Chapter 5 has provided a phenomenological reflection of the nurses and midwives experience. The last chapter of this thesis concludes this study by re-examining the purpose of the study and discussing implications, limitations, findings and recommendations.

CHAPTER 6

CONCLUSION

Introduction

Chapter 5 has presented an analysis of the research findings allowing for a more comprehensive understanding of the nature of the nurses' and midwives' experience. This final chapter explores the outcomes of this study in relation to its purpose, significance, strengths and weaknesses and provides a final summation and recommendations.

Purpose

This study provided a description and interpretation of the complex phenomenon of nurses and midwives lived experience of implementing a guideline for care of the nutritionally compromised infant. An understanding of this phenomenon, generated through a hermeneutic interpretative phenomenological approach, from a nurse led primary health care perspective unique to Australia, has been heightened and has contributed to the existing body of knowledge in this area of practice.

Significance, Strengths and Weaknesses

The findings represent the experiences of the nurses and midwives who participated in this study and may not be representative of nurses and midwives experiences in other settings. As such they have provided an understanding of how the participants felt about their experience of implementing the guideline in their practice. The findings, however, provide insights for other organizations planning change to practice and, especially a change related to feeding

nutritionally compromised infants. In this study the researcher sought to provide the nurses and midwives a voice to share their lived experiences and, through hermeneutic interpretation, to illustrate the essences of those experiences, illuminating previously cloaked and overlooked issues. The nurses' and midwives' active involvement in this study provided them with an opportunity to share their experiences and to reflect on their practice. At the time this study commenced a majority of nurses and midwives from the Family Centre participated in the study. Those who chose not to participate may have provided different insights to the phenomenon. As a neophyte researcher I am also aware my interpretation of the participants' accounts may have been different to those of a researcher more experienced in the hermeneutic interpretative phenomenological approach. All human sciences are subjective in nature and therefore there is an inherent risk of researcher bias (Cohen, Kahn, & Steeves, 2000). To address this risk I have attempted to remain as close to the participants' original text as possible through the mechanisms of rigor and trustworthiness, outlined in Chapter Three, and explication of my beliefs, preconceptions and assumptions through the use of a personal diary.

Final Summation

It was clear the absence of some research evidence in both the clinical practice guideline and the staff in-service, the participants strongly held beliefs, and their clients' expectations and attitudes impacted significantly on the participants' capacity to effectively implement the guideline.

Experts agree successful implementation of a clinical practice guideline is dependent on availability of and access to relevant and reliable research evidence to inform the guideline, experienced nurses and midwives with comprehensive knowledge and skills, declaration of nurses' and midwives' beliefs and values, and knowledge of primary carers' beliefs, expectations

and level of knowledge and skill (Pearson et al, 2007; Smith & Donze, 2010). In order to promote a sustainable change in practice Winch et al. (2005) suggested there were three major driving forces, including examination of the evidence, exploration of how the evidence applies to practice and uncovering the workplace beliefs, cultural and social norms. Through phenomenological exploration, this study has synthesized the literature, and described and interpreted the participants' experience of implementing the guideline uncovering their personal values and beliefs. Van Manen (1990, p.154) describes hermeneutic interpretative phenomenology as a "critical philosophy of action" where reflection of the participants' accounts and the literature "deepens thought and therefore radicalises thinking and the acting that flows from it". The following recommendations, informed by the findings of this study, are provided to further support sustainable change in the participants' practice and beyond.

Recommendations

Review of the Clinical Practice Guideline

The clinical practice guideline would assist the nurses and midwives in their practice if it included when to reduce complementary formula feeds, more options for managing low breast milk supply and promoting long term sustainable feeding strategies, and discharge planning options.

Professional Development

Development of an updated professional development package on the care of the nutritionally compromised infant may be an advantage to nurses and midwives in their practice at the Family Centre. The package should include the best available evidence on breast fed infant growth

patterns; how to interpret infant growth patterns and determine growth problems; holistic health assessment focusing on realistic perceptions regarding the indicators for compromised infant nutritive status; maternal/infant feeding assessment including infant feeding cues; managing primary carers' emotional state and infant unsettled behaviour; updated current research regarding volumes of complementary formula feed offered to breast fed infants; how to share bad news with clients; and the process of change. Team leaders would benefit from more professional development on time management skills to accommodate the sharing of knowledge with less experienced staff.

Reflective Practice

Nurses and midwives at the Family Centre would enhance their practice by exploring the language 'nutritionally compromised infant' with a view to establishing collaborative relationships between nurses, midwives, health professionals and primary carers promoting positive outcomes and change. Nurses and midwives would benefit by discussing their values, beliefs, attitudes and culture relating to caring for the nutritionally compromised infant and their primary carers; consistency of care for the nutritionally compromised infant and their primary carer; and nurses and midwives pro or anti breast feeding philosophy in relation to addressing compromised infant status. Nurses and Midwives would gain by exploring their perceptions regarding infant presentation through reflective practice addressing the following questions. What does an infant at risk of compromised nutrition look like? How do they behave? What does a nutritionally compromised infant look like and how do they behave? Nurses and midwives need time together to reflect on primary carer perceptions of receiving conflicting advice, case studies on nutritionally compromised infants and their primary carers, and time

management in the workplace together with multi-tasking when caring for the unsettled nutritionally compromised infant and emotional primary carer whilst maintaining focus on the primary issue for the infant's unsettled behaviour.

Nursing and Midwifery Support

Increased nursing and midwifery support to manage heavy workloads, encourage continuity of care and increase staff motivation is recommended. Provision of ongoing mentoring for new and inexperienced staff and increased availability of senior staff to less experienced staff is highly recommended.

Collaboration between Local Health Services

Development of a system to measure outcomes for the nutritionally compromised infant and their primary carer after they have been discharged from the Family Centre would be an advantage to the clients, nurses and midwives, the Family Centre and the wider community.

National and International Government Support

National and international government health agencies need to develop standardised definitions for poor infant growth issues appropriate to developing collaborative relationships with primary carers. Australian government health agencies should develop evidence-based literature for maternal, child and family health care providers including information on accurate measurement and recording of infant growth, interpretation of poor infant growth issues and how to assess and manage infants at risk of compromised nutrition and infants who are nutritionally compromised.

Further Research

Research on which breast fed infants need complementary formula feeds, how much formula to offer and the effects of complementary formula feeding on breast feeding and infant feeding regulatory behaviour is highly recommended. Sachs et al. (2006, p.29) agreed there was gap in current research indicating 'Renfrew et al. assert that "there is insufficient research to guide decisions about which [breastfed] babies may genuinely need additional feeds" and what level of weight loss should "result in supplementation"'. Analysis on the numbers of women with nutritionally compromised infants who come to the Family Centre and go on to continue to breast feed with and without complementary feeding with formula may add to this body of knowledge. A systematic review on options for managing low breast milk supply promoting optimal infant growth for nutritionally compromised infants and options for sustainable feeding strategies for primary carers and their nutritionally compromised infants promoting positive outcomes would also be beneficial.

Conclusion

Chapter Six, in concluding this study, has outlined realisation of the research aim and objectives, the significance and recommendations of the research to nursing, midwifery and the wider community and a final synopsis of the findings from the study.

RESEARCHER'S FINAL PHENOMENOLOGICAL THOUGHTS

And now the journey begins again, back to our babies, our mothers, our fathers, our families, we come knowing just a little bit more, ready to share, ready to listen, ready to learn.

One of the participants shone in her optimism and vision for the future when she said

In the future, ... I actually think ... we'll just perfect it... As in we'll have better skills, we'll be better able to detect it and guide the parents into how they [can manage] - and even maybe preventing... So even in how can we get this not to happen? (Participant 11).

To be brave takes courage, with support comes confidence, and together we all grow.

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APPENDIXES

Appendix A: Clinical Practice Guideline for Care of the Nutritionally Compromised Infant

To protect the privacy and confidentiality of participants in this study parts of this clinical practice guideline have been deidentified.

Management of a Nutritionally Compromised Infant

Definition for the Nutritionally Compromised Infant

Infants who fail to make expected age-appropriate gains in weight.

Reference: Bassali & Benjamin, 2004.

Policy

Infants who are nutritionally compromised will be nutritionally and physically assessed and will be provided with adequate nutrition to improve their health status. The infant will be transferred to the [REDACTED] for acute medical intervention following initial assessment if condition warrants.

Purpose

To ensure that a plan of care is implemented for the nutritionally compromised infant that will meet the individual infant's nutritional, growth and developmental requirements.

Standard

The most practical measures of nutritional status for children are comparisons with reference growth charts that show the normal ranges for weight for age, height for age and weight for height by sex. If weight and height are measured on several occasions, the measurements are most usefully interpreted by plotting them on reference growth charts. Weight is a better indicator of acute developments while height reflects long term nutrition.

Reference: NHMRC, 2003

Interpreting Growth Curves

Any quick change in trend should be investigated to determine its cause and remedy any problem.

- A flat line indicates that the child is not growing.
- A growth curve that crosses a percentile line may indicate risk.

Reference: WHO/UNICEF, 2006

weight that is 2 or more but less than 3 standard deviations below the mean of the reference population.

Mild malnutrition: weight loss
OR
lack of weight gain

weight that is 1 or more but less than 2 standard deviations below the mean value for the reference population.

Reference: ICD-10-AM Early Parenting Manual, 2004

Competency

Midwifery, Nursing and Medical staff.

Process

Assessment

- On Day 1 infant examination will be attended and documented by midwifery and or nursing staff.

Infant Examination includes checking for:

- bare weight (should be attended before infant feeds);
- height & head circumference;
- oral anomalies;
- suckling dysfunctions;
- signs of dehydration;
 - sunken anterior fontanelle
 - dry mucous membranes
 - absence of tears
 - sleepy & lethargic
 - less than 4 lightly wet nappies/day
 - decreased skin turgor
- skin condition, skin rashes;
- reduced fat distribution and muscle wasting;
- respiratory distress;
- abnormal heart rate or sounds;
- abdominal distension;
- signs of neglect or physical abuse;
- dysmorphic features; and
- delayed developmental milestones.

Reference: Bassali, & Benjamin, 2004; Bergaman, & Graham, J., 2005

- The infant's Personal Health Record (Blue Book) will be obtained from the infant's carer/s and reviewed. It will be stored at the Nurse's Station until the time of infant's discharge from [REDACTED] when it will be returned to the infant's primary carer.
- The infant's weight, length and head circumference (measured whilst at [REDACTED]) will be recorded in the Infant's Personal Health Record and in [REDACTED] records.
- On Day 1 Nursing and or Midwifery staff shall transcribe measurements from the infant examination & the infant's Personal Health Record to an infant growth chart and review.
- On Day 1 Nursing and or Midwifery staff shall attend and document an Infant Developmental Milestones assessment.
- On Day 1 Nursing and or Midwifery staff shall review the infant health history, maternal/paternal health history and infant/family/primary carer nutritional histories. If they have already been completed it is important for the nurse and or midwife to confirm the client's/primary carer/s' answers verbally during admission.
- On Day 1 Nursing and or Midwifery staff shall undertake a visual/auditory feeding assessment and document findings.
- On Day 1 Nursing and or Midwifery staff shall commence an infant/primary carer/s behavioural assessment and document observations.
- Nursing and or Midwifery staff shall discuss with the primary carer/s any environmental, psychosocial and emotional factors that may be contributing factors to their infant's nutritional state.

Nursing/Midwifery ALERT

- **Any indicators that the infant is nutritionally compromised should be discussed with the CN&M Manager and or Team leader.**
- **The nutritionally compromised infant who has crossed 2 or more percentiles and or has crossed below the 3rd percentile shall be assessed by the QEII GP and or Paediatric Registrar.**

The infant's name and details shall be placed in the Doctor's book on admission to [REDACTED].

Management

- Nursing and or Midwifery staff shall develop an appropriate Care Plan in partnership with the client/primary carer/s, the CN&M Manager and or Team

Leader. The care plan shall meet the infant's nutritional, growth and developmental requirements.

- Nursing and or Midwifery staff shall encourage primary carer/s to document their goals in relation to the infant receiving adequate nutrition in the C-Frame following discussion with primary carer/s of assessment findings.
- Nursing and or Midwifery staff shall:

Nursing/Midwifery ALERT

Weigh all nutritionally compromised infants 0-12 months: Day 1, Day 3, Day 5

Weigh all nutritionally compromised infants 1-3 years: Day 1 & Day 5

- Discuss nutritional intake (include consistency & amounts) with primary carer/s.

Breast fed Infants 0-6 m

If breastfeeding less than 8 times in 24 hours, advise mother to increase frequency of nutritive breast feeding.

Teach mother correct positioning and attachment.

If infant examination reveals oral anomalies, suckling dysfunctions or persistent refusal of breast discuss referral to speech pathologist and or paediatrician with CNC and or Team Leader.

If breast feeding assessment reveals low supply:

Complementary feeding with breast feed &/or straight after breast feed by supply line &/or cup &/or bottle.

Offer infant *full* amount estimated on expected weight for age, (refer to NHMRC Infant Feeding Guidelines) of EBM if available &/or infant formula.

(Refer to Policy [REDACTED] Complimentary Feeding for more details)

At each feed, encourage the baby to empty the breast and then offer the other breast. Discuss options for increasing supply.

If breast feeding assessment reveals infant refusal

Offer infant *full* amount estimated on expected weight for age of EBM if possible &/or infant formula with a cup or bottle.

Bottle fed infant 0-6 months

Offer infant 6-8 feeds in 24 hours.

Offer *full* amount of formula for expected weight for age (refer to NHMRC Infant Feeding Guidelines)

Infant refusal of bottle

Offer infant *full* amount of formula estimated on expected weight for age in a cup. If infant examination reveals oral anomalies, suckling dysfunctions or persistent refusal of bottle refer to speech pathologist and or paediatrician.

Infant 6months-3 years

If mother breast feeding infant offer the breast for nutritive feeding as often as the infant wants.

If carer bottle feeding infant offer *full* amounts of formula for expected weight for age. (refer to NHMRC infant feeding guidelines).

For infants under 12 months if infant is refusing breast or bottle/cup, EBM &/or formula can be added to solids, amounts estimated on expected weight for age (refer to NHMRC infant feeding guidelines).

Advise the mother to select nutrient dense foods.

Adding rice cereal to foods will increase caloric value.

Offer more food to the infant who finishes his plate and wants more.

Offer appropriate quantities of food for age.

- Deal with any underlying causes of an unwell infant.
- Educate primary carer/s on appropriate feeding strategies for infants age and stage of development.
- Discuss primary carer's: Knowledge, Skills, Attitudes, Expectations.
- Address any issues found on assessment.
- Provide options for support and or referral (eg. Dietician, Paediatrician, Family support service, MACH.)
- Observe infant/primary carer/s response.
- Observe infant output.

- Nursing and or Midwifery staff shall continue to evaluate primary carer's and infant's progress towards meeting their goals over duration of stay at [REDACTED] through collaborative consultation via C-Frame with client/primary carer/s and observation. After discussion with primary carer/s, CN&M Manager and or Team Leader appropriate adjustments shall be made to plan of care if required.

- The discharge plan and follow up/referral care shall be determined in partnership with the client/primary carer/s, CN&M Manager and or Team Leader on the evening of Day 4 or the morning of day 5.

- Nursing and or Midwifery staff shall document the Care Plan in the infant's Personal Health Record (Blue Book) and return the record to the client/primary carer at time of discharge.

Supplementary feeding requirements for infants:

Day 1	30 mls/kg/day
Day 2	60ml/kg/day
Day 3	90ml/kg/day
Day 4	120ml/kg/day
Day 5 to 3 months	150ml/kg/day. Some, especially premature, babies will require up to 180–200ml/kg/day
3 to 6 months	120ml/kg/day
6 to 12 months	100ml/kg/day. Some may reduce to 90ml/kg/day
1 to 2 years	90ml/kg/day.

Reference: Adapted from NHMRC 2003

Outcome

The nutritionally compromised infant will show measurable progress towards improving their nutritional status, which may include the following:

- infant has achieved at least their expected weight gain for age;
- infant is receiving appropriate nutritional intake for age;
- infant displays hunger cues and accepts nutritional intake for age;
- infant's output is within normal limits;
- infant displays no signs of dehydration; and
- infant is alert, bright eyed and behaving normally for age & stage of development.

Primary carer/s will be proficient with reading infant's hunger cues & feeding strategies.

Primary carer/s will be able to demonstrate satisfaction in the Care Plan with an understanding of the strategies necessary to achieve the appropriate nutritional requirements for their infant.

Nursing and or Midwifery staff shall ensure that:

- Follow up support is in place.
- The Primary Carer/s has a discharge plan that meets the nutritional needs of the infant.
- If the infant is not accepting nutritional intake & not gaining expected weight for age on Day 5 the infant & or primary carer/s will be transferred to [REDACTED] & or referred to Paediatrician, Dietician & or MACH Nurse. Discuss with CN&M Manager and or Team Leader, outcome is dependent upon infant's progress.

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Appendix B: Information Letter

Some parts of this document have been deidentified to protect the privacy and confidentiality of participants in this study.

INVITATION TO PARTICIPATE IN RESEARCH STUDY

**The lived experience of Nurses and Midwives
Implementing a Clinical Practice Guideline for
Care of the Nutritionally Compromised Infant**

Project Number: 09-121

**The lived experience of Nurses and Midwives Implementing a Clinical Practice Guideline for Care of
the Nutritionally Compromised Infant**

Information Sheet

Dear _____,

Thank you for taking the time to read this Participant Information Sheet and Consent Form. My name is Shane Parisotto and I am a Master of Nursing (Research) student at the University of Canberra. I am undertaking a research project on the lived experience of nurses and midwives implementing a clinical practice guideline for care of the nutritionally compromised infant.

Your Consent

This Information Sheet contains detailed information about the research project. Its purpose is to explain to you as openly and clearly as possible all the procedures involved in this project before you decide whether or not to take part in it. Once you have read the Information Sheet feel free to ask questions about any information in the document. When you feel you have a good understanding of the project and if you agree to take part in it you will be asked to sign the Consent Form. By signing the Consent Form, you indicate that you understand the information and that you give your consent to participate in the research project. You will be given a copy of the Participant Information Sheet and Consent Form to keep as a record.

What is the project about?

The aim of this project is:

- To describe and interpret nurses' and midwives' experiences of implementing a clinical practice guideline for care of the nutritionally compromised infant.

The Objectives of the project are:

- To explore the facilitators and barriers for nurses and midwives implementing a clinical practice guideline for care of the nutritionally compromised infant.
- To add to the existing body of knowledge relating to this area of research providing nurses and midwives a voice to share their experiences.
- To make recommendations for future practice and research based on the findings from this study.

Why you?

Your experiences will generate data that is rich and descriptive. The inclusion criteria for participants in this project includes the following. You will be a nurse and/ or midwife currently undertaking clinical work at the [REDACTED] Family Centre in [REDACTED], Australia. You will have attended a professional development program providing an evidence based practice framework relating to

care of the nutritionally compromised infant & their primary carer/s and possess varying ranges of experience and education including working with nutritionally compromised infants and their primary carer/s.

What's in it for you and me?

This project will provide an opportunity to clearly describe a phenomenon of interest that had previously been poorly defined and difficult to understand. The project will provide a shared experience of learning and facilitate practice development and potential to make change.

Expected benefits of this research for the wider community?

Previous research has focused on the care of nutritionally compromised infants in hospital and community settings. No study has been undertaken within a nurse led primary health care residential early Family Centre with a focus on the lived experience of nursing and midwifery staff implementing a practice guideline for care of the nutritionally compromised infant. An exploration from a nursing and midwifery perspective of the facilitators and barriers to caring for the nutritionally compromised infant will provide information that is unique in origin.

What will participating in the project require?

Participating in the project will involve attending either a focus group of 5-6 participants or a one to one semi structured in-depth interview. You are free to decide which type of interview would suit you. It is perceived that the project will run 2 focus groups and 3-5 one to one interviews between March and October 2010. The focus groups and interviews will take approximately 1 hour and will be held at the University of Canberra facilitated by the researcher. Details of the allocated room and exact dates will be given to participants closer to the date of interview. During the interviews you will be able to discuss your experiences.

Participation in the research is voluntary and you do not have to answer any questions that you do not wish to answer. If you choose not to participate in this project, assurance is provided you will not be disadvantaged in your workplace by this decision. You also have the right to withdraw from the project at any time.

Privacy & Confidentiality

All participants are encouraged to respect the confidentiality of other participants during the project. Nurses and midwives are reminded, as registered nurses and midwives, all participants and the researcher are bound by the rules of confidentiality in the Australian Nursing and Midwifery Council (ANMC) Codes of Ethics and Professional Conduct and Australian College of Midwives Code of Ethics.

Information gathered from participants will be audio recorded during interview then transcribed and coded directly after interview is completed. It will be securely stored throughout and upon completion of the project.

In the final report, journal publications and conference presentations, participants will be referred to as nurses and midwives and the location of the study will be referred to as a primary health care residential early Family Centre in Australia to protect confidentiality of participants.

Results of the Project

Following completion of the project all participants will be invited to attend a [REDACTED] Nurses' and Midwives' staff meeting where the researcher will present the findings of the study. Additionally, the findings of this study will be shared with student and registered nurses and midwives, Doctors and allied health service providers through local and national conferences. The findings will also be submitted for publication in a journal and published in thesis form available through the University of Canberra library.

Approval

Approval for this project has been granted from the EO/DON, [REDACTED] and the University of Canberra Committee for Ethics in Human Research.

Where to obtain more information?

If you would like any more details about the project at any time please contact Shane Parisotto:

By phone: Work: [REDACTED] or By mail: [REDACTED]
[REDACTED]
[REDACTED]
By email: u910313@uni.canberra.edu.au

Further Information or any Problems

If you have any problems or queries about the way in which the study is conducted and do not feel comfortable contacting the researcher, please refer to the following page titled: CONTACTS FOR INFORMATION ON THE PROJECT AND INDEPENDENT COMPLAINTS PROCEDURE.

Thank you for your time,

with kind regards

Shane Parisotto

INFORMED CONSENT

I have read the information sheet for the research project titled *'The lived experience of Nurses And Midwives Implementing a Clinical Practice Guideline for Care of the Nutritionally Compromised Infant'* and I am aware that:

- Participation in this study will involve attending one focus group session or one in-depth interview of approximately one hour.
- Participation in this study is voluntary and I may withdraw from this study at any stage.
- I will respect the confidentiality of other participants during and following the research project.
- The data will be audio recorded, coded and securely stored throughout and upon completion of the project.
- The results of the study will be presented at a [REDACTED] Nurses' and Midwives' staff meeting, local and national conferences, submitted for publication in a journal and published in thesis form available through the University of Canberra library.
- Approval to undertake this research project has been obtained from the EO/DON [REDACTED] [REDACTED] and the University of Canberra Committee for Ethics in Human Research.
- This research project is being undertaken by Mrs Shane Parisotto, a Master of Nursing (Research) student at the University of Canberra. If at any time I have any queries about this project I may contact Shane by email: [REDACTED] or phone: work: [REDACTED]
- Should I have any problems or queries about the way in which the study is conducted and do not feel comfortable contacting the researcher, I am aware that I may contact Dr Jan Taylor by phone: 62015115 or the Secretary of the University Research Committee by phone: 62012884.

By signing this consent form, I agree to participate in this research project. I have read and understood the information provided and I have had the opportunity to ask any questions.

(Signature of Participant)

(Print name)

(Date)

(Signature of Witness)

(Print name)

(Date)

CONTACTS FOR INFORMATION ON THE PROJECT AND INDEPENDENT COMPLAINTS PROCEDURE

The following study has been reviewed and approved by the Committee for Ethics in Human Research.

Project title: *The lived experience of Nurses and Midwives Implementing a Clinical Practice Guideline for Care of the Nutritionally Compromised Infant.*

Project number: **09-121**

Principal researcher: **Mrs Shane Parisotto**

1. As a participant or potential participant in research, you will have received written information about the research project. If you have questions or problems which are not answered in the information you have been given, you should consult the researcher or (if the researcher is a student) the research supervisor. For this project, the appropriate person is:

Name: **Dr. Jan Taylor**
Contact details: **Faculty of Health**
UNIVERSITY OF CANBERRA
Phone: (02) 6201 5115

2. If you wish to discuss with an independent person a complaint relating to:

- conduct of the project, or
- your rights as a participant, or
- University policy on research involving human participants,

Contact the **Secretary of the University Research Committee**

Telephone (02) 6201 2884

Room 1 D116

UNIVERSITY OF CANBERRA ACT 2601

Providing research participants with this information is a requirement of the National Health and Medical Research Council *National Statement on Ethical Conduct in Research Involving Humans*, which applies to all research with human participants conducted in Australia.

Further information on University of Canberra research policy is available in *University of Canberra Guidelines for Responsible Practice in Research and Dealing with Problems of Research Misconduct* and the Committee for Ethics in Human Research *Human Ethics Manual*. These documents are available from the Research Services Office at the above address or on the University's web site at

https://guard.canberra.edu.au/policy/policy.php?pol_id=3136 (Research Guidelines)

<http://www.canberra.edu.au/research/ethics/human-ethics-manual> (Human Ethics Manual)

Appendix C: Information Form

Some parts of this document have been deidentified to protect the privacy and confidentiality of participants in this study.

RESEARCH STUDY

**The lived experience of Nurses and Midwives
Implementing a Clinical Practice Guideline for
Care of the Nutritionally Compromised Infant**

Project Number: 09-121

Date: [REDACTED]

Dear [REDACTED]

Thank you for agreeing to participate in the research study. Your interview time has been scheduled for the [REDACTED] on [REDACTED] at [REDACTED]. Some of the participants have asked what will be discussed during the interview so I have put together the following information.

This is a phenomenological study which means exploring and interpreting the participant's lived experience of a particular phenomenon. In this project the phenomenon is *your experience of implementing the clinical practice guideline [REDACTED] Management of a Nutritionally Compromised Infant*. Before you attend the interview it may be useful for you to have a look at the guideline. The following open-ended questions have been developed in response to our discussion. It is important to give information that describes your experience.

- ▶ Tell me about your experience of implementing the practice guideline for the nutritionally compromised infant at [REDACTED].
- ▶ What is it like for you when informing the primary carers of the infant's diagnosis?
- ▶ What is it like for you when assisting the primary carer to care for the nutritionally compromised infant?
- ▶ What is it like for you when relating to others the experience of caring for the nutritionally compromised infant?
- ▶ What are the facilitators and barriers for you when implementing the clinical practice guideline for care of the nutritionally compromised infant?
- ▶ Why do you make the choices you make in relation to this experience?

At the beginning of the interview I will be collecting some demographic data including your age range, professional education qualifications and professional group.

Following the interview I will code and interpret all the information you have shared and then return this interpretation to you for validation.

I look forward to meeting with you and am happy to answer any questions you may have prior to the interview.

With kind regards
Shane Parisotto