

**SAFE SLEEP, DAY AND NIGHT:
THE EXPERIENCES OF
PARENTS REGARDING INFANT SLEEP SAFETY**

by

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Abstract

Sudden infant death syndrome (SIDS) is the third leading cause of death for British Columbian infants younger than one year of age. Sudden unexplained infant death (SUID) is increasing in British Columbia and is linked to unsafe sleep environments. Although guidelines on how to place infants to sleep safely have been developed, no Canadian studies and a paucity of qualitative studies have explored the views and experiences of the parents regarding infant sleep safety. I used a qualitative description design to obtain 14 mothers' experiences with infant sleep safety. The mothers resided in the Greater Vancouver region. The development of the core theme, the Mothers' Infant Sleep Safety Cycle, described mothers' experiences with infant sleep safety as a cyclical and continuous process from the prenatal period and throughout the first six months of their infants' lives and beyond. There are five segments in this cyclical process: mothers' expectations of sleep safety, struggles with reality as opposed to maternal visions, modifications of expectations, provisions of rationale for choices and developmental shifts in views of capabilities. Despite mothers' awareness of the risk of SIDS and SUID and their original intentions to adhere to the sleep safety guidelines, mothers felt compelled to modify their infants' sleeping arrangements as they struggled with infants' sleeping and crying challenges, as well as their own sleep deprivation. Mothers' experiences with infant sleep safety were influenced by four primary factors: perceptions of everyone's needs, familial influences, attitudes and judgments from outsiders, and resource availability and accessibility. Based on the study findings I suggested nursing implications for clinical practice, education and research starting in the prenatal period and into the postnatal period, in terms of supporting and assisting mothers in implementing plans to follow sleep safety principles while managing their infants' sleeping and crying challenges as well as their own sleep deprivation, day and night.

Preface

Ethics approval for this study was granted by the University of British Columbia, Behavioural Research Ethics Board, UBC BREB Number H12-03156.

I recruited all participants for the study and conducted interviews with all fourteen participants. Concurrent data collections and analysis were undertaken. My thesis supervisor, Dr Hall and I undertook ongoing analysis and write up of the findings and discussion chapters. The other two thesis committee members, Dr Phinney and Radhika Bhagat contributed their feedback for the research proposal and the thesis chapters.

Table of Contents

Abstract	ii
Preface	iii
Table of Contents	iv
List of Tables	vii
List of Figures	viii
Glossary	ix
Acknowledgements	x
Dedication	xi
Chapter 1: Introduction	1
1.1 Background to the Problem	1
1.2 Problem Statement	3
1.3 Significance	4
1.4 Purpose	5
1.5 Research Questions	5
1.6 Chapter Summary	5
Chapter 2: Review of Literature	7
2.1 Sleep Arrangements, Smoking, and Breastfeeding	7
2.2 Parents' Context and Experiences	10
2.3 Chapter Summary	13
Chapter 3: Research Method	14
3.1 Research Design	14
3.2 Ethical Considerations	14
3.3 Sampling	16
3.3.1 Inclusion criteria	16

3.3.2 Exclusion criteria.....	17
3.4 Data Collection.....	17
3.5 Data Analysis	18
3.6 Rigor.....	19
3.7 Chapter Summary.....	21
Chapter 4: Presentation of Findings	22
4.1 Description of Sample.....	22
4.2 Mothers’ Infant Sleep Safety Cycle	23
4.3 Mothers’ Expectations of Sleep Safety	29
4.3.1 Intending to follow safety guidelines.....	31
4.3.2 Preparing for their infants’ arrival.....	32
4.3.3 Envisioning infant sleeping soundly.....	33
4.4 Struggles with Reality as Opposed to Maternal Visions.....	34
4.4.1 Crying and difficulty falling asleep.....	35
4.4.2 Feeling desperate from sleep deprivation.....	36
4.4.3 Giving up visions of perfection.....	37
4.5 Mothers’ Modifications of Expectations.....	38
4.5.1 Any steps to stop infants’ crying and promote sleep.....	39
4.5.2 Modifications to original sleep safety plan.....	40
4.5.3 Incorporating some safe sleep principles in modifications.....	43
4.5.4 Keeping it to self.....	46
4.6 Mothers’ Provisions of Rationale for Choices	49
4.6.1 Transitioning from the womb.....	50
4.6.2 Using bed sharing to foster bonding and protection.....	51
4.6.3 Balance between infants’ and families’ needs.....	53

4.7 Mothers' Shifts in Views of Infants' Developmental Capabilities.	54
4.7.1 Settling better with adjustments to sleep routines and arrangements.....	54
4.7.2 Outgrowing confined sleeping arrangements.....	55
4.7.3 Considering infants' readiness for independence.....	55
4.8 Chapter Summary.....	58
Chapter 5: Summary, Discussion of Findings, Implications for Nursing, and Conclusions.....	59
5.1 Study Summary.....	59
5.2 Discussion of Findings.....	59
5.2.1 Expectations of sleep safety.....	62
5.2.2 Struggles with reality as opposed to maternal visions.....	65
5.2.3 Modifications of expectations.....	67
5.2.4 Provisions of rationale for choices.....	71
5.2.5 Shift in views of infants' developmental abilities.....	75
5.3 Strengths of the Study.....	76
5.4 Limitations of the Study.....	77
5.5 Implications for Nursing.....	78
5.5.1 Implications for nursing practice.....	78
5.5.2 Implications for nursing education.....	86
5.5.3 Implications for nursing research.....	87
5.6 Conclusions.....	89
References.....	91
Appendix A: Letter of Consent.....	99
Appendix B: Safe Sleep Interview Guide.....	101
Appendix C: Safe Sleep Demographic Information.....	102

List of Tables

Table 4.1 Themes and Sub Themes of Mothers' Experiences with Infant Sleep Safety27

Table 4.2 Factors influencing Mothers' Experiences with Infant Sleep Safety28

List of Figures

Figure 4.1 Mothers' Infant Sleep Safety Cycle.....26

Glossary

Bed Sharing: Sharing the same sleeping surface such as an adult bed or couch with the infant.

Primary Care Givers: The person who takes care of the infant predominantly day and night.

Room Sharing: Sharing the same room but sleeping on different sleeping surfaces.

Sudden Infant Death Syndrome (SIDS): The death of a healthy infant during sleep that cannot be explained from the autopsy reports, scene investigations and review of clinical history (American Academy of Pediatrics, 2011).

Sudden Unexpected Infant Death (SUID): The sudden and unexpected death non-SIDS death in infancy usually caused by accidental asphyxia during sleep (American Academy of Pediatrics, 2011).

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Last but not least, I would like to thank my two wonderful and lovely daughters, Zoe and Katie. Now, mommy will accept 99 out of 100 and will never ask, “What happened to that one mark?”

Dedication

I would like to dedicate this thesis study to Isaac, MJ and Brendan. Thank you for teaching me the meaning, beauty and essence of life.

Chapter 1: Introduction

In this chapter, I present the background to the problem associated with SIDS and SUID. Furthermore, I describe the problem statement and significance of exploring parents' experience with infant sleep safety. Finally, I outline the purpose and research questions for my proposed study.

1.1 Background to the Problem

According to the BC Coroners Service Child-Death Review (2009), Sudden Infant Death Syndrome (SIDS) remains the third leading cause of death, following perinatal problems and congenital anomalies, for infants younger than one year of age in British Columbia. SIDS is defined as the death of a healthy infant during sleep that cannot be explained from the autopsy reports, scene investigations and review of clinical history (Hunt & Hauck, 2006). SIDS is most prevalent in the first six months of life, peaking between two and four months of age, predominantly affecting male infants (BC Coroners Service Child-Death Review, 2009; Hunt & Hauck, 2006).

SIDS is not a new phenomenon. Despite research efforts to identify causes for SIDS, it remains poorly understood and no definitive cause has been established. Many SIDS risk factors have been identified, such as low birth weight, parental smoking, mothers' alcohol and substance use, non-supine sleep position, bed sharing, and overheating (Canadian Pediatric Society, 2004 & 2011; Horsley et al., 2007; Hunt & Hauck, 2006; Vennemann et al., 2012). Of all potential SIDS risk factors, modifications of infant sleep position and sleep arrangements have had the most significant positive effects (Canadian Pediatric Society, 2004 & 2011; Hauck, Signore, Fein & Raju, 2008; Ostfeld et al., 2006; Sobralske & Gruber, 2009).

Following the Canadian launch of the "Back to Sleep" campaign in 1999, that promoted a supine sleep position, there has been a significant decrease in the number of SIDS cases. As

reported in the BC Coroners Service Child-Death Review (2009), the rate of SIDS in BC decreased from 9.9 per 10,000 live births between 1992 and 1996, to 4.2 per 10,000 live births between 1997 and 2001. Since 2001, the rate of SIDS in BC has leveled off to approximately 3.7 to 4.2 per 10,000 live births. Many countries have adopted the “Back to Sleep” campaign to reduce the risk of SIDS and, as a result, have witnessed a significant reduction in the incidence of SIDS (Henderson-Smart, Ponsonby, & Murphy, 1998).

The success of the “Back to Sleep” campaign in the 1990s kept the incidence of SIDS low; however, the incidence of non-SIDS and other sleep-related deaths has increased (American Academy of Pediatrics, 2011; BC Coroners Service Child-Death Review, 2009 Canadian Pediatric Society, 2011). Thus, the term Sudden Unexpected Infant Death (SUID) has been adopted to define a sudden and unexpected non-SIDS death in infancy usually caused by accidental asphyxia during sleep (American Academy of Pediatrics, 2011; BC Coroners Service Child-Death Review, 2009 Canadian Pediatric Society, 2011; Public Health Agency of Canada, 2011). External risk factors, such as presence of pillows and heavy blankets, are present and may or may not contribute to the sleep-related deaths (Perinatal Services of BC, 2011). This new term has made it possible to look at contributing factors to death of infants arising from their sleep environments. The introduction of the term SUID has created a distinction between SIDS and non-SIDS deaths, emphasized the importance of a safe sleep environment, and facilitated understanding of the risk factors involved in infant death (American Academy of Pediatrics, 2011; BC Coroners Service Child-Death Review, 2009; Canadian Pediatric Society, 2011).

The decision of where and how an infant is placed to sleep is made by the parents. Education about infant health promotion for parents regarding modifiable safe sleep practices is vital in the prevention and reduction of the risks of SIDS and sleep-related deaths. In 2011, the Public Health Agency of Canada launched a new joint statement on infant safe sleep practice to

educate and support parents in efforts to reduce the risk of SIDS and sleep-related deaths. The new joint statement was developed in collaboration with Canadian and American experts on safe sleep, the Canadian Pediatric Society, the Canadian Foundation for the Study of Infant Deaths, and the Canadian Institute of Child Health.

The recommendations for safe sleep practice are to be promoted and practiced for all infants for every sleep at anywhere and at any time of day (American Pediatric Society, 2011; BC Coroners Service Child-Death Review, 2009; Canadian Pediatric Society, 2011; Public Health Agency of Canada, 2011). The recommendations are as follows: infants younger than one year of age should sleep on their own in a supine position on a firm mattress with no pillows, blankets, bumper pads or toys; infants should not be overheated with swaddling and use of excessive clothing or heavy blankets; bed sharing with extremely fatigued adults and those who are cigarette smokers and legal or illegal drug users should be avoided; and room sharing sleep arrangements where the infant is sleeping in close proximity to his or her parents on his or her own sleep surface or in a crib are recommended.

With research evidence substantiating the protective effect of breastfeeding on reducing the risk of SIDS (Hauck et al., 2011), both the Canadian Pediatric Society (2011) and the American Pediatric Society (2011) have incorporated exclusive breastfeeding for the first six months of life in their safe sleep recommendations. Despite all of the emphasis from public health agencies and pediatric organizations on parents' practice of safe infant sleep, there is limited empirical evidence about parents' experiences with safe infant sleep guidelines or any factors that might be impeding their use of recommended guidelines.

1.2 Problem Statement

Based on the available research evidence, many guidelines and recommendations about safe sleep have been developed and launched from national and provincial levels. Their purpose

is to increase parents' awareness and knowledge about safe sleep practice for infants (American Pediatric Society, 2011; BC Coroners Service Child-Death Review, 2009; Canadian Pediatric Society, 2011; Perinatal Services of BC, 2011; Public Health Agency of Canada, 2011). The effectiveness of the safe sleep education campaign is based on constant diligence and compliance on the part of the parents in following the recommendations for every sleep.

Data about the experiences of parents who are caring for infants in terms of parents' use of the guidelines is limited in the literature (Colson et al., 2005). For example, a rare American qualitative study used focus groups to explore the factors that hindered African American inner-city caregivers from following the back to sleep recommendations (Colson et al., 2005). A recent update on parents' compliance with using SIDS reduction strategies indicated 25% of infants were still being placed to sleep in non-supine positions and in unsafe sleep arrangements (Moon & Fu, 2012). The paucity of qualitative empirical studies of parents' experiences with safe sleep emphasizes the importance of seeking parents' experiences with safe infant sleep.

1.3 Significance

While the incidence of SIDS has significantly decreased and remained consistently low since the introduction of the "Back to Sleep" Campaign in the 1990s, the incidence of other sleep-related deaths, SUID, remains a public health problem (American Academy of Pediatrics, 2011; BC Coroners Service Child-Death Review, 2009; Canadian Pediatric Society, 2011; Public Health Agency, 2011). In the case of British Columbian records, all reported incidents of SUID involved infants who were found unresponsive after having been placed to sleep or nap during the day or night. Attention to safe sleep practice is once again being emphasized.

Parents play a crucial role in promoting safe sleep practices for their infants and maximizing sleep for themselves on a daily basis. Exploring the experiences of parents regarding sleep safety will increase understanding about parents' knowledge about infant sleep and their

approaches to sleep safety, as well as their willingness to follow recommendations. Increasing understanding about the parents' experiences regarding safe infant sleep may assist development of strategies by nurses and health professionals to support parents in their efforts to promote safe sleep to reduce the risk of SIDS and SUID.

Canadian and American experts on safe sleep have urged all parents to learn about and promote safe sleep for every infant's sleep to reduce the risk of SIDS and sleep-related deaths (American Academy of Pediatrics, 2011; BC Coroners Service Child-Death Review, 2009; Canadian Pediatric Society, 2011; Ministry of Public Safety and Solicitor General, 2011; Public Health Agency of Canada, 2011). There is no Canadian empirical evidence about parents' experiences with safe infant sleep and factors influencing their abilities to assist infants to sleep safely.

1.4 Purpose

The purpose of this study is to explore the experiences of parents about safe sleep for their infants in greater Vancouver. A secondary purpose is to explore parents' perceptions of factors that influence their abilities to assist their infants to sleep safely. My proposed study is based on the following research questions.

1.5 Research Questions

1. What are the experiences of parents with infant safe sleep?
2. What factors influence the experiences of the parents regarding infant safe sleep?

1.6 Chapter Summary

In this chapter, I presented the background to the problem of infant sleep related deaths, SIDS and SUID. I described the significance and research questions of my study in exploring the parents' experiences with infant sleep safety. Parents decide where and how their infant sleeps; their role in decreasing the risks in the infant's sleeping environment and arrangements for SIDS

and SUID is significant. In the following chapter, I will provide a literature review organized by the modifiable risk factors that parents could play a role in the risk reduction of SIDS or SUID.

Chapter 2: Review of Literature

Parents have direct involvement with their infants' sleep arrangements. They decide where and how their infants sleep. In this chapter, I present my literature review organized by the modifiable risk factors associated with roles parents can play in risk reduction of SIDS or SUID: sleeping arrangements, smoking, benefits of breastfeeding and parents' context, and experiences.

2.1 Sleep Arrangements, Smoking, and Breastfeeding

Since the "Back to Sleep" campaign appeared to have decreased the incidence of SIDS, much attention in the research literature has been focused on other modifiable risk factors. The systematic review on bed sharing done by Horsley and his research team (2007) indicated that there was a strong association between bed sharing practice and incidence of SIDS among smokers; however, the evidence obtained from their review was not consistent enough to substantiate the same association among non-smokers. Despite the lack of consistency in the evidence, the authors acknowledged that they could not dismiss the possibility of such an association.

In 2012, Vennemann's research team published a meta-analysis of case control studies on the relationship between bed sharing and the risk of SIDS. Their findings reinforced the strength of the evidence about bed sharing. The odds ratios obtained from their study results were extraordinarily high and within tight confidence intervals. Their findings indicated that bed sharing significantly increased the risk of SIDS (OR 2.89, 95% CI 1.99-4.18) especially for infants whose mothers smoked (OR 6.27, 95% CI 3.94-9.99) and for infants who were younger than twelve weeks of age (OR 10.37, 95% CI 4.44-24.21). In the study conducted by Carpenter and his research team (2013), their findings further indicated that regardless of whether mothers smoked or not, bed sharing dramatically increased the risk for SIDS.

The meta-analysis performed by Hauck, Thompson, Tanabe, Moon and Vennemann (2011) indicated that breastfeeding provides protection against SIDS especially when infants are breastfed exclusively. Recognizing the benefits for facilitating breastfeeding and close proximity between the parents and their infants, room sharing without bed sharing has become part of the safe sleep recommendations (American Pediatric Society, 2011; Canadian Pediatric Society, 2011; Public Health Agency of Canada, 2011). While bed sharing is associated with breastfeeding, it remains debatable and controversial if bed sharing increases the success of breastfeeding (Hauck et al., 2011).

Debates about bed sharing and co-sleeping arrangements in relation to SIDS are prominent in the literature (Ball, 2002; Goldberg & Keller, 2007; McKenna & McDade, 2005; McKenna & Volpe, 2007). Through an anthropological lens, McKenna and McDade (2005) argued that bed sharing fostered the basic human protective and nurturing bond between mothers and their infants. This sleep arrangement facilitated breastfeeding, which, they argued, might in turn provide protection against SIDS. They advocated that babies should never sleep alone. They pointed out that the western medical community was too restrictive in limiting their sleep recommendations to infants sleeping in solitary and independent arrangements in cribs.

McKenna and Volpe (2007) conducted a qualitative, ethnographic internet-based survey study to explore parents' perceptions and decision-making about bed sharing. Many parents in the study indicated that bed sharing with their infants allowed them to respond immediately to their infants in distress. Furthermore, they reported that bed sharing promoted breastfeeding. The study is potentially biased because the survey was posted on a major international breastfeeding website. All two hundred participants, mostly middle-class mothers were recruited through self-selected convenience sampling. This further increases the source of bias and limits the transferability of the study findings to other population groups.

Canadian data on infant sleep safety is lacking. One large quantitative study conducted by Ateah and Hamelin (2008) was completed in the province of Manitoba to explore how mothers were placing their infants to sleep and their awareness of the risks of infant sleep arrangements. No similar studies have been undertaken in any other Canadian provinces. They found that 88.7% of the parents agreed that there are risk factors associated with sleeping with their infants in the same bed but 72.4% of the parents indicated that they have shared a bed with their infants regularly or occasionally. The main difference between the parents who shared a bed and parents who did not was breastfeeding. Breastfeeding mothers were almost twice as likely to share a bed with their infants as those who were not breastfeeding (OR 1.94, $X^2=12.58$, $p<0.001$). The results of their study indicated that, while many parents were aware of the risk factor of bed sharing in relation to SIDS, they still chose to share a bed with their infants for the benefits of breastfeeding and better sleep for both the parents and infant (Ateah & Hamelin, 2008).

The benefits of bed sharing in facilitating breastfeeding and better sleep for the parents were also cited as the reasons for bed sharing in the longitudinal study undertaken by Hauck and his research team (2008). The proportions of parents bed sharing were 42% at two weeks, 34% at three months, and 27% at twelve months. The proportions of parents placing infants to sleep in non-supine position were 26% at three months, 29% at six months and 36% at twelve months.

Sobralke and Gruber (2009) discussed the difference between “reactive” bed sharing and “planned” bed sharing. “Reactive” bed sharing is any unplanned situation where parents decided to bed share with their infants. “Planned” bed sharing represents a predetermined choice to bed share by parents, based on their philosophical or cultural values regarding parenting styles or sleep arrangements. Individual family contexts and socioeconomic situations likely also influence decisions to bed share or parents’ responses to sleep arrangements (Sobralke & Gruber, 2009). As reported in the Sobralke and Gruber’s study, two reasons for bed sharing among African-

American mothers in their sample was the lack of access to cribs that met the safety standards and affordable housing that allowed separate rooms for the parents and infants.

Employing “reactive” bed sharing is a decision based on a spontaneous response to a situation where parents are feeling sleep deprived and are desperately trying to find solutions (Sobralnske & Gruber, 2009). In a meta-analysis on bed sharing and the risk of SIDS undertaken in Germany by Vennemann’s research team (2012), they found the risk of SIDS was significantly higher in non-routine or first-time bed sharing sleep arrangements compared with routine bed sharing arrangements. In other words, infants’ deaths in their study were predominantly characterized by sleeping in a non-routine bed sharing arrangement (Vennemann et al., 2012). Their finding suggests that parents have not adequately prepared or attended to safe sleep arrangements when non-routine or reactive bed sharing was undertaken. Thus, parents’ experiences, in this case reactive approaches to bed sharing, can have significant impact on the safety of their infants. ‘Every sleep counts’ is an essential message that needs to be emphasized for the public (BC Perinatal Services of BC, 2011; Public Health Agency of Canada, 2011).

2.2 Parents’ Context and Experiences

While much of the research literature is dedicated to examining statistical associations to substantiate safe sleep recommendations for risk reduction of SIDS and SUID, qualitative studies that explore parents’ experience with sleep safety are limited (Chianese, Ploof, Trovato & Chang, 2009; Colson et al., 2005). The few qualitative studies about parents’ experiences with safe sleep practice were conducted only in the United States, mainly with African-American samples (Colson et al., 2005; Joyner, Oden, Ajao, & Moon, 2010; Moon, Oden, Joyner, & Ajao, 2010; Oden, Joyner, Ajao, & Moon, 2010). Despite limited transferability of findings from those settings, the studies provided insight about parents’ experiences with safe sleep practice.

Colson and her research team (2005) conducted focus groups to identify barriers to following the “Back to sleep” recommendation among African-American inner-city caregivers. Four barriers were described in their findings. The most significant barrier was the caregivers’ fears about the choking danger of the supine sleep position. Also, caregivers perceived the prone position as being the most comfortable sleep position for their infants. The low level of trust that caregivers had for health professionals who delivered the safe sleep recommendations negatively affected their compliance with the information provided. Parents’ confusion about safe sleep practice recommendations, as a result of inconsistent messages being delivered by different health professionals, also hampered caregivers’ adherence to the guidelines.

The voluminous body of literature and changing guidelines on safe sleep can be confusing for the parents (Moon, Oden & Ajao, 2010; Moon & Fu, 2012). The confusing nature of information provided appears to have affected parents’ compliance with safe sleep recommendations. Moon and Fu (2012) emphasized that education for parents requires more than a dissemination of guidelines. They argued that parents’ experiences and their challenges in following the safe sleep recommendations required exploration in future research work (Moon & Fu, 2012; Sobralske & Gruber, 2009).

Where to place their infants to sleep is an ongoing decision made by parents. Researchers conducted two qualitative research studies (Joyner et al., 2010; Oden et al., 2010) on the decision-making process and the factors that influence the choices that African-American parents made regarding the infant sleep location and position. They found that, regardless of socioeconomic status, parents had similar concerns that influenced their choice of sleep location and position for their infants: convenience, comfort, and safety (Joyner et al., 2010; Oden et al., 2010). The authors identified convenience arising from bed sharing for the mothers in the postnatal recovery period and while breastfeeding as the prominent theme. Parents perceived bed

sharing in an adult bed, with soft bedding or sleeping in prone position, as being physically and emotionally comfortable for both parents and infants (Oden et al., 2010). Parents in one of the studies pointed out they believed that close proximity to their infants from bed sharing or room sharing would facilitate close monitoring of the infants, thus protecting their infants (Joyner et al., 2010).

In one of the American studies, participants with lower socioeconomic status chose to bed share with their infants to protect them from gunfire and kidnapping that represented common events in their communities (Joyner et al., 2010). Lack of adequate space and lack of financial means to secure a crib or separate sleeping surface for their infants were cited as other reasons for bed sharing and room sharing (Joyner et al., 2010). The limitation of the transferability of the study findings was acknowledged but the findings reinforce the importance of considering parents' experiences and availability of resources when considering their decisions about the sleep location and position.

The qualitative findings about African-American mothers' beliefs and perceptions about SIDS (Moon et al., 2010) suggested that they do not associate sleep safety factors with the risk of SIDS. The mothers viewed SIDS to be random, an act of God, and not preventable. They regarded the sleep safety recommendations as irrelevant because they believed parental vigilance, specifically keeping and watching the infant next to them in bed or on a couch for every sleep, would protect their infants. The findings of this study suggested the cultural factors and beliefs influence compliance with sleep safety recommendations.

Culture can be a very complex concept. Not only can there be similarities and differences in cultural values and beliefs between different ethnic and cultural groups, beliefs often vary within the same ethnic or cultural group. While the findings of the previous studies pertained

specifically to the African-American community, they supported the importance of beliefs and cultures in parents' perceptions about SIDS and safe sleep (Moon et al., 2010).

2.3 Chapter Summary

In my literature review, I explored modifiable risk factors associated with parents' role in the risk reduction of SIDS and SUID. The modifiable risks factors include parental smoking, sleep arrangements, breastfeeding, parents' context and experiences. In the next chapter, I will describe the research methods I used to explore the parents' experiences with infant sleep safety, as well as factors influencing their experiences.

Chapter 3: Research Method

In this chapter, I describe the qualitative descriptive research design that I undertook to explore the parents' experiences with infant sleep safety. I outline the ethical considerations, sample inclusion and exclusion criteria, data collection and data analysis of the study. Furthermore, I explain the strategies that I employ to ensure rigor.

3.1 Research Design

Because no previous studies about parents' experiences with safe infant sleep have been conducted in BC, a qualitative descriptive study design was appropriate to explore infant sleep safety. Qualitative descriptive designs are suitable for exploring phenomena where there has previously been limited exploration (Neergaard, Olsen, Andersen & Saondergaard, 2009; Sandelowski, 2000). A comprehensive and detailed description of the experiences of the parents (primary care providers) in the area of infant sleep safety is the intended outcome of the study. As Sandelowski (2000) indicated, a qualitative descriptive study generates a comprehensive description of a phenomenon or event, staying close to and reflecting the true context and wording of the data. This type of descriptive inquiry will facilitate the exploration and description of who, what, where, and how from the perspectives of the parents in relation to safe infant sleep (Neergaard et al., 2009; Sandelowski, 2000).

3.2 Ethical Considerations

I obtained approval for the study from the UBC Behavioural Research Ethics Board. Ethics approval was based on the Tri-Council Policy Statement Guidelines. At the scheduled interview time with each participant, I obtained informed consent before commencement of his or her involvement with the study (Appendix A). I discussed the purpose of the study and the nature of the participants' involvement. I reviewed and explained the informed consent form. Participants

were provided opportunities to pose any questions about any aspects of the study. Then, each participant signed two copies of the consent form, one for the participant to keep and one for secured filing storage for the study. I informed the participants that their participation in the study was entirely voluntary and they could terminate their involvement at any time.

Strict measures were implemented to ensure the privacy and confidentiality of the participants' personal and demographic information. I used pseudonyms for the names of the participants in the data transcripts. Participants' personal and demographic information did not appear in any data transcripts or in any dissemination materials. The personal and demographic information were kept in a separate storage location from the recorded data and transcripts. All recordings, data transcripts and field notes were accessible only to the principal investigator and the thesis supervisor. These will be destroyed five years after completion of the research.

There were not any direct benefits for the participants. The participants may have enjoyed the opportunity to share their views on infant sleep safety. An honorarium of \$25 gift card was provided to the participants as an indication of gratitude for their participation in the study. Participants were informed that, by sharing their experiences regarding this topic, insights about how to support other parents with infants would be obtained. Thus, support and education for other parents would be strengthened in their efforts to promote safe sleep.

I anticipated that some participants might experience potential emotional distress when sharing the challenges in following the sleep safety guidelines possibly due to their contextual circumstances. In the event of such occurrence, I was prepared to provide the participant the opportunity to pause, continue with or end the interview. If the participant was willing to resume, I would continue with the interview. If the participant did not wish for the audio taping of the interview to continue, I would stop the taping and offer the option of note taking. If the participant consented to note taking of the interview, I would take notes for the rest of the

interview. If the participant did not wish any of the data to be used, their data would be excluded from the analysis. Furthermore, I would provide the participants a list of community resources that were helpful in addressing their concerns. In all fourteen interviews in this study, no participants indicated that they were experiencing any emotional distress in sharing about their experience with infant sleep safety. None of the interventions strategies listed above were required to be implemented during the course of this study.

3.3 Sampling

I used purposeful sampling, which is based on the selection of the participants who would be most informative to provide relevant information for the research questions (Polit & Beck, 2012). Sample size was determined by data saturation. Data saturation occurred when no new information was obtained and repeated codes that were similar to previous interviews began to surface (Polit & Beck, 2012; Pope, Ziebland, & May, 2000). Because my proposed study was a qualitative descriptive design, I anticipated approximately 15 to 20 participants to be recruited. My actual sample size was adjusted according to the progress of the concurrent data collection and analysis in terms of development of categories and themes. I interviewed a total of 14 mothers who identified themselves as the primary care givers of the infants.

3.3.1 Inclusion criteria. Participant inclusion criteria for this study were: English-speaking parents who were the primary care giver of infants. The primary caregiver of the infant, either father or mother, was defined as the parent who spent the most time day and night taking care for their infant. Only parents with infants six months and younger were recruited. This age cohort of infants was selected because SIDS is most prevalent in the first six months of life, peaking between two and four months of age (BC Coroners Service Child-Death Review, 2009; Hunt & Hauck, 2006). Infants also tend to start rolling at around five or six months of age (BC Ministry of Health, 2011) and consolidating sleep (Periano, Algain & Uauy, 2003). Focusing on infants

six months and younger increased the homogeneity of participants' experiences in the context of the growth and development of their infants.

3.3.2 Exclusion criteria. Participant exclusion criteria included parents with infants who were: the result of multiple gestations, born prematurely at less than 37 completed weeks of gestation, or diagnosed with chronic illness or congenital health problems. A non-supine or special sleeping position may have been recommended for medical reasons for these infants (Perinatal Services of BC, 2011); therefore, this exclusion criterion would prevent potential effects of medical conditions on parents' choices.

3.4 Data Collection

Participants were recruited from all districts in Greater Vancouver. Promotional posters were distributed and posted at venues where parents with infants tend to gather. Venues included all community centres, neighbourhood houses, family places, and libraries in Vancouver. I contacted the administrators of the venues to obtain permission to display my study poster. The poster included a description of the purpose of the study and contact information.

When parents contacted me by phone or email, I explained the purpose and details of their involvement in the study. I screened the interested participants to assess whether they fit the sampling criteria. For the interested participants who fit the sampling criteria, I invited their participation in the study and explained that an honorarium of a twenty-five dollar gift card would be provided for their participation.

I arranged a face-to-face interview with the interested participants at a time and place that was convenient for them. Most of the interviews were made at the homes of the participants. Some interviews were employed at coffee shops, community centres and parks. I conducted semi-structured face-to-face interviews using a semi-structured interview guide (Appendix B). The duration of the interviews was 45 minutes to 90 minutes. Taking the lead from participants'

responses to my questions, I used reflective and probing questions to further explore their experiences. I made an audio recording of the interviews and wrote field notes to document additional contextual data that may not have been captured by the recording. My field notes included descriptions of the participants' non-verbal behaviours and any interactions that transpired during the interview. At the end of the interview, I collected participants' demographic data using the interview guide (Appendix C). I summarized the general characteristics of the participants' demographic data using descriptive statistics in the findings section.

3.5 Data Analysis

I used concurrent data collection and data analysis (Glaser & Strauss, 1967). This strategy stemmed from the grounded theory tradition that allowed emerging ideas to guide the data collection and analysis process (Holloway & Wheeler, 2010). I conducted the two processes in parallel; data collection and analysis interacted continuously from the beginning of data collection and analysis to the completion of the research data collection. As new ideas and data emerged, I modified the interview questions to explore more fully and deeply the perspectives of the participants (Milne & Oberle, 2005).

I used qualitative inductive content analysis to analyze the data. This analytical strategy was data driven (Sandelowski, 2000). I used in vivo coding from the data that incorporated elements that best described the participants' experiences from all of the interviews (Neergaard et al., 2009). Many scholars have written about content analysis. I based my data analysis on Elo and Kyngas's (2007) work.

The following steps were implemented in this study based on Elo and Kyngas' (2007) work. I transcribed the audio recordings verbatim. To immerse myself in the data and obtain a sense of the whole, as recommended by Elo and Kyngas, I read and re-read each transcript. I identified sentences and phrases to be the units of analysis. I systematically developed codes from

the content of the data that explained what was happening in the data. I compared and contrasted codes within and between interviews to identify similarities and differences. I progressively clustered the codes around their similarities and differences and collapsed them into categories (Elos & Kyngas, 2007).

As concurrent data collection and analysis continued, I constantly compared the codes and categories generated within current and between previous interviews. The categories developed described participants' experiences with the phenomenon of the study inquiry (Cavanagh, 1997). These categories were clustered together to develop themes that described the essences and meanings of the phenomena that ran through the data (Elo & Kyngas, 2007; Morse, 2008). Data collection concluded as no new categories emerged from the data and relationships among the themes became apparent (Milne & Oberle, 2005).

For example, in the analysis of my data, I developed the following codes. The codes, mothers' sleep deprivation and mothers' frustrations with infants' crying, formulated the category of mothers' struggles. The codes, infants' fussing and crying, infants' inability to sleep in supine position and infants' inability to sleep alone, comprised the category of infants' sleeping and crying challenges. Then, I clustered these categories into the theme of struggles with reality as opposed to maternal visions, which became the second segment of the mothers' infant sleep safety cycle.

3.6 Rigor

I incorporated strategies to increase rigor in my study based on the work by Milne and Oberle (2005). They identified four strategies to enhance rigor in qualitative descriptive studies: authenticity, credibility, criticality and integrity.

To enhance authenticity and credibility, I ensured the participants had the freedom to speak and had their voices heard. All efforts were made to ensure the in vivo voice and quotations of

the participants were captured (Polit & Beck, 2012). My codes stayed close to what the participants were sharing and, throughout the data collection process, I endeavored not to impose my views on participants. I attended to transcriptions of the interview data being carefully and accurately performed as best to my abilities. I listened to each audiotaped interview several times and read and re-read my transcripts to ensure the interviews were accurately transcribed. Also, I strived to accurately represent my participants' perspectives through data-driven coding and categorizing in the process of analysis.

As I developed the sleep safety cycle during my data analysis, I sought validation from the last two participants to determine their perspectives on the sleep safety cycle, in terms of representing and reflecting their experiences with infant sleep safety. Both participants agreed that the sleep safety cycle captured their experiences with infant sleep safety. This process of member checking is an important technique to ensure credibility of my data because participants were able to confirm the accuracy of my interpretation of their experiences (Polit & Beck, 2012).

To increase the trustworthiness of the data analysis, my thesis supervisor, who is an expert in qualitative methods, reviewed my transcripts and data analysis to ensure my analysis was defensible and represented the data. I developed an audit trail, a detailed and systematic record of all the research materials, which included documentation of the contextual, methodological and analytic aspects of the study as well as my reflexive journaling (Holloway & Wheeler, 2010). This would allow an independent auditor of a qualitative study to evaluate the trustworthiness of the study (Holloway & Wheeler, 2010; Polit & Beck, 2012).

To enhance criticality and integrity, I actively reflected on my opinions and assumptions throughout each phase of my study. Because of my dual role as the main data collection instrument and conductor of analysis in the study, it was important that I remained reflexive and transparent, being aware of any of my potentially imposed preconceptions (Holloway & Wheeler,

2010; Neergaard et al., 2009; Polit & Beck, 2012). I needed to reflect critically on and monitor my relationship with the participants and my reactions to the participants' sharing of their experiences. I sought validation of my understanding of the data from the participants to ensure that their perspectives were captured without being guided by my views and interpretations. I completed reflexive journaling to document my thoughts, feelings, reactions and conflicts throughout the data collection, analysis and writing up process.

3.7 Chapter Summary

In this chapter, I presented the research design of the qualitative descriptive study design that I undertook to explore the parents' perceptions of and experiences with infant sleep safety. I described ethical considerations, inclusion and exclusion criteria for the sample for my study, forms of data collection, concurrent data collection and analysis, and strategies to ensure rigor. In the next chapter, I will present the findings of this study.

Chapter 4: Presentation of Findings

In this chapter, I present the findings of the study. I describe participants' characteristics, the mothers' infant safe sleep cycle, with factors that influence infant sleep safety incorporated in the description of the sleep cycle. I begin with a description of the study sample.

4.1 Description of Sample

Fourteen mothers, who identified themselves as the primary care givers for their infants, participated in the study. Six of the participants learned about the study through word of mouth, either from a public health nurse or contact with another mother. The other eight mothers contacted the co-investigator by phone or email in response to the poster advertisement at the community venues.

All mothers in the study were fluent in English. Forty-three percent of the participants ranged in age from 25 years to 35 years. Fifty-seven percent of the participants were over 35 years of age. All of the women were in long-term relationships. Ninety-nine percent were married and one mother lived in a common-law relationship. Their partners lived in the same household.

The age of the infants participating in the study ranged from 2 to 6 months. Seventy-eight percent of the infants ranged from 4 months to 6 months of age at the time of the interviews. They were all healthy at birth and full term gestation (thirty-seven completed weeks or more). Sixty-four percent of the infants in the study were first-born children in the family. Four families had more than one child at home; three families had more than two children; and one family had six children under the age of thirteen. All but one participant reported breastfeeding exclusively; one mother used a combination of breastfeeding and formula feeding.

The self-reported countries of origin for participants' families were American (7%), Asian (21%), South Asian (7%), Canadian (21%), Chinese (28%), and European (14%). Three of the 14 participants were in cross-cultural relationships where women reported their partners' countries

of origin for families were different from their own.

Sixty-four percent of the participants owned their residences; of those, 50% lived in detached houses. The remaining participants lived in condominiums, apartments, or a town house. Seventy-nine percent of participants had two or more bedrooms in their homes, with the remainder having one bedroom.

All the participants reported at least post-secondary education; 64% indicated they had achieved graduate education. Seventy-two percent of the participants reported earning more than \$60,000 (Canadian) in annual family income. Family incomes of between \$40,000 and \$60,000 were reported by 14% of the women and 14% of the participants reported their family incomes were between \$21,000 and \$40,000.

In the prenatal period, no participants reported smoking or using illegal substances. Twenty-one percent of the participants reported they drank alcohol occasionally. During the postpartum period, no participants indicated they smoked or took illegal substances; 35% of the participants drank alcohol occasionally.

4.2 Mothers' Infant Sleep Safety Cycle

Following my analysis of the data, I constructed 5 themes. All participants were describing their experience as a cyclical process that became the core theme of my data analysis. The core theme, the mothers' infant sleep safety cycle, captured participants' descriptions of their experiences traveling through a process of preparing for and managing their infants' sleep safety during different stages of their infants' development. The five themes represent the five segments in the mothers' infant sleep safety cycle as illustrated in Figure 4.1: mothers' expectations of infant sleep safety, their struggles with reality as opposed to maternal visions, mothers' modifications of expectations, provision of rationale for their choices, and shifts in their views of infants' developmental capabilities. The process was cyclic because mothers acknowledged that,

as their infants moved into new developmental stages, they had to reconsider their expectations, struggles with reality, modifications of expectations, rationale for modifications, and again shift their views as their infants moved into yet another developmental stage. In the cyclic process of infant sleep safety, the participants described progressing through each segment while balancing the needs of the whole family. One participant (P13) described: “Just a continuous cycle, adapting to the needs of the whole family, baby's needs.”

The participants described thinking about infant sleep safety and anticipating their approaches when they were pregnant. This was the point when they entered the first segment of the sleep safety cycle by formulating their expectations of the sleep safety cycle. They indicated awareness of safety guidelines for sleep and had expectations to place their infant to sleep in supine position and in their own sleeping surface. As participants welcomed their infants' arrivals in the early days and months of sleep safety management, they described struggling with their infants' sleep challenges and mothers' sleep deprivation. Mothers were compelled to change their expectations and modify their original sleep safety plan. They developed rationale to support their new practices, which did not follow the sleep safety guidelines, for example, bed sharing, sleeping in non-supine positions, and sleeping in surfaces that are not intended for infants.

With the new sleeping arrangements, both mothers and their infants were sleeping better and adjusting better. At this point, mothers experienced a shift in their views of their infants' developmental abilities. Mothers would consider their infant's ability and readiness for sleeping independently in their own sleeping space such as a crib. Some mothers also perceived their infant's readiness for sleep training. As they contemplated their infants' new developmental abilities, they would re-enter the first segment of cyclical process, and formulate new expectations for their developing infants' sleeping arrangements for sleeping independently and sleep training. Thus, they would progress through all the segments of the sleep safety cycle again,

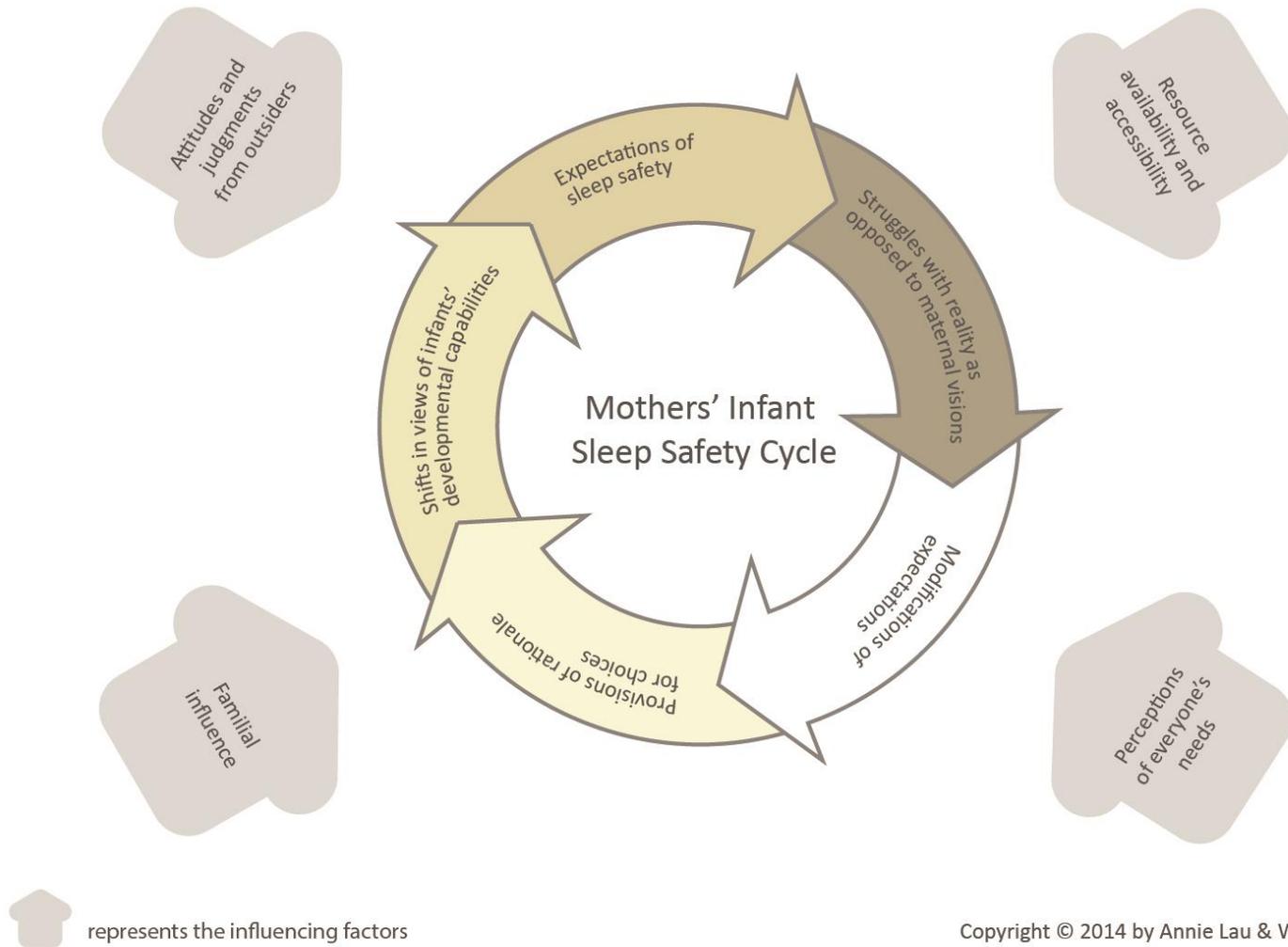
anticipating struggles with the new sleeping arrangements, needs for modifications and provision of rationale for choices.

Mothers would reach a point when they perceived shifts in their perspectives of their developing infants' developmental abilities. At this point, mothers would reconsider their expectations, struggles with reality, modifying expectations, rationale for modifications, and shifting their views as their infants moved into yet another developmental stage. An example of this would be transferring their children from their cribs to toddler beds. Thus, the mothers' infant sleep safety cycle suggests mothers continuously journey through the sleep safety cycle again and again, as they consider their infants' developmental sleeping needs and milestones in managing the sleep safety measures throughout the course of the infants' lives.

The following is Figure 1, the Mothers' Infant Sleep Safety Cycle that illustrates the cyclical process that mothers experienced with infant sleep safety.

Figure 4.1 Mothers' Infant Sleep Safety Cycle

Mothers' Infant Sleep Safety Cycle



The following is Table 4.1 that summarizes the five themes and the subthemes of the mothers' experiences in the cycle of infant sleep safety.

Table 4.1 Mothers' infant sleep safety cycle

Themes	Sub-themes
Expectations of sleep safety	<ul style="list-style-type: none"> • Intending to follow safety guidelines • Preparing for infants' arrival • Envisioning infants sleeping soundly
Struggles with reality as opposed to maternal visions	<ul style="list-style-type: none"> • Infant crying and difficulty falling asleep • Feeling desperate from sleep deprivation • Giving up visions of perfection
Modifications of expectations	<ul style="list-style-type: none"> • Any steps to stop infants' crying and promote sleep • Modifications to original plans • Incorporation of some sleep safety principles in modifications • Keeping it to self
Provisions of rationale for choices	<ul style="list-style-type: none"> • Transitioning from the womb • Use bed sharing to foster, bonding and protection • Balance between infants' and families' needs
Shifts in views of infants' developmental capabilities	<ul style="list-style-type: none"> • Settling better with adjustments to sleep routines and arrangements • Outgrowing confined sleep arrangements • Considering infant's readiness for independence

The participants' progress through the cycle of sleep safety was influenced by many factors that changed their approaches to infant sleep safety. I identified four main influencing factors from the data: participants' perceptions of everyone's needs, familial influences, attitudes and

judgments from others, and resource availability and accessibility. One participant described her experiences, where these factors influenced all segments of the cycle of infant sleep safety and were not static in nature:

I think it impacts the whole system. Obviously, it impacts expectations but I think they move along with each of these ones. They are not going to be so static in the sense that...stemming from their expectations, because you are not withdrawing from all these factors as you are going through these stages. They continue to influence you in all parts of the cycle. (P14)

The magnitude of the influence of these factors on the five segments of the mothers' experiences with sleep safety fluctuated depending on their circumstances. However, mothers described these four influencing factors as constantly affecting their experiences throughout the five segments of the sleep safety cycle. Some factors might have had more dominance at one point in time and less at other times. Table 4.2 lists the four factors with explanations about how they influence mothers' experiences with infant sleep safety.

Table 4.2 Factors influencing mothers' infant sleep safety cycle

Factors	Explanation of factors
Perceptions of everyone's needs	<ul style="list-style-type: none"> • Mothers' needs for sleep, intimacy, sanity, and time for self • Infants' needs for sleep, closeness, nourishment, growth, and safety • Siblings' needs for sleep and care
Familial influence	<ul style="list-style-type: none"> • Involvement of fathers with sleep safety decision-making process and help with putting infant to sleep • Receptiveness and resistance to advice from extended family • Mothers' own sleeping arrangements as an infant

Factors	Explanation of factors
Attitudes and judgments from outsiders	<ul style="list-style-type: none"> • Comments and criticisms about mothers' actions and inactions with sleep safety • Secrets about sleep safety to save face • Evaluation of what constitutes 'good' parenting
Resource availability and accessibility	<ul style="list-style-type: none"> • Voluminous information • Challenges for mothers to focus • Credibility and quality of information source • Inconsistencies in information • Space

In the following section, I present the core theme, the mothers' infant sleep safety cycle, which is comprised of five themes and their subthemes. I will illustrate how the influencing factors affected participants' perceptions and experiences through the cyclical process of the mothers' infant sleep safety cycle. Direct quotations from the mothers are identified with a reference number.

4.3 Mothers' Expectations of Sleep Safety

The continuous cyclical process of infant sleep safety began with mothers' expectations of sleep safety at a time when they had not yet encountered the reality of the sleep challenges. As mothers described anticipating the arrival of their infants, they researched information on infant sleep safety, intending to follow the guidelines and recommendations. They envisioned how and where their infants would sleep safely and soundly. Their plans and intentions of how to manage sleep safety arose from their visions of parenthood. "Obviously, you need to enter the cycle. That's where your expectations come in. It's the practical part of the whole process that hasn't occurred yet. With expectations, it's all the theories combined with what you experience" (P14).

Mothers' expectations were based on knowledge they derived from research, which determined their intentions to follow the sleep safety recommendations. They obtained information from multiple sources: Internet, hospital, prenatal classes, health authority recommendations or health professionals, and books. Participants described how resources were readily available and accessible. (P6) described: "We have so much information at our fingertips..."

As first time parents, you would never really know like what to do and you kind of rely on information that you hear, that you read, that you research and from the health care professionals. We did our baby prenatal class at the Women's Hospital. It's really helpful. I learned a lot from that. And, so, you kind of rely on that information. (P11)

All participants expected information from the health professionals to be credible and sound but also viewed themselves as being knowledgeable about infant sleep.

Mothers' receptiveness or resistance to the suggestions from others influenced their expectations about infant sleep safety. For example, many mothers formulated their expectations about infant sleep safety using knowledge and suggestions provided by their husbands. Although fathers were considered by mothers to be significant contributors to expectations about sleep safety, mothers indicated their expectations prevailed. Extended family members, such as siblings, also contributed to mothers' expectations about infant sleep safety. "My sister would probably be the most influential and then I would probably say umm my husband right because he and I are still learning at the same time" (P6).

The influencing factor of the attitudes and judgments of outsiders also affected the safe sleep cycle. Some participants welcomed the suggestions from family, friends and health professionals. Other participants viewed comments and suggestions from others as negative because they did not fit with their beliefs.

I mean my mother in-law, a little bit as well although she was kind of my what not to do a lot of times. My husband was just very spoiled and so she was the one that 'Oh, my son

you know he never slept in a crib' and I'm like I know that's the beginning. I know what happened when he got older and I want him to be sleeping in the crib. (P9)

4.3.1 Intending to follow safety guidelines. All participants indicated when they were anticipating their infants' arrivals they identified back to sleep as the safest way to put infants to sleep to reduce the risk of SIDS. They all planned to sleep on different sleeping surfaces than their infants. Many participants claimed they had envisioned they would never sleep with their infants.

When we were reading it was like you know definitely in their own crib, on their back so with both of them we did that. I mean obviously SIDS is a huge thing and you know it's not something you want to play around with. (P8)

All mothers indicated they had intended to follow other infant sleep safety recommendations when their infants arrived. They described most of the infant safety sleep recommendations including: no bumper pads, no pillows, no toys or clutter in the sleeping area, firm mattress, well ventilated room, no over-heating, no heavy blankets, initially room sharing with parents, using breastfeeding to reduce risk, and no smoking or illicit drug use. Participants described definite plans for the safe sleep arrangements for their infants. One participant (P3) recalled: "We'll start off in the crib with the right protocol." Another participant (P12) described: "I was thinking about sleeping options fairly early on. We always knew it would be in the same room at least at first."

Mothers' own sleeping arrangement as infants influenced their perceptions of safe sleep practice. At the same time, mothers were very sensitive to general attitudes regarding infant sleep safety. The influencing factor of attitudes and judgments of outsiders affected the sleep safety cycle. Often, mothers described feeling pressured from those around them to do 'what is considered the safest':

I co-slept for a very long time actually. Like till I was like in elementary school I was still co-sleeping with my parents. Because in Korea it's very normal. Maybe it's space issues

or whatever but it's traditional and very common to co-sleep. Personally, I didn't find anything wrong with it but socially you feel a lot of pressure to do certain things I feel. (P6)

4.3.2 Preparing for their infants' arrival. All participants used their plans for infant sleep to set up their infants' sleep environments during the prenatal period. Many mothers researched and invested in sleeping furniture.

Before he was born we had discussions about what we were going to do with his sleep and so we had made his nursery and you know invested in a crib and got a...you know did all the research on the best mattress and you know all that stuff...(P6)

Often, participants indicated they undertook elaborate activities to set up the nurseries where their babies would sleep. The majority of the participants described their plans to place their babies in their cribs. One participant (P1) described how they were ready: "We are all ready for her to sleep in the crib." Participants imagined their infants sleeping peacefully in the spaces they had designed.

Some of the mothers described being constrained in their planning by the number and size of rooms available in their homes.

The crib was set up in the nursery. You know, I guess, we never thought of having the crib...first of all, our room is tiny. We live in a small, small apartment. There wouldn't be enough room for our bed and the crib. (P11)

Participants' perceptions of their infants' needs during the prenatal period influenced their processes; many indicated they preferred bassinets because they represented a more contained environment like the womb, small and safe. Participant (P11) described: "...the bassinet was a lot smaller, maybe seem like they could be safer in there." Given their space limitations, which are a resource factor, many mothers also considered bassinets to be smaller and more convenient in parents' rooms for ease of feeding. "It's smaller. I can put it in my room and not to worry about space constraints" (P14).

One participant (P12) planned to put her infant in a baby hammock or rocker to sleep: "It's

basically a little hammock. It's slung between a metal frame and it's angled. So, that her head is up." This participant viewed the hammock or rocker as helping to create a cozy and snuggled cocoon as mimicking the womb effects that a baby needs. The mothers' statements demonstrated how their views about infants' needs acted as a factor influencing the safe sleep cycle.

I think when they are really small; they like to be scrunched up. Well, because it's like the womb. They are scrunched up inside you. I think they like to be a bit snuggled. I think that maybe why the rocker is so popular because it sort of snuggled; they are down like a little cocoon. I think that's why they like it. (P12)

The majority of the mothers described their plans to rely on audiovisual monitors and technology surveillance to keep their infants safe. Many participants received the monitors as baby shower gifts before the arrival of their infants; others had purchased them as their part of the sleep safety equipment. They viewed the monitors as an effective tool to provide their infants with extra protection and them with reassurance about their infants' safety. Because monitors provided both audio and visual perspectives of infants, mothers anticipated they could detect any infant distress instantly. "The audio video one, you can see the baby and then you can hear the baby. It's the peace of mind. It's assurance that she is fine" (P10).

4.3.3 Envisioning infant sleeping soundly. In anticipating the arrival of their infants, most participants expressed their expectations about how infants would sleep peacefully; they did not expect any challenges in following through with their plans. Many mothers referred to the infant sleep safety handout with the picture of an infant sleeping on his back peacefully in the crib, and adhering to all the safety recommendations. Mothers described their plans in dealing with sleep safety and how they knew what to expect based on the influencing factor of information resource availability and accessibility.

Before I had her I was going to have a baby that loved to sleep in the crib. And that was from the beginning she was going to sleep in the crib, on her back and I didn't foresee any problems. (P9)

A number of mothers envisioned their infants sleeping independently with no fuss in the planned sleep arrangements. One participant (P6) shared her goal and vision for her infant: “I wanted him to be one of those babies who would be able to sleep anywhere and everywhere.” Many participants stressed their expectations and the importance they assigned to their infants sleeping well and independently.

4.4 Struggles with Reality as Opposed to Maternal Visions

The cyclical journey of infant sleep safety was mostly not very smooth. All participants were caught by surprise by the many challenges along the way. One participant (P14) said: “It's not going to be an easy cycle. You are going to get another bump in the road, with another issue.” With the arrival of their infants, mothers reported that their expectations of their infants' sleep safety and sleep arrangements did not fit their parenting realities.

When we first brought her home, she was hardly sleeping at all. She would only sleep when I was holding her. Every time I tried to put her in the bassinet, she fussed and woke up. I feed her some more and put her down. She fussed, woke up. You know, it's a constant cycle all night long. (P12)

Despite all the efforts mothers made before the arrival of their infants to prepare sleep arrangements, many infants did not comply with their plans. One participant (P3) recalled: “We set up the whole nursery, the whole thing and then this huge production which he didn't even use the room.” Many mothers did not consider the possibility that their infants would not follow their plans.

I never thought ‘oh my baby won't sleep in their crib’. I really...cause I have heard stories of moms who sleep on couches with their babies and I always thought how indulgent. You know this baby is going to be so spoiled. And then all of a sudden I'm the one doing it. (P9)

Some participants described being surprised that their sleep safety plans did not work: “And so it kind of really took me by surprise that it [sleep] didn't work as well as I thought it was going to” (P9).

4.4.1 Crying and difficulty falling asleep. All participants reported how their infants would not stop crying and fall asleep. One participant (P7) reported: “She's just couldn't sleep, not at all.” Another participant recalled the difficulties with dealing with breastfeeding and her infant’s inconsolable crying episodes that could last for many hours. Often mothers (P4) found themselves in very chaotic situations: “Right after the breastfeeding, he wakes up and cries. And sometimes, he continued to cry for three or four hours with not sleeping. Even after nursing sometimes, he slept one or two or three hours that were very chaotic”. Mothers described consoling their crying infants for hours. They discovered what worked for other infants did not consistently work for their infants and felt exhausted from dealing with the crying and sleepless nights.

Many participants indicated their priority was, ‘what works’, which was any way to make their infants stop crying and go to sleep. As one participant (P2) indicated: “What's really important for you is what really works for you right now”. Unfortunately, most of the participants reported that nothing seemed to work; even abandoning their original plan of sleep safety was not effective. One participant (P4) remembered: nothing worked. “Because nothing worked... So, sometimes, I put him....all of them didn't work...I put him in the chair or bouncer or swing for several hours. But...all of them didn't work” (P2).

Many mothers attributed crying and sleeping problems to gas affecting their infants’ comfort with particular sleep positions.

Well, she just wouldn't settle down. She only had colic in the evenings, around eight o'clock. It would start. Some evenings not until ten. She would scream for like two or three hours straight. Sometimes, she would settle down for thirty, forty-five minute until she would start again. She just, you know...there were nights where she wouldn’t stop. There were some nights that were better. But...there was not, you know...it had probably had something to do with her digestion. I don't know what it was. (P11)

As their parenting realities set in, many mothers described the implications of infants' difficulty sleeping for their own and their infant's sleep and wellbeing.

Most of the time, he didn't sleep well. So, I could sleep only twenty minutes at once. I repeated that every two or three hours. I slept for just twenty minutes every two or three hours. So, it was really challenging for me. (P4)

Many mothers indicated that dealing with their infants' crying, because nothing was working in calming their infants to sleep, was a very emotional experience. One participant described her emotional intensity when she cried along with her infant.

You're not sleeping at all and so you get very like when I put her down in her crib and she would cry, I would cry. You know it would be like 'why isn't this working?' and so that was the other thing is it just...you, you feel little better holding her because you don't have to put her down and then she doesn't cry and you don't cry. (P9)

4.4.2 Feeling desperate from sleep deprivation. All participants reported being sleep deprived. For some, the sleep deprivation began at the hospital delivery of the infant and permeated the early days and months of the postpartum period. The effects of their sleep deprivation shocked the mothers.

You get to that point, like I was already in a sixty plus to seventy hours sleep deficit when I brought her home from the hospital. And then, to discover the first couple of nights, I wasn't making up for that deficit any time soon, was like just hard. (P12)

All participants linked their sleep deprivation and exhaustion to their desperation to do anything to get some rest. Some mothers felt they were going crazy. "Without enough sleep, people become crazy" (P4). Adjusting to parenthood and establishing some sense of routine in the early days and months with their infants was described by many mothers as the toughest and most trying in terms of the sleep deprivation. It was about them surviving each day and night. "That first month, we thought we were going to go crazy. It's hard that first month. It was the hardest month" (P11).

Participants' indicated their exhaustion and sleep deprivation affected their physical, emotional, and cognitive wellbeing. Mothers' described their abilities to carry out daily activities as compromised. One participant described difficulty functioning the next day for her and her family.

To give you the sanity to get up the next day and go through the day, if you haven't slept all night, you wouldn't even be able to function the next day. That's fine if you have one. When you have two it is just not practical. (P3)

Another participant who only had one child echoed the similar detrimental impact from sleep deprivation on her ability to function during the day. "Because when it's four in the morning and you haven't slept in three days and you're...it's really hard to follow through" (P9).

Because infants' sleep challenges left mothers feeling drained from sleep deprivation, even if infants fell asleep, mothers were still concerned that they were unable to obtain adequate rest. Thus, participants' described their time and energy as consumed by caring for their infants' needs.

I don't have time to do much. I'll just be with her, the minute she fusses. I am not one just to leave her and let her fuss. I'll come right away. So, you know, if it's a bad day, then I am basically with her 24/7 (laughed). And it's tiring physically and mentally. It's tiring. (P12)

4.4.3 Giving up visions of perfection. Many participants acknowledged that what they thought were the most perfect and safest ways for their infant to sleep initially and what they actually did were not congruent. Their initial visions of sleep safety just did not translate into reality of their context.

What I think is safe and what I probably do are probably two different things. I didn't follow any of the guidelines because he was in [my] bed. I knew it was wrong and I knew about SIDS and all. It just didn't work for us. (P3)

Some participants reframed their choices by suggesting they were working towards the ideal in terms of sleep safety but it would take time.

That's [sleep safety] not attainable 100% of the time. You know that's a goal to work towards but right off the bat it's not...it's not going to be perfect. You know I think that I thought 'oh, well that's the safest way so that's just what I do'. You know, that's just how it works but it just didn't. (P9)

Many mothers indicated that ideals were fine but they needed a dose of realism and common sense about what was possible. "Ideals are great. I think we need to be realistic. They are ideals. You try to get close to them. You also need to use common sense" (P12). To help them manage changing their expectations, some participants reframed safe sleep practices as only guidelines, with room for individual interpretation. "These things do happen. The occurrence of SIDS and that...It does happen. So, that's why there are guidelines. But at the same time, guidelines are guidelines" (P3).

4.5 Mothers' Modifications of Expectations

At this point, many mothers described feeling stress and discovered issues that they did not anticipate previously. As mothers experienced the chaos and challenges with sleep issues in the early days, the differentiation between what was considered safe or unsafe often became blurred. They described a desperate need to modify their expectations of sleep safety.

Mothers mostly reacted to overwhelming amounts of information, a resource influencing their safe sleep cycle, by shutting off the knowledge sources and employing whatever strategies seemed effective to induce sleep.

Because there's so many risks that you know as a parent I know for me I felt overwhelmed...it's almost like too much information. So I guess maybe the other reaction to too much information is to just say I'm gonna wing it. (P8)

Many participants identified the challenge of the balancing the needs for their infants and their own needs, as well as their families' needs because of their space issues. Space was an important resource influencing sleep safety cycles in a city where real estate and rent are very expensive.

And so that affects the whole family because we sleep in the same room. Because I have to handle the baby, I cannot bathe the older girls and get them to bed and help them to sleep. So, that affects the whole schedule of the day. (P2)

The space issue could further exacerbate the challenges of the sleeping arrangements, both for the infants and the adults. In some situations, mothers described their family beds as too crowded for safety and comfort reasons. “At the beginning, my husband slept in the same bed. We found that it was not enough for the three people. So, he began to sleep in a different bed” (P4). In order to ensure everyone in the family had adequate sleep and could function the next day, mothers reported the sacrifices that they needed to make; they either gave up their own beds or let their husband sleep in other rooms.

He would sleep on the bed with us but I found it crowded. So again safety reasons like...okay you know what I’m just going to sleep on the couch and let them take the bed. And cause my husband had to work and all that right so...(P5)

Many participants, who shared the same bed or same room with their infants, were concerned about their needs for intimacy with their husbands or partners. Some participants hoped this arrangement would be temporary.

I know my relationship will one day go back to where my husband and I will sleep in the same bed without any children (laughed). You know, hopefully! But at this time, this is just not feasible for us. (P3)

Other mothers were concerned that their intimacy needs would be sacrificed indefinitely and maybe permanently. Opinions and experiences from friends, which were important factors affecting safe sleep cycles, reinforced the significance of their concerns.

We have some friends who had the family bed with their daughter. What ended up happening was that the dad got kicked out of the bed permanently (Laughed). So, their advice.... it really affected their relationship. Like, really seriously. Like the couple almost...they didn't break up, but like they were having some serious problems. (P11)

4.5.1 Any steps to stop infants’ crying and promote sleep. Some mothers described employing any strategies to help their infants go to sleep. Those strategies were often counter to previous intentions or violated mothers’ initial wishes. The mothers felt they were altering their

expectations to accommodate their infants' needs. "It doesn't matter what you think you're going to do or you want to do, you will do anything it takes to appease your child and make them comfortable" (P6). Participants indicated dealing with a crying baby was extremely stressful and exhausting but helping their babies by comforting them was something they felt they had to do. Another mother (P11) described: "When you see the baby in the bassinet screaming, your instinct is just to pick them up and try to comfort them."

When facing the challenges of their infants' crying and sleepless episodes one mother (P4) who had full intention to follow all the sleeps safety recommendations recalled: "I tried to obey the rule at the beginning but my baby did not like to sleep." Many participants summarized their different routes from their original intentions to stop infants' crying and promote sleep. "At the beginning, you have to do what works though. Whatever works! Whatever made her stop crying and go to sleep" (P7).

One participant described how desperate and sleep deprived she was and how she would do anything to make her infant sleep, even if it seemed totally illogical and dangerous. She indicated she was willing to break all of the safety guidelines. If she perceived any strategies to be effective in making her infant sleep, this participant was desperate enough to try them, even if using those strategies meant endangering her child.

I was just totally shell shocked and I was just a wreck. That was the time when I said, you know what, I would put her to sleep in a grain thresher if I thought she would stay asleep. Gone with safety! (laughed) It was just like. It's just so hard. (P12)

4.5.2 Modifications to original sleep safety plan. After experiencing failure at stopping infants' crying and promoting sleep, mothers described modifying their original plans to solve their infants' crying and sleeping challenges. The new strategies were often inconsistent with safe sleep recommendations. When mothers discovered, by trial and error, a certain strategy that was effective in stopping their infants' crying and promoting sleep, they would continue with the

strategy as the new modified sleep arrangement

I realized you're never going to sleep if you don't figure out either how to sleep holding her or if she doesn't figure out how to be put down. So that's when we tried on the couch and eventually I figured out after sleeping on the couch that if I...cause I'd wake up at four in the morning and umm I would change her and feed her and then...about four in the morning it wasn't always exactly, but then we...that's when I started putting her in her swing. And she would sleep in her swing for a couple hours. But it had to be going. (P9)

Many participants' own sleeping arrangements as infants, which served as a familial influence, affected their shifts in expectations about sleep safety. Often mothers' sleep positions in their infancy were not supine. When they needed to make modifications to their infant's sleep position those mothers would be more inclined to place their infant to sleep in non-supine positions.

Personally I like sleeping on my tummy right. So but yeah I will try on the back just to see if they'll do it. But again I will do whatever it takes for them to sleep. So if they're going to sleep on their tummy, they're gonna sleep on their tummy. If they're going to sleep on their side and it...that's what it takes I'd rather my baby sleep. (P6)

Some mothers reported instant success in their infants falling asleep when placing them on their tummies, sides, or in any position other than supine position. Often, their infants were able to sleep in these non-supine positions for long, continuous periods. Those mothers indicated they ignored their guilt about unsafe practices.

That was just really the only way we could get her to sleep except for on my chest. Like she would sleep on the couch that made me feel really guilty because I knew that it wasn't the safest thing for her and so it was kind of a process of working towards that. (P9)

Another mother (P4) described the power of placing her infant to sleep on her tummy: "Tummy sleeping was a life line." Most mothers discovered their infants tended to sleep well in the prone position, even though all participants had originally intended to place their infants to sleep on their backs.

Being on his tummy. And that was also another...so that was a huge concern for me because he hated sleeping on his back. Flat on his back, he hated it. And he'd cry cry cry

and you'd put him...As soon as you put him on his tummy, he was fine. And he would fall asleep. (P6)

A number of mothers indicated that the side-lying position also seemed to be effective for infants in providing comfort and sleep.

The minute that I put her flat, that's it. She starts fussing. So, it started to be that she fuss and fuss and fuss. So, anyways, you know, then...we struggling with the gas issue. Nothing seemed to alleviate it. Somehow putting her on the side is helpful. (P12)

Some mothers discovered their infants would sleep well with continuous movement.

Subsequently, they would swing infants to sleep in a car seat or place infants to sleep in a swing for hours.

He just wouldn't sleep. He was just...at this time I think he was crying though. And dad was thinking, oh well you know what, well let's just try putting him in the car seat. Cause we were thinking of taking him out driving around and we were like oh no, no, no we don't want to do that. So I think we just put him the car seat and then he just started swaying the car seat like this with his hands. He was holding the handle swinging it. Then as soon as he has fell asleep, we transitioned him back into like a crib or something. We left him in the swing and left him sleeping and swinging. (P5)

Some other mothers described how movement from being carried around while walking calmed their infants to sleep.

Yeah. So, the only thing that sometimes soothed her was, we would carry her in our laps and just walk around the apartment. Just keep walking, walking, walking for an hour, two hours, you know. It would seem to calm her down. I know that if we just put her in the crib, she would just completely freak out. She hated being swaddled. That didn't work at all for us. Like, I know some babies get comforted that way. She hated it. So, that was really the only thing. (P11)

Mothers' perceptions of their infants' biological needs influenced the safe sleep cycle.

Several participants described how infant's reflux or colic symptoms affected their infants' sleeping behaviours and arrangements. One mother (P5) brought her infant into the parents' bed: "We did the sleeping in the same bed...like in our bed because he had reflux." The mothers felt there was no solution to reflux or colic but holding their infants or bed sharing with them. They also attributed sleeping positions that were not recommended to providing relief.

She did have colic in the first seven weeks of her life. So, putting her to sleep was always hard. She'd never you know, she'll cry a lot of the evenings. At that point, she got used to us carrying her and falling asleep on us that way. (P11)

Another mother tried many different ways to make infant sleep in the bassinette, such as warming the blanket in the dryer to make it cozy. Still, her infant would fuss. Often, her infant ended up sleeping on parents' chest or sleeping with the parents in the parents' bed.

We did try for a while putting the blanket in the dryer right before we put her down. So, it's still warm. She would sleep on us. And we go put her in the bassinette, she wakes up. Maybe because it's cold or whatever. For a little bit, it became too time consuming doing that though. So, we stopped doing that. Actually, at the beginning and I should mention this too. She slept on us sometimes. Or in our bed. (P7)

One mother discovered sleeping on flat surface was a challenge. Her infant would calm down and fall asleep in a snuggled baby hammock or baby rocker arrangement that was anchored at an angle. The hammock was considered to be cozier and it seemed to be effective at calming her infant down so she would fall asleep.

Sometimes, you are desperate and you know, in the early weeks, I found she would be fussing and fussing and fussing on a flat surface. The minute that I put her in baby hammock, she was fine. I don't know whether it's the angle or it kind of snugs to them a bit. It might have been that. It was more snuggly. But she sleeps in it fairly frequently. I alternate between a flat bassinet and that. (P12)

4.5.3 Incorporating some safe sleep principles in modifications. Although participants realized their original plans for sleep arrangements required modifications to help their infants stop crying and fall asleep, some mothers were aware that the modifications increased the risk factors for SIDS and SUIDS and considered that in their choices. Other mothers focused on incorporating some safe sleep principles in their modifications from the start because they described feeling uneasy about their lack of adherence to the sleep safety guidelines. Mothers reported that, as long as they followed the guidelines most of the time, it was safe. "I didn't break all the rules...all of the recommendations. I tried to follow the rules even now. So, just sometimes, I break the rule" (P4). Although they weighed the risks and benefits of modifying

sleep arrangements, many mothers described difficulty following all the sleep safety recommendations.

So, we had to try many, many, many kind of things. So...sometimes, actually we put the baby on the stomach. And sometimes we swaddled the baby with the blanket. Hm...Sometimes, yeah, he slept on the same bed with us. With mattress that is not very hard as the baby crib. So, actually, to follow all of them is not, I think it is not so easy. Not so easy. (P4)

Many participants indicated that they perceived the safety guidelines as a set of ideals or goals to work towards and incorporate in part rather than rigid rules to follow.

Realistically, we have to do what we have to do for everybody's sake. So, that's all I need to say at the end of the day. Keep that ideal goal in mind, but sometimes, you have to do what makes sense. (P12)

Some mothers attempted to ensure some sleep safety principles were in place. One participant described how she was keeping infant's sleeping environment free of clutter and heavy blankets when she was sleeping with her infant in her bed. She placed her infant on the other side of her bed where she thought her infant would be safe.

She may be fussing, or she wants to be held or you know, she is crying...you know and I think I need my sleep. Sometimes, we just end up holding her on our chest. We end up falling asleep. That's like three hours later when we wake up. You know, for her next feed. Sometimes, I just stick her in the bed. Or not even next to me, on the other side where there is no blanket. She really can't cover herself. Cause I know if I were to fall asleep and she did cover herself, I wouldn't know. So, I do keep her on the other side of the bed, with, you know, I know where she couldn't cover herself or roll off or anything. (P3)

Mothers emphasized their abilities to stay in one place in bed while sleeping so they did not put their infants in danger.

It's so easy to say put her back to sleep. You feel comfortable in your own bed. There's a lot of space beside you. I don't roll over in bed like I know I don't move around a lot even when my husband is there. I am so tired and I just let her sleep beside me. (P14)

Other mothers described placing their infants to sleep in the side-lying position; they then attempted to find ways to prevent babies from rolling onto their stomachs.

I did discuss that with the community health nurse because I know back is better. But she said, you know if the lower arm is out in front of them that would prevent them from rolling to their stomach. Because that's the concern with side sleeping that they would roll to their stomach. So when I put her on the side, I made sure that arm is out and she'll sleep with both arms in front of her. (P12)

All the participants in this study were breastfeeding their infants; they described their beliefs that breastfeeding would prevent the occurrence of SIDS. Many mothers described breastfeeding in the side-lying position in bed as being very convenient and comfortable. They intended to transfer their infants after breastfeeding to their infants' own sleeping spaces, such as the crib or bassinette, but they fell asleep. Often, the fathers would help with transferring the babies to their cribs after mothers and babies were asleep. Most of the time, mothers were too exhausted to transfer their infants to their own sleep surfaces after breastfeeding; many mothers described ending up sleeping with their infants in the family bed.

I usually nurse her. I just found easier position for me. Baby nurses in bed. And then, I'll fall asleep and baby will fall asleep. My husband would transfer her...carried her to her own crib. And then she sleeps. It's kind of partial co-sleeping (laughed). He [father] would try to move the baby. If it's not successful, then he will have to bring the baby back. Then, he's tired. There are times that he's tired and I was tired. Nobody is moving the baby and she ended up sleeping with us. (P10)

When mothers kept infants sleeping with them in the parental bed they tried to think about safety. For example, one mother placed her infant in the center of the parents' bed to prevent falling off the bed or being entrapped between the bed and the night table.

I just let her to sleep on her side. She likes that. Before I would make sure she sleeps on her back. She would nurse and fall back on her back. I make sure she is in the middle of the bed. (P10)

Many participants perceived daytime as less crucial for SIDS than nighttime sleep. Those participants described modifying their safe sleep practices during the daytime when they felt there were minimal risks but not at night when they believed the risks for SIDS were higher.

I did that only during the daytime, daytime nap. I didn't put him on the stomach during the nighttime because I understood that it is not good for baby safety. Because...yeah.... Sudden

Infant Death Syndrome, SIDS, could happen especially during the nighttime while I was sleeping. I was afraid of that. So, I didn't put him on the stomach during the nighttime, only the daytime. (P4)

Some mothers indicated that they viewed occasional deviance from the sleep safety recommendations as acceptable because, in general, they were upholding safe sleep principles.

I may put her on her stomach occasionally but maybe once a week or something like that. Only for naps. But most of the time, I would put her on her back. I know I am not necessarily out of the clear. I'm just still a little wary but I know, again, you get to know your kid, you know their abilities and strengths. (P14)

When participants did not perceive the risk of SIDS as high during the daytime sleep their choice of their babies' sleeping space or location during those times was often inconsistent with the safe sleep guidelines. Some mothers identified the couch and car seat as safe places for infants to sleep during the day. "During the day, it really depends because we are usually are out. She could be sleeping on grandma's couch. You know, where ever, in the car seat" (P10).

4.5.4 Keeping it to self. With technological advancement, participants were describing being supported not only in interactions with other parents in groups or other gatherings, but also when they interacted with other parents in virtual dimensions. Blogs, Forums, Facebook, and other online social media served as a support network and a venue for information sharing among parents. This support resource availability and accessibility influenced mothers' infant sleep safety cycle. Mothers expressed the need to have the connections with other parents. Many participants described how they depended on the Internet support and information network as they worked through the challenges with sleep safety.

This day and age that people are constantly looking for affirmation of what they do. Not just affirmation but like even if they don't know anything, they are looking for, they are crying for help for something and they just.... it's weird that we have the social media that we have today that you can be anonymous yet seek the help that you need. Or even voice your opinion that maybe too strong for other people but your opinion is out there, right? So, we have... everyone who interacts with you, or listens to any of the opinions that you've made, or put out there or read. It can somehow modify the expectations that you have in terms of certain issues. (P14)

During mothers' shifts in sleep expectations, safe versus unsafe sleep no longer appeared apparent or definite. Influences from other parents acted as a factor that complicated mothers' changes in expectations.

I heard some young moms who think I am crazy because I listen to the health care providers that I work with, that we go to. You know, it just says to me, there are a lot of confusion about what is right, and what's wrong. (P11)

The attitudes and comments from outsiders significantly affected mothers' decisions about the choices for sleep modifications, as well as their willingness to share or disclose their sleep safety arrangements. Many participants described a lot of stigma applied by others about co-sleeping with their infants.

I felt a lot of stigma against co-sleeping because some people are like gasp 'No, you don't co-sleep! Why do you co-sleep?' you know 'Oh, you're gonna have a momma's boy' you know or you know 'He's going to be so clingy to you' or you know 'oh he...just wait till he's a man and he's going to want to be on mommy's boob all' and you know you...you...some people tease you about that and so you just kind of feel like oh, okay forget it. I'll, I...I almost want to just lie and say he's in his crib when really he's not. (P6)

Some participants described their feelings about negative peer pressure from other parents about the sleep modifications that they had implemented. Many mothers attributed such comments to the different sources of information that parents were receiving. Such comments were the hurtful and mothers described feeling 'bullied'.

It's like the mommy mafia... You do feel this sort of this peer pressure from other people about what's safe and what's not safe. You know, they were kind of gossiping about one mom who hadn't had some stuff animal, some bumper pad, or something like that in a really mean way. I was thinking. I mean that's not me but yeah...So, there is definitely that peer pressure element, people talking about what they had read or what they think is safest. (P11)

Comments from health professionals also had significant effects on participants' willingness to disclose their choices for modifying their sleep safety arrangements. In other words, health care providers' attitudes and judgments were factors affecting the safe sleep cycle.

On some occasions, health professionals did not provide a comfortable and safe environment for participants to share their concerns and what they were doing in the area of sleep safety. Many participants resorted to keeping their infant sleep safety arrangement secret to save face and to avoid embarrassment.

I think we just keep it to ourselves. We know that. I speak for myself not sure about my husband. I am up and about with other parents, health professionals and nurses. I just keep co-sleeping to myself. I don't want to be judged or anything. I don't know if you have noticed. It's pretty judgmental out there. (P1)

Health care professionals' comments could undermine mothers' confidence in their modifications to their expectations and contribute to their feelings of failure or being judged for what the mothers were doing or not doing. "Whereas when it comes from your doctor, the hospital or the books, you feel like if you're not doing it that way then you're a total failure" (P9). Another participant described how she feared the potential reactions from her doctor if she shared information about her modified sleep safety arrangements. She expressed frustration about not feeling comfortable to share honestly and openly with her health care professionals.

Sometimes, people are afraid to bring it up, if I tell my doctor that I put her on her side, he's going to get mad. You shouldn't feel that way. You have to be able to talk about things without fear or reprise. (P12)

Being unable to talk freely with the health care professionals about sleep safety concerns hampered participants' access to more credible sources of information than the Internet, social media, and other informal sources. When participants provided the rationale for their choices about sleep safety, many were basing their choices on questionable sources of information. The credibility of the information source was a concern for some of them.

There is a lot of information out there. Lot of it is biased. Again, it's making sure that you talk to your doctor about what you think is the best, getting the personalized attention as opposed to taking all these information from other people. One person may say that person put the baby to sleep on the stomach, then, even if it works for me. You got to go over the information with someone who can give you the straight facts. (P14)

4.6 Mothers' Provisions of Rationale for Choices

With the voluminous information on infant sleep safety, the evolution of the recommendations for sleep safety measures over time, and the comments from others, participants concluded that mothers needed to decide for themselves about what would be the safe and effective approach to sleep for their infants in their unique contexts. They particularly reacted to the mixed messages about sleep where one set of advice or statement of opinion was often in direct conflict with others. Mothers felt, if they decided, they would find the approach that was 'right' for them.

I think anybody has to conclude at the end of the day because there are different opinions. Sometimes they are the opposites. So, you have to conclude that there really is no right answer. You have to do what's best for you. With sleeping, I mean, I supposed there...you still feel that way a little bit because the official position has changed so often over the years. Now, it's back to sleep. Before, they used to say the stomach because they were concerned if they were on their back. (P12)

Participants described feeling compelled to modify their expectations about and their commitment to safe sleep. They provided rationale for their choices by indicating the importance of considering all of the factors associated with their circumstances. One participant described the internal processes that she needed to go through to arrive at the point where she formulated a strategy that was effective to promote sleep for her infant.

Rationalizing your choices because you are rationalizing it based on something else. That means there is a conflict in opinion. There is this line of thought and there is this line of thought. Then, you are trying to blend them together. So, this is the rationalization that happens. (P14)

Often, the modified sleep arrangements the mothers described did not adhere to the sleep safety recommendations. Infants' wellbeing and happiness were the reasons for their choices about how to modify their sleep arrangements rather than safety principles. That emphasis motivated mothers to continue to do what they deemed effective in promoting sleep for their infant.

Facing down, she sleeps longer... I am very happy with it. As long as she sleeps, she feels...the baby looks really good. During the waking hour, she is happy and alert, feeding well. So, I am happy with it and we'll keep doing it...I am doing whatever works for me. (P2)

Nothing and no one could convince the participants to change their approaches, despite being considered unsafe, when they perceived their infants to be happier with the modifications. Their infants' happiness was the crucial and essential base for their rationale for their choices.

So regardless of what anybody says anyways I'm going to do it the way that I want to do it. And if they don't like it or think that I'm not doing it well then that's okay because at the end of the day as long as baby is happy. (P6)

4.6.1 Transitioning from the womb. Many mothers described their infants' needs for a gradual transition from the warm, contained and cozy womb to the cold, uncontained, outside environment. They were worried about the transition being too harsh.

They spent nine months like right attached to mom and then, BOOM; you were kind of leading them to the crib. That seems kind of harsh. They are all alone and, you know, it just seemed...it just didn't resonate with us. (P1)

Many mothers described the changes in their perceptions of the crib after the arrival of their infants. They equated empty cribs, which were necessary to follow safe sleeping guidelines, with impersonal, giant warehouses. They also equated infants being alone in their cribs with being alone in the desert. The mothers indicated they were not emotionally ready to place their infants in cribs.

She was so tiny. The crib was massive. Like if you saw her when she was born in that crib. It felt like a giant warehouse (laughed) that she was in. Like...it was made all the more, um...you know...impersonal...or maybe even scary to her because we weren't allowed to use...the recommendation is that you don't use bumpers or anything in the crib. So, it's like...she was all in there by herself. No pillows and no blankets. I think the nurse came and she said that we were allowed to have blankets but it has to be done in a certain ways. So, we tried to do that. So I imagined that she felt a little bit cozier with the blankets tucked under her. Yeah, it's kind of like...it didn't feel right. (P1)

Mothers felt that their infants would feel unconnected to them if they were sleeping independently in cold, massive cribs because they could no longer hear their heartbeats or feel

their warmth inside the womb. “When a child was in your womb, they could hear your heartbeat. So, that's the same heartbeat that they can hear when they are on your chest. Well, then isn't there a correlation” (P3)? Mothers used swaddling and bed sharing to replicate the womb experience. “When you are right out of the womb, you don't want to be in an empty space. It feels like an empty space for them. When they are swaddled, they are tighter and cozy kind of, for them” (P7).

Many mothers in the study expressed feeling frustrated with the recent inconsistent advice coming from health care professionals, particularly nurses, regarding the practice of swaddling. The advice was a factor influencing their safe sleep cycle. “They are saying we can swaddle and you are saying we can't. Shouldn't you guys know what the other is talking about...someone is not communicating, either the hospital or the community nurse” (P3). Many participants used as rationale for their choices the recent inconsistent opinions on swaddling practice as an example of how guidelines could be modified.

There's been a shift from swaddle to no swaddle recently. The whole swaddle versus not swaddle it seems to be sort of trends. They would aspirate, they would spit up...then they decided that's not an issue. We've got to have the back because it reduces the risk of SIDS. It's like even with that, you feel like the official position could change tomorrow. All of a sudden, I know Women's Hospital isn't recommending swaddling anymore because they decided swaddling is a risk for overheating and that's the risk for SIDS. If you swaddle the baby and try to put her on the side, she might go on her stomach. It's so overwhelming. So, you have to make your own decision. (P8)

Mothers indicated that the observed inconsistency about swaddling practice reflected the reality that guidelines were not established; therefore, there was room for mothers' interpretations or modifications to suit their needs and circumstances.

4.6.2 Using bed sharing to foster bonding and protection. Many mothers reported that they not only enjoyed bed sharing with their infants but also believed their closeness when sleeping promoted bonding. “For us, nursing to sleep, it works. Having that mother-daughter moment, it works. Yeah. She knows. I think we both know” (P10). Mothers reframed bed sharing

as reducing the risks of SIDS because they felt the closeness fostered by bed sharing would make them more aware of their infants' distress.

We wanted her close...um...mainly for our fear of SIDS. Like she might never like wake up (laughed); and then she was in the crib and we are so much farther away from the baby to know if she is in distress. So, even though the crib is right in our room, we just felt that she is so precious that we want her really close. (P1)

Many mothers weighed the costs of following safe sleep guidelines and infants' sleep deprivation by considering whether infant sleep deprivation or the risk of SIDS was more harmful.

I feel conflicted about having her sleep in our bed for the afternoon nap. But then, I think what's worse? If she sleeps in our bed or if she doesn't sleep at all. She's super overtired. Which is basically what happens. You have to...it's always is about this kind of game of... You know, try to figure out which is worse, which is better? Like you know, it's never a perfect situation, right? (P11)

A number of participants pointed out that sleep safety recommendations had been changing and evolving over time. The mothers concluded that the possibility for the sleep safety recommendations to change again was probable. Reframing sleep recommendations from health care professionals was a way for them to avoid responsibility if anything happened in terms of children's outcomes.

Some mothers linked the closeness and attachment fostered by bed sharing to deeper sleep for their infants, which in their view outweighed SIDS risks.

When she sleeps with me in our bed, she is in such deep sleep. It seems like she is in a deeper sleep than when she is in her own crib. I don't know. That's just my way of rationalizing it to myself. I always take the pillows away. I mean, it's not ideal. We have a softer mattress than hers. But I do check in on her quite frequently. She is always in the exact same position that I left her. So, you know, ideally, she would sleep in her own bed. But at the same time, it's like as a mom you do want to have some cuddle time with your baby. It's.... I would never want to regret that. Like in five years from now, I never snuggled enough with my baby. (P11)

4.6.3 Balance between infants' and families' needs. Participants gauged the importance of the fulfillment of their infants' needs compared with their own needs. One participant described the delicate balance around whose needs had the highest stake, those of the mothers or those of their infants.

Is it mom's needs? Yeah. So, I mean, because there is the innate need for the child to do what they need to, right? They just need to sleep and eat. For them, it's a cycle. It happens over and over again. I think the struggles are with the parents because some parents just accept that, the issue that they have with the sleep. It's going to be there. So, their adjustment is not going to be as difficult. Whereas someone who is coming in and not realizing the difficulty, or may have difficulties adjusting. So, you may have very similar infants. It's how you deal with it. (P14)

Many mothers perceived the modified sleep arrangements to be effective in promoting their needs for sleep and fulfilling their infant's needs. While their infants were sleeping, mothers gained time and space to attend to their needs and needs of other members of the families. One participant described the importance of balancing infants' and everyone's needs in the family.

It's hard to juggle when I am alone at home, especially when the baby is awake and I have to take care of the older ones. So, she makes the call, the youngest one makes the call. So, if she doesn't sleep, she's whining, she needs me. And then, the whole family stands still. Nobody...nothing gets done. The negative effect is that... the older ones also get lack of sleep because they can't sleep. I can't get ready for bed, right? Yeah...so that happens not at bedtime, it happens meal times. So, I can't cook or they will be late for school. So, the baby makes the call. (P2)

Some mothers described how sharing a family bed with their infants satisfied their needs, their other children's needs, and their infants' needs.

I can nurse and co-sleep at the same time. Again, it's probably not the most recommended. I think. Um... but it kind of satisfied all the needs. She gets to sleep and feed. I get to sleep. She gets nourishment. No one moved. Everyone is there. It's all good and happy. So, sometimes, I'll end up nursing her in bed, I'll just fall asleep while nursing. (P14)

In attempting to balance infants' and families' needs, some participants described how their efforts to be good parents were judged and evaluated by other parents. Some other parents judged them based on their accessibility to their infants at all times and at all places. The mothers

indicated how coming into contact with those attitudes and judgments affected mothers' cycles of safe sleep. To be viewed as a 'good' parent, mothers' sacrifice of sleep and rest seemed to be mandatory. If parents did not sleep with their infants and breastfeed their infants, they were considered selfish parents as opposed to self-sacrificing mothers. Participants described the pressure of the competitiveness among the parents.

If you're a really good mom, you will sacrifice your sleep and sleep with your child and sort of be available 24/7 to your child for breastfeeding. It's better for your child to have 100% access to you for breastfeeding and sleep with you...like that's how you show that you really care for your child. (P8)

4.7 Mothers' Shifts in Views of Infants' Developmental Capabilities.

As participants and their infants journeyed through the mothers' infant sleep safety cycle, mothers described reaching a point where they and their infants were more settled and adjusted to the sleep routines and arrangements. Their developing infants were outgrowing the small and cozy sleeping arrangements that mothers had previously viewed as meeting infants' needs for being confined. At this point, the mothers began to consider changes in their infants' developmental needs, particularly their infants' readiness for sleeping independently in a bigger space. Some mothers indicated they were considering sleep training their infants.

4.7.1 Settling better with adjustments to sleep routines and arrangements. Most participants reported that, as their infants developed, they reached a point when they were crying less and sleeping longer. Mothers indicated that their infants' experiences with reflux and colic had resolved. They described themselves as sleeping more and being able to have more time for maternal needs. Because their infants were more settled and adjusting to sleep routines and arrangements, mothers indicated they felt more confident about managing infant sleep. One participant (P4) described sleep changes, as her infant grew older: "After six weeks, he gradually tended to sleep more." Another participant linked an improvement in her infant's problems with

reflux to changing to safer sleep arrangements. Their infant's safety was enhanced.

When you see that he's getting stronger for example his reflux was getting a little bit better as time goes by then it was kind of like okay then now I can change now...I can change him to something for him that could be better. (P5)

Some mothers linked their infants' improvement in sleep to their infants' increasing resilience.

With their views of increased infant resilience, mothers were less concerned about infant sleep safety. Mothers perceived their infants to be stronger to withstand the sleep safety risks better than earlier days.

You know the more time that passes, the more confidence you'll feel. The anxiety gets less and the confidence gets more. Plus with her getting bigger and sturdier, that helps a lot. (P12)

4.7.2 Outgrowing confined sleeping arrangements. Many mothers described their infants as outgrowing their initial sleeping spaces and arrangements; they viewed them as requiring bigger sleeping spaces. The change in their perceptions about their infants made it possible for the mothers to contemplate infants sleeping in their cribs.

For the first almost two months, it [was] just a very gradual process for her being able to sleep more. We always had a bit better success with the rocker as supposed to putting her flat. Although we keep trying to put her down flat. We are going to try the crib now in the next couple of weeks probably. She is getting too big for the rocker. (P12)

One mother indicated that sharing a queen size bed with the baby was becoming too crowded as baby required more space. She described changing from the queen size bed to a king size bed to accommodate her baby's need for space.

Maybe I am not used to the king size bed yet. She was sleeping between the two pillows when we had the queen size bed. As if that is her spot, sort of thing. Since we have the king size bed, it feels so much better. (P1)

4.7.3 Considering infants' readiness for independence. After the struggles with the sleep challenges in the early days and witnessing their infants' development over the early months, many mothers contemplated their infants' readiness to sleep on their own. Some mothers looked

to their infants to provide cues to indicate the need for changed sleeping arrangements.

I think it's more like baby-oriented versus parent-oriented. What 's the final view of putting them to sleep? Versus training them is that you have your time and you have your space. Because they can sleep... You have your life back together. But then, if your baby is not up for it, you are kind of forcing it upon them. It becomes a stress for them. That's how I think. This is same as toilet training, you know. I [am] kind of waiting for them, when they are ready, then you go for it. (P10)

A number of mothers linked lack of space in their homes to maintaining their bed sharing arrangements, in contrast to arrangements being a response to their infants' developmental stage. Limited space as a resource influenced safe infant sleep cycles.

She would eventually get to an age when she needs to transition away from the family bed. But at this point, we have a one-bedroom apartment. You know, it's a...it's not going to be something that we need to think about in a long time to come. We need to move and she needs to have her own room. At that time, we'll worry about it. Cross that bridge then. (P1)

A number of participants used their infants' reactions to their cribs to support their decisions to move them to their own sleeping spaces. Because their infants seemed to accept being in the crib the mothers framed moving to the crib as marking a new developmental stage. Mothers began to view the crib as a suitable choice for sleeping arrangements for their developing infants.

At the beginning, it didn't work for him to sleep alone in the crib. Maybe after two months, two months after the birth, he began to sleep in the crib by himself. After that, he began to sleep through the night. (P4)

Some mothers incorporated their needs as they considered their infants' needs for independence. Mothers' sense of readiness for separation from their infants at night and confidence in their children's abilities were crucial in considering the next stage of sleep safety and development.

It's when you are mentally ready to have that separation with the baby, like when they are first born, you want them to be closer but at a certain point, when you are more confident and they are bigger and stronger and healthier, you are ready to be more of a separation. (P12)

As mothers observed their infants' development and contemplated next steps associated with sleep, they were influenced by others' views that sleep training should start at about four or

five months.

When four months came along, everyone of course you hear about people saying okay you've got to sleep training him now, you've got to get him on a schedule, you've got to do this and do that and so we got him out of the swing. (P5)

Participants' needs influenced their views of their infants' readiness for independence. Some mothers were more willing than others to tolerate psychological separation from their babies.

It's a progression for the baby as to what they can tolerate. It's also a progression for you. I think psychologically and mentally as to how much separation you can tolerate and how much separation you want. (P12)

Other mothers described deadlines they had established in their own minds for change. They had indicated they would be at the end of their 'honeymoon' period by the time they had specified.

They indicated they were, nonetheless, not totally committed to sleep training.

Three-month mark is usually my breaking point. Three to four months usually the time, I say, I can't take it anymore. I don't need that whole novelty like, oh, there is an infant in the house. I am not condoning the whole crying out, I don't know if I do or not. Sometimes, I do and sometimes, I don't. (P14)

After experiencing the initial process of sleep safety cycle, many participants evaluated their experience by using their infants' adaptation to the next stage of independence; they considered their infants' abilities to sleep in a separate sleep space in a different room from the parents. As mothers perceived shifts in their views of their infants' developmental abilities of outgrowing the initial cozy sleeping arrangement, they completed the first cyclical process with sleep safety. At this point, mothers would re-enter the sleep safety cycle by formulating new expectations for the next round of the cyclical process of infant sleep safety cycle.

Mothers envisioned their infants as transitioning from bed sharing or sleeping in the bassinet to sleeping independently on their own sleeping surface and being sleep trained. As they imagined changes in their infants' developmental abilities, they moved into the five segments of the sleep safety cycle again by developing new expectations about what constitute sleep safety.

They anticipated changes and struggles with their experiences with each emergence of a new developmental stage for their infants, including independent sleeping arrangements and sleep training. They were aware they could modify their expectations and provide rationale for their choices and again shift their views about their infants' developmental capabilities. An example would be at the time mothers contemplated transferring their children from sleeping in the crib to sleeping in a toddler bed. The cyclical process would continue as long as mothers made choices for their developing children's sleep safety and sleep developmental needs.

As one participant (P5) observed her infant's cues and shift in developmental abilities, she anticipated her infant's developmental milestone.

I'm very happy to see that he likes his crib and he likes his room. He's got his independence, you know and I can sleep in my own bed. I mean the next step is just getting him prepared for daycare, which is like another milestone, or so you know and that's like another whole topic. (P5)

4.8 Chapter Summary

In this chapter, I presented the findings of my study by describing the characteristics of my sample. I presented the core theme of the study finding, the mothers' infant sleep safety cycle that encompasses five themes or segments that mothers journeyed through to manage their infants' sleep safety: expectations of sleep safety, struggles with reality as opposed to maternal visions, modifications of expectations, provisions of rationale for choices and shifts in views of infants' developmental capabilities. I also integrated with the findings, the four main factors that influenced mothers' experiences through the sleep safety cycle, specifically judgments and attitudes of others, resource availability and accessibility, familial influence, and perception of needs. In the next chapter, I will discuss the study findings and provide suggestions for nursing implications for clinical practice, education and research.

Chapter 5: Summary, Discussion of Findings, Implications for Nursing, and Conclusions

In this chapter, I present the study summary and the discussion of the study findings. Based on the study findings, I provide suggestions for nursing implications for clinical nursing practice, education and research. Furthermore, I summarize the study conclusions.

5.1 Study Summary

Fourteen mothers participated in this qualitative study. Their infants were full term healthy singleton and six months or younger. My data collection and analysis commenced in December 2012 and was completed in July 2013. The decision processes that mothers used to decide how and where to place their infant to sleep safely were complex. They are represented in the development of the core theme of this study, the mothers' infant sleep safety cycle.

Five themes with subthemes represented the segments of the mothers' infant sleep safety cycle: expectations of sleep safety, struggles with reality as opposed to maternal visions, modifications of expectations, provision of rationale for choices, and shifts in views of infants' developmental capabilities. While mothers were navigating the safe sleep cycles, influencing factors included: perceptions of everyone's needs, familial influence, attitudes and judgments from outsiders and resource availability and accessibility.

The mothers' infant sleep safety cycle framed mothers' experiences with sleep safety continuously through the continuum of each sleep developmental stage of their infant. With each new developmental stage and shift in views of the infant's abilities, mothers anticipated formulating new expectations regarding sleep safety as the first segment of the sleep safety cycle, and continuing into the next four segments of the cyclical process again.

5.2 Discussion of Findings

Canadian studies on infant sleep safety are very rare. There are two Canadian quantitative

studies: Ateah and Hamelin's study (2008) in Manitoba that examined maternal bed sharing practices, and Collins et al.'s study (2012) in Nunavut that explored the causes and risks for infant mortality among the Aboriginal community. Despite voluminous quantitative and epidemiological research studies on infant sleep safety and SIDS, there is a paucity of qualitative studies in this clinical area. I was unable to locate any published Canadian qualitative studies. Most of the qualitative studies in the literature have focused on the African-American populations in the United States (Chianese et al., 2009; Colson et al., 2005; Joyner et al., 2010; Moon et al., 2010; Oden et al., 2010). The findings of my study address the paucity of Canadian studies on infant sleep safety as well as the need for qualitative studies about parents' experiences with infant sleep safety.

Many quantitative studies have examined how parents manage sleep safety in the initial first few months of the infants' life. Hauck et al.'s longitudinal study (2008) explored infant sleep arrangements and practices during their first year of life. Their findings indicated the rate of bed sharing was 42% at 2 weeks of age and 27% at 12 months of age. Furthermore, Krouse and her research team (2012) examined parents' practices with sleep safety in the first three months of their infants' lives. Their findings substantiated the high incidence of bed sharing in the first month after the birth of the infant. Neither of these studies nor any other studies have documented the experiences of parents' practice with sleep safety prior to the birth of their infants when mothers might have been formulating their expectations of sleep safety. Furthermore, no studies have demonstrated, as have the findings in my study, the continuous cyclical process that parents experience with their decision-making and management of the sleep safety measures, with the emergence of the infant's developmental abilities.

My study findings demonstrated how mothers started to formulate their perceptions and intentions about sleep safety measures in the prenatal period when they entered the sleep safety

cycle and how and why their intentions changed in the early days and months with their new infants. Furthermore, the core theme of my study, the mothers' infant sleep cycle extends our understanding about mothers' choices in the area of sleep safety, their rationale for their choices, and their contemplation of change over the short time span from the late prenatal period to the postnatal period and early months of an infant's life.

An important contribution of my theory is the changes in mothers' expectations that occurred as mothers perceived shifts in their infants' abilities. My findings indicate the potential for mothers to navigate continuously through the cycle as they manage sleep safety measures for their infants with each new infant developmental stage. For example, as they perceived their developing infants to require more sleeping space and be ready to be transferred from bed sharing in the cozy bed with their mothers to sleeping independently in the crib, they formulated new expectations of the sleep safety arrangements.

My study findings extend the sleep safety literature. As evident in my study findings, mothers in the study indicated awareness of sleep safety guidelines and recommendations. Circumstances where mothers were sleep deprived from dealing with their infants' difficulties in settling and sleeping, led mothers to frame the guidelines and recommendations as arbitrary or dispensable. National and provincial sleep safety guidelines have been developed to provide parents with steps and precautions to take to prevent sleep related deaths. (American Academy of Pediatrics, 2011; BC Coroners Service Child-Death Review, 2009; Canadian Pediatric Society, 2011; Ministry of Public Safety and Solicitor General, 2011; Public Health Agency of Canada, 2011) but they rely on parents' diligence for implementing and maintaining the safe sleep practices for every sleep. Similarly to my findings, recent studies on sleep safety have shown that many parents remain non-compliant to the sleep safety guidelines; they have placed their infants to sleep on sleep surfaces or positions contrary to the recommendations (Ateah &

Hamelin, 2008; Homer, Armari, & Fowler, 2012; Krouse et al, 2012; Moon & Fu, 2012; Schnitzer, Covington, & Dykstra, 2012; Volpe, Ball, & McKenna, 2013). My study findings provide explanations for mothers' decisions to resist compliance with sleep safety guidelines.

The decision process and implementation of safe sleep practice was not always an easy one for the mothers. The study findings included four main factors that influenced mothers' experiences through the infant sleep safety cycle. The influence of information and space resources, comments and opinions about sleep safety from outsiders and families, as well as the need to fulfill everyone's needs, constantly affected my participants' experiences with sleep safety. Consistent with the findings from the qualitative studies with African-American mothers (Joyner et al., 2010; Oden et al., 2010), the factors of the fulfillment of needs for comfort, and safety, and the space resources (Joyner et al., 2010) influenced the mothers' adherence to the sleeps safety principles. Because the influencing factors affected mothers' modifications of guidelines and rationale for modifications, including weighing the risks of SIDS and SUID in their decision-making processes, my description of influencing factors contributes to the literature. The influencing factors and their effects increase our understanding of mothers' life contexts and their motivation for their choices and behaviours with sleep safety.

I will discuss the findings in the following section, starting from where mothers first develop their expectations about sleep safety as they enter the sleep safety cycle.

5.2.1 Expectations of sleep safety. My participants' descriptions of their expectations being formulated in the prenatal period contribute to the literature in providing insights about mothers' perspectives on sleep safety when preparing for the arrival of their infants. Mothers indicated they devoted time and energy to research and explore information and sleep arrangement options according to the standard sleep safety recommendations.

All the mothers in the study described definite plans for sleep safety as they prepared for the arrival of their infants, with some awareness of the risks of SIDS and SUID. They envisioned their infants sleeping with no problems in supine position in their own firm, non-cluttered sleep surface. Many mothers made references to the picture of the sleeping infant in the handout, named 'Every Sleep Counts' developed by the Ministry of Health (2011).

The mothers in my study described obtaining information on sleep safety from various sources including health professionals, prenatal classes, books, family connections and Internet sources. This study finding of the influence of the information resource accessibility and availability extends the literature on mothers' experience with sleep safety. Mothers were not only receiving information and support in local community settings but also in the virtual community of parents and resources. Hall and Irvine (2008) explored E-communication among mothers of infants and toddlers in a community cohort in British Columbia. Their findings indicated that parents perceived a virtual network as being effective for support and information sharing for parenting issues, including infants' sleep. Although studies on parents' utilization of Internet resources are increasing, there is a paucity of studies about mothers' utilization of Internet resources specifically for sleep safety.

Epstein and her research team (2011) in United Kingdom undertook a rare study that explored the Internet and media resources on sleep safety. They examined whether images of sleeping infants in UK magazines and on Internet sources reinforced or undermined the sleep safety message to prevent sleep-related deaths. Their findings indicated that a large proportion of the images in the magazines and on the Internet depicted unsafe sleeping arrangements. Authors in this study (Epstein, Jolly, & Mullan, 2011) urged health professionals to put pressure on the advertisers to post images that promote sleep safety principles because they proposed that parents' sleep safety choices are easily swayed by the images in the media. They argued that

some of the images might affect mothers on an emotional level without them being aware of the impact they have on helping them reframe their approach and perception of safe sleep.

My findings add to the literature regarding the influence of the perceived judgmental attitudes from health professionals as a barrier to mothers' compliance to the sleeps safety recommendations. Mothers in the study would access information from multiple sources without validating the information sources with health professionals for fears of being judged or criticized by them. They would keep their sleep practice secret from the health professionals. In Colson et al.'s study (2005) they found the level of trust that caregivers had for the health professionals who delivered the sleeps safety recommendations negatively affect their compliance with the information provided. As evident in my study findings, despite mothers' ability to seek out the safe sleep information from various sources and their intention to follow the sleep safety principles, they felt compelled to modify their sleep practices, without consistently adhering to the safety guidelines, as they moved along the sleep safety cycle. The adoption of the unsafe sleep arrangements by the mothers in my study suggested that accessing information from multiple sources, without proper assessment of their validity and credibility, could negatively affect mothers' choices about sleep safety arrangements.

The study finding of the discrepancies between knowledge and implementation of safe sleep practice experienced by the mothers in my study was also demonstrated in the quantitative study undertaken by Ateah and Hamelin in Manitoba (2008). They reported that almost 90% of the parents agreed that sleeping with their infants had some safety risks but the majority of their sample still reported bed sharing with their infants. This trend is further substantiated by the findings of another quantitative study undertaken by Homer and her team in Australia (2012). They discovered that, although the mothers in their study were aware of the risk of SIDS, their knowledge of safe sleep practice did not translate into actual practice. Bed sharing was the

solution that mothers chose to deal with their exhaustion, stress, and frustrations from sleep deprivation. This finding of resorting to bed sharing with their infants is consistent with the choices and behaviours described by mothers in my study.

5.2.2 Struggles with reality as opposed to maternal visions. After the arrival of the infant, most of my participants described adhering to the sleep guidelines or implementing their original plan of sleep safety arrangement as being challenging and impossible. Often mothers' modifications to their infants' sleep arrangements were spontaneous reactions to their infants' inconsolable crying and persistent wakefulness. Many mothers decided to bed share with their infants in contrast to their views about sleep safety because they could not find any other solutions to manage their infants' crying and sleeping difficulties. My finding adds to the literature that has presented spontaneous decisions to bed share as increasing SIDS risk, reactive bed sharing is appears to be more dangerous than routine bed sharing as indicated in Sobralske and Gruber's study (2009).

The literature indicates the first few months with a new infant is the most critical in managing sleep safety because this is the period when risks of SIDS and SUID are the highest as related to bed sharing (Carpenter et al, 2013; Hauck et al., 2008; Homer et al., 2012; Krouse et al., 2012). During the first few months, mothers in my study indicated they were the most sleep deprived and desperate from dealing with the crying and sleep issues. This led them to decide to abandon their intended sleep safety arrangements, in particular, they placed their infants on sleep surfaces that were not intended for infants, such as an adult bed, or in a non-supine sleeping position. This finding is consistent in other studies (Carpenter et al., 2013; Homer et al., 2012; Krouse et al., 2012) where parents considered the first few months to be the toughest in dealing with their infants' crying and their own sleep deprivation.

All the mothers in my study described being unprepared for the shock of the reality of the

sleep challenges and feeling overwhelmed. This finding about feeling overwhelmed in the perinatal period is well documented in the literature. Homer and her team (2012), based on utilizing an anonymous online questionnaire with mothers, reported that 97% of the mothers in their study felt sleep deprived; 75% felt run down from sleep deprivation; and 70% complained of feeling irritable, causing them to be impatient with their infants.

Similarly to the findings in my study, where mothers reported using bed sharing to reduce infants' fussiness, Krouse and her research team (2012), using a longitudinal descriptive survey study design, found mothers reported the first month after the birth of their infants was most challenging due to the infant's fussiness and feeling extremely fatigued; the mothers resorted to bed sharing as a coping mechanism. Many mothers in my study recalled how their abilities to function cognitively were compromised by sleep deprivation. This finding expands the literature on how the impact of mothers' management of infant sleep safety influenced mothers' health. Other authors have argued that the emotional health and safety of the mothers in the early postpartum period needs to be a foremost consideration for maternal care (Homer et al., 2012; Krouse et al., 2012; Lee, 2005).

Furthermore, to my knowledge, there is no sleep safety literature that has explored effects of pressure from others on mothers' choice of sleeping arrangements. My study findings extend our understanding about the struggles and pressure the mothers in my study experienced. They described how they were coerced to equate being a "good mother" with being a "self-sacrificing mother". In the case of these findings, that took the form of supporting bed sharing and breastfeeding and being accessible to fulfill her infant's needs at all times.

In the article on the contemporary mothering in a diverse society (Koniak-Griffin, Logsdon, Hines-Martin, & Turner, 2006), the authors described how mothers became the target of "mommy blaming" where mothers were criticized and blamed for their actions, inactions and

choices in parenting. The authors further argued that the “mother-blaming” attitudes of others threatened mothers’ self-esteem and confidence in their ability to mother. Consequently, mothers were driven to behave in ways or make parenting choices to align with what others perceived as being a “good, self-sacrificing mother”. As demonstrated in my study findings about sleep safety, mothers were pressured by the opinions of others to choose a sleeping arrangement that would not compromise their standing as being a “good mother”. In order to be a “good mother”, many mothers in my study chose to be accessible 24-hours to fulfill their infants’ needs by breastfeeding during bed sharing with their infants. Unfortunately, those pressures contributed to unsafe sleeping arrangements.

5.2.3 Modifications of expectations. As mothers in my study struggled with the reality of sleep challenges after the arrival of their infants, they all felt compelled to modify their intended safe sleeping arrangements to fulfill their urgent needs for sleep and comfort for their infants. Some mothers in my study indicated they believed their babies were safer in bed with them than in the crib because they would be more aware of any distress. Their views contrast with the literature that indicates room sharing, not bed sharing is recommended for supporting breastfeeding and SIDS/SUID prevention (American Academy of Pediatrics, 2011; Canadian Pediatric Society, 2011; Hauck et al., 2011; Public Health Agency of Canada, 2011; Vennemann et al., 2012). The findings of my study about mothers’ concerns about their infant’s safety needs are consistent with the qualitative studies on African-American mothers (Joyner et al., 2010; Moon et al., 2010; Mosley et al., 2007; Oden et al., 2010). The mothers in these studies were convinced that their infants would be safer from harm when bed sharing with their mothers than sleeping alone in a crib.

All mothers except one in my study were breastfeeding exclusively and all viewed breastfeeding as a preventive factor for SIDS. Their views coincide with literature that has

indicated breastfeeding for the first six months is recommended for SIDS prevention (American Academy of Pediatrics, 2011; Canadian Pediatric Society, 2011; Hauck et al., 2011; Public Health Agency of Canada, 2011; Vennemann et al., 2012). Some mothers in my study brought their infants into their beds for breastfeeding and consoling but intended to transfer their babies back to their bassinets or the cribs when they were asleep. This sleeping plan is consistent with the sleep safety recommendation that support breastfeeding and room sharing, not bed sharing (American Academy of Pediatrics, 2011; Canadian Pediatric Society, 2011; Carpenter et al., 2013; Public Health Agency of Canada, 2011; Vennemann et al., 2012). Unfortunately, in reality, some mothers in my study reported that they fell asleep in the side-lying breastfeeding position and ended up bed sharing with their infants.

All the mothers in my study described how very involved the fathers were with the decision-making process as well as the implementation of the sleep safety practice. Moreover, mothers indicated that fathers assumed a significant role in assisting with transferring their infants back to their independent sleeping space after breastfeeding in parents' beds. However, many mothers in the study reported that fathers also fell asleep before they had the opportunity to complete the transfer. Consequently, the infant remained sleeping in the adult bed after breastfeeding. Any references to roles or involvement of fathers are very limited in the sleep safety literature. Mosley and her team (2007) referred to familial influences on mothers' sleep safety practice as mainly from extended family members. Thus, my study findings extend our understanding about mothers' perceptions of active involvement by fathers in infants' sleep safety. This finding also highlighted the importance to include the role that fathers play in sleep safety management.

Some mothers in my study believed that, because their infants slept in the side lying position as in breastfeeding, they would be safer than sleeping on their abdomens.

In contrast, the literature suggests the risk for SIDS is higher when sharing the same bed surface and sleeping in a side lying position, even in cases where parents were not engaged in smoking, alcohol consumption or illegal substance use (Carpenter et al., 2013; Homer et al., 2012; Schnitzer et al., 2012; Vennemann et al., 2012).

Carpenter and his research team (2013) reported that, regardless of the smoking status of adults, the risk for SIDS is greater when infants sleep with adults on the same bed surface. The team indicated that lack of risk factors arising from parents' activities, e.g. smoking and drug use, did not decrease the risk for bed sharing when infants were younger than three months of age. In contrast to the position taken by mothers in my study who argued they had no risk factors for SIDS, Carpenter et al. (2013) suggested any bed sharing between adults and their babies should be prohibited.

In my study, mothers considered bed sharing in the family bed, sleeping in prone and side lying sleeping positions, and sleeping in a swing or on a couch to be all effective sleeping arrangements to stop infants' crying and promote sleep. This finding is consistent in other studies that explored infant sleeping arrangements (Colson et al., 2005; Hauck et al., 2008; Homer et al., 2012; Krouse et al., 2012; Joyner et al., 2010; Moon et al., 2010; Mosley et al., 2007; Oden et al., 2010) where sleeping arrangements contrary to published sleep safety guidelines (American Pediatric Society, 2011; Canadian Pediatric Society, 2011; Perinatal Services of BC, 2011) were deemed by parents to be effective in helping infants to sleep soundly. Because some mothers in my study described ignoring feelings of guilt from not adhering to their original sleeping arrangements, they reframed their views of recommendations as optional sleep safety guidelines to reduce their guilt. Mothers' reframing of sleep safety guidelines is a finding not previously reported in the literature.

Mothers in this study described attempting to incorporate some safe sleep principles in their

settling and sleep strategies. For example, mothers indicated they ensured blankets would not cover their infants' faces or placed their infants in the centre of the family bed to prevent the adults from rolling onto the infants. Unfortunately, in studies that have explored the last sleep location and sleeping arrangements for infants who died from SIDS and SUID, all of the sleeping modifications described by mothers in my study, such as bed sharing in an adult bed and sleeping on couches or mothers' chests were associated with increased risk for SIDS and SUID (Carpenter et al., 2013; Schnitzer et al., 2012). Furthermore, Volpe and his team (2013) videotaped how mothers were bed sharing with their infants through the night and reported incidents where infants' faces were covered by the pillows or linens during the night.

Many mothers in my study perceived the risk of SIDS to be relevant only to night sleeps as opposed to day sleeps or naps. They would adhere to the safe sleep recommendations for night sleep but were inconsistent in using sleep recommendations during the daytime. My findings extend the literature by indicating ways mothers interpreted the safe sleep guidelines and weighed the potential risk for SIDS and SUID. My finding contrasts with sleep safety recommendations that emphasize the potential for risk of SIDS and SUID in all sleep situations, day and night (American Pediatric Society, 2011; Canadian Pediatric Society, 2011; Perinatal Services of BC, 2011) and observation of safe sleep recommendations at all times and in all places (American Academy of Pediatrics, 2011; BC Coroners Service Child-Death Review, 2009; Canadian Pediatric Society, 2011; Ministry of Public safety and Solicitor General, 2011; Public Health Agency of Canada, 2011).

Many participants in this study described how they felt chastised or judged by outsiders, which included doctors and nurses. In many cases, mothers resorted to keeping their babies' sleeping arrangements secret to avoid embarrassment and to save face. Findings from online anonymous survey results (Homer et al., 2012) did not indicate parents kept their practices secret

from health professionals and outsiders. Thus, my findings extended the literature by indicating not only how mothers were guarded in their sharing about their sleep safety practices with health care professionals but also how they managed it.

Although, many participants in my study identified online support from other parents as a positive influence, others described the comments they received online as being critical, judgmental, and harsh. This finding illustrates how comments from outsiders affect mothers' experiences with sleep safety and contributes to the developing literature on effects of the electronic resources, such as social media and blogging on childbearing parents.

McDaniel and his research team (2012), examined associations between maternal wellbeing and their use of blogging and social media and argued that blogging increases mothers' feeling of connectedness, thus increasing their sense of wellbeing (McDaniel, Coyne, & Holmes, 2012). However, their findings (McDaniel et al., 2012) were not in the context of sleep safety and did not incorporate negative reactions from other parents. In an article on E-Communication among mothers of infants and toddlers in a community-based cohort, Hall and Irvine (2008), referred to conflicts that could result when parents' views on parenting issues were not congruent. Furthermore, McKenna and Volpe's Internet-based survey study (2007) on parental experiences with bed sharing described how tensions were experienced among parents who shared different points of views on the sleep practice.

5.2.4 Provisions of rationale for choices. Volpe and his research team (2013) argued that exposure to rigid sleep safety guidelines would not promote mothers' compliance with sleep safety practices. They advocated relaxing sleep safety guidelines in light of mothers' tendencies to weigh the risks and benefits of the sleeping arrangement that are contrary to the sleep safety guidelines. The findings of my qualitative study extend the findings by Volpe's research team by contributing mothers' considerations of their circumstance to our understanding of their decision-

making processes, as well as their rationale for choices for sleep safety, after weighing the risks and benefits of the sleeping options.

The majority of the mothers in my study bed shared with their infants. They described the benefits of bed sharing with their infants as: promoting sleep for infants, fostering bonding, and supporting breastfeeding. In addition, mothers in this study argued that their close proximity to their infants increased their abilities to promptly respond to any infant distress or risks to their infants. The rationale that mothers provided for their choices for modifying recommended sleep arrangement is consistent with the rationale that other parents have provided to support bed sharing (Ball, 2002; Ball, & Volpe, 2013; Hauck et al., 2008; Colson et al., 2005; Homer et al., 2012; Hoogsteen, 2010; Horsley et al., 2007; Joyner et al., 2010; McKenna, & McDade, 2005; McKenna, & Volpe, 2007; Moon et al., 2010; Oden et al., 2010; Vennemann et al., 2012).

My findings extend our understanding of mothers' perceptions of the crib, which is the recommended sleeping space and location for an infant (American Pediatric Society, 2011; Canadian Pediatric Society, 2011; Perinatal Services of BC, 2011). In my study, many mothers abandoned the crib that they have set up prior to the arrival of their infants and brought their infant to sleep with them in the adult bed or on mothers' chests. They described their rationale for their sleep arrangement modification as based on their concerns about their infant's transition from the warm and protective womb to the cold and uncontained environment of the outside world. In particular, they regarded cribs as massive, barren, and cold. Schnitzer and colleagues (2012) indicated that seventy-five percent of the sleep-related deaths involved infants' sleeping on surfaces not intended for infant sleep, such as adult beds and couches. Mothers in my study ignored the SIDS and SUID risk of these sleep locations and surfaces and placed their infant to sleep in what they considered to be more cozy space to mimic wombs, such as bassinets, adult beds, parents' chests or couches.

As evident in the findings of this study, mothers considered their choices and rationale for their modifications based on what they perceived to be the most appropriate and effective solutions for their circumstances. Even though mothers in the study were of middle or higher socioeconomic class with postsecondary education backgrounds, living in a city where rent and real estates are expensive limited their resources of space, thus, their experiences with sleep safety. The limitations in available living space affected mothers' choices in terms of sleeping arrangements, both for their infants and adults. This finding is consistent with the concerns described by parents in other studies with African-American mothers of low socioeconomic and educational backgrounds (Joyner et al., 2010; Moon et al., 2010) where space issues were a critical influencing factor to the choices of sleep safety arrangement. Despite the contrasts in socioeconomic and educational backgrounds of the two groups of mothers, my findings add to the literature regarding the effects of limited space resource availability on families from all economic circumstances and education backgrounds. Thus, the risk of SIDS and SUID has no socioeconomic or educational boundaries.

My study participants not only strived to fulfill their infant's needs but also considered their needs and other family members' needs for sleep, intimacy, and sanity, as well as their time for self. My finding that indicates the importance of balancing the needs of the whole family is consistent with other studies that examined parents' challenges in balancing all family members' needs by choosing sleeping arrangements, such as bed sharing and placing their infant to sleep in non-supine positions which promoted long hours of sleep for the infant and everyone in the family (Hauck et al., 2008; Homer et al., 2012; Mosley et al., 2007). The finding of the benefit of such sleeping arrangements in gaining time for mothers in my study to attend to the needs of the other family members such as the needs of the older siblings, added to the literature providing reasons for adopting such sleeping practices.

My study findings were consistent with the findings from the qualitative studies with the African-American mothers (Joyner et al., 2010; Oden et al., 2010): keeping their infants close to the mothers in bed sharing practice was perceived to be beneficial and safe. Mothers in my study denied the presence of the risk factors in their modified sleep practices; they perceived their choices to be acceptable and safe. They viewed that having their infants in close proximity actually reduced the risk for SIDS and SUID because they would be aware of any distress. In contrast, Carpenter and his research team (2013) reported that any bed sharing between parents and infants posed risks for SIDS and SUID, regardless of the absence of the risk factors such as smoking or use of illicit drugs. Of the SIDS cases in their study, the majority of the infants were discovered bed sharing and sleeping in prone or side lying positions on sleeping surfaces other than their own crib or bassinette. They claimed that by avoiding the practice of bed sharing, any SIDS deaths associated with bed sharing could be prevented (Carpenter et al., 2013).

Many mothers in the study complained about the voluminous information about sleep safety guidelines and the ever-changing nature of the recommendations. This finding concurs with other studies in the literature (Colson et al., 2005; Moon et al., 2010; Moon, & Fu, 2012) that report the voluminous amounts of information induced confusion for parents, causing difficulties with focusing on essential information. In addition, many mothers in my study described inconsistencies they had experienced with the practice of swaddling. Other studies have also identified the source of barriers to parents' compliance with sleep safety guidelines as inconsistencies in the sleep safety recommendations (Colson et al., 2005; Hitchcock, 2012). Authors have argued that the critical point for sleep safety recommendations is consistent information about infant safe sleep being translated and endorsed in all health care settings (Shaefer et al., 2010; Hitchcock, 2012; Hoogsteen, 2010).

The confusions among some mothers in my study regarding the inconsistent swaddling practice could reflect the current state of the lack of understanding of the risk of swaddling as related to SIDS and SUID prevention in the literature. Stokowski (2014) reported on safety concerns and issues regarding the practice of swaddling. Her article described the retrospective study by McDonnell and Moon regarding infant deaths and injuries from 2004 to 2011 as associated with swaddling with regular blankets and other sleeping products, such as the wearable blankets and wraps. The evidence of the risks of swaddling to SIDS and SUID was not robust enough in the literature to be incorporated as part of the sleep safety guidelines (American Academy of Pediatrics, 2011). The Registered Nurses' Association of Ontario' clinical best practice guidelines (2014) also indicated the lack of substantial evidence to support the risk of swaddling to SIDS and SUID but many hospitals are not endorsing the practice as a precaution measure. Furthermore, the risk of swaddling in the incidence of hip dysplasia from the orthopedic point of view was documented in the literature (Clarke, 2014).

5.2.5 Shift in views of infants' developmental abilities. As infants grew and developed, mothers in the study described better adaptations to sleep routines and less crying and fussing episodes than the early days. At around four to six months after the arrival of the infant, mothers' concept of the crib, which was originally the intended sleeping location, appeared to represent a welcoming and suitable sleeping space for the developing infant who needs more sleeping space. This trend was also observed in several other studies. In a study of infant sleeping arrangements, Hauck and his research group (2008) reported that the rate of bed sharing dropped from 85% of infants at 3 months to 29% at 6 months.

In response to their developing infant's need for more sleeping space, mothers at this point also observed their infant's cues of readiness for independent sleep. Consequently, mothers began to contemplate the appropriateness of the timing for their infant's independent sleeping

arrangements and for sleep training. Mindell and her research team (2006) explored the efficacy of behavioral interventions for bedtime problems and night waking for infants and young children. Over 80% of the children trained with the interventions demonstrated significant improvements. Six months and older was the recommended age for sleep training (Mindell et al., 2006). Some mothers in the study were considering earlier starting times for sleep training. Thus, as mothers in my study considered their infants' readiness for a new sleeping arrangement for sleeping independently and or sleep training, they developed new expectations regarding sleep safety in response to the new sleep developmental stage of their infants, which were not consistently supported by empirical evidence.

5.3 Strengths of the Study

This is the first qualitative study undertaken in Canada, contributing to the Canadian body of literature regarding parents' perspectives on infant sleep safety. The sleep safety cycle provided a new and useful strategy to describe and understand parents' journey with infant sleep safety.

The family origins of the participants reflected the diversity of backgrounds of the residents in greater Vancouver district. The diversity represented in the study provided a useful perspective of the parents' experiences with infant sleep safety practice in this region.

The demographic and socioeconomic and educational status of the participants in my study was very different than that of the participants in the qualitative studies undertaken by the researchers in the United States (Colson et al., 2005; Moon et al., 2010; Joyner et al., 2010; Oden et al., 2010). The former studies focused on the African-American mothers with low socioeconomic status. The majority of the mothers in my study were of middle or higher class. They all held postsecondary levels of education. Despite the disparities in socioeconomic and educational status, as well as family origin, in the two samples of participants, parents in both

study groups experienced similar challenges and values when managing their infant's sleep arrangement to ensure sleep safety.

Mothers in my study typically would not be considered a vulnerable population group because of their high socioeconomic and educational backgrounds. Most of the studies in the literature on sleep safety have been focusing on vulnerable population groups with low socioeconomic and educational backgrounds because they were considered to be at high risk for SIDS and SUID. As evident in the findings of this study, the mothers in my study exhibit risk behaviours that do not adhere to sleep safety recommendations. Thus, the strength of this study was the realization that risk of SIDS and SUID has no socioeconomic or educational boundaries.

Using inclusion criteria for infants six months and younger for this study provided a significant perspective on parents' experiences with infant sleep safety. The participants' sharing about their journey through the first six months with their infants provided valuable insights on how support and education for parents could be modified and enhanced during this critical period when incidence of SIDS and SUID is most prevalent.

5.4 Limitations of the Study

All the participants in this study were English-speaking mothers recruited in the greater Vancouver area; therefore, transferability of the findings is limited because all non-English speaking mothers were excluded. The socioeconomic backgrounds of the mothers in the study were of at minimum middle class and education levels were all postsecondary. The socioeconomic and education backgrounds of the mothers are not typical of other mothers residing in the region. Thus the findings may not be applicable to mothers from other socioeconomic and educational backgrounds.

Furthermore, the extreme intensity of the crying and sleeping challenges that were described by mothers in the findings suggest mothers volunteering for this study might vary from

mothers reporting typical problems with infant sleep in the first six months of an infant's life.

All primary caregivers that participated in this study were mothers. As indicated by the mothers in the study, involvement of the fathers was very important. Thus, a limitation of the findings was the lack of fathers' perspectives.

5.5 Implications for Nursing

In the following section, I will present the implications for nursing: nursing practice, nursing education and nursing research from my findings.

5.5.1 Implications for nursing practice. As indicated in Moon and Fu's SIDS update in 2012, more is required than simply disseminating information to parents to support parents in following the sleep safety recommendations. My study findings indicated the importance to consider mothers' circumstances and to understand their decision-making processes and experiences with sleep safety. Mothers in my study described their experiences with infant sleep safety in a cyclical process as illustrated in the development of the mothers' infant sleep safety cycle. Nurses could utilize the mothers' infant sleep safety cycle as an assessment tool or strategy for supporting mothers with each segment in their journey with sleep safety cycle. By assessing where mothers are in the sleep safety cycle, nurses could understand mothers' context and the concerns unique for each segment of the cyclical process. Thus, nurses could support mothers through the sleep safety cycle to manage the concerns unique for each segment while attending to sleep safety principles through the cyclical process.

Mothers in my study typically would not be considered a vulnerable population group because of their high socioeconomic and educational backgrounds. Despite their educational backgrounds and their knowledge on the risk of SIDS and the sleep safety guidelines, many mothers in my study did not translate their knowledge into their actual sleep practices for their infants. The realization that risk of SIDS and SUID has no socioeconomic or educational

boundaries has implications for nursing practice in terms of the universal nature of the health promotion efforts for infant sleep safety. Nurses need to support all mothers regardless of their education and socioeconomic backgrounds, in their sleep safety practice. The key message for all nurses in their clinical practice is to maximize each contact they have with all mothers prenatally and postnatally, to support mothers in their efforts to uphold sleep safety principles. Furthermore, nurses need to remind all mothers of the importance to adhere to infant sleep safety guidelines for all sleeps, day and night.

The intensity of the crying and sleeping challenges as described by the mothers in my study seemed to be more excessive than what is typically regarded as the norm (Hiscock, 2006). This finding possibly suggested that the group of mothers who volunteered for the study might be a unique group of mothers. However, the findings indicated that many mothers in the study were not ready or equipped to manage their own sleep deprivation and their infants' crying and sleeping challenges after the birth of their infant. The stressful chaos in struggling with infants' crying and sleeping issues caused the mothers in the study to modify their intended sleep expectations that followed sleep safety principles and to adopt sleeping arrangements that did not follow the safety guidelines.

It is essential for nurses to prepare mothers to manage the crying and sleeping challenges with their new infants. It would be helpful for nurses to educate the mothers on the norms and the variances for the infant crying and sleeping behaviours. Education and support for strategies for managing crying and sleeping challenges for mothers could start as early as possible, before the arrival of infants and continue into the postnatal period. These activities would support mothers to formulate realistic perceptions of their adjustments to motherhood and develop skills to manage their infant's sleeping and crying challenges as well as their own sleep deprivation needs.

Mothers in my study recalled and described their struggles in complying with sleep safety guidelines while managing their infant's crying and sleeping concerns in the early period with their new infants. These struggles caused some mothers in the study to react to their unanticipated difficulties to modify their original sleep safety arrangements by abandoning their original sleeping plan that follow sleep safety principles and switching to bed sharing with their infant. "Reactive" bed sharing poses higher risk for SIDS and SUID than "planned" bed-sharing practice (Sobralnske & Gruber, 2009; Vennemann et al., 2012).

Mothers' management strategies are important areas for attention in early periods with new infants. Nurses can assess how to best support mothers in practical ways to build their capacities to follow sleep safety principles and manage their infant's crying while managing their own sleep needs during the stressful and challenging period. Nurses can support mothers' efforts to avoid practicing "reactive" bed sharing as a means to promote sleep. If mothers would like to bed share, nurses can help mothers plan the bed sharing arrangement to minimize the risk for SIDS and SUID, such as removing pillows and heavy blankets in the adult bed. Mothers in the study described how sleep deprived they were when they felt compelled to modify their sleep safety arrangements. Nurses can provide mothers with suggestions for developing or accessing support network for practical infant care support to relieve mothers to obtain rest and self-care. When mothers receive more rest, they might be able to manage the sleep safety concerns more effectively.

As evident in my study findings, mothers formulated their expectations about sleep safety in the prenatal period. The findings suggest that the prenatal period could signify an opportune and optimal time for providing education and information for parents. Two studies have supported the importance of the prenatal period for education about sleep safety practice (Meadows-Oliver & Hendrie, 2013; Shaefer, Herman, Frank, Adkins, & Terhaar, 2010); authors

have argued that early contact with expectant parents should be pursued for education and support for sleep safety practice and anticipatory guidance for dealing with potential challenges with dealing with infant crying and mothers' sleep deprivation.

By establishing such early contact, anticipatory guidance, support and education resources could be utilized to empower the expectant parents to develop a realistic perspective of their life context after the arrival of their infant. Nurses could support and assist parents to utilize strategies to manage the potential of their infant's sleep and crying struggles and maintain their intended sleep safety arrangement that adhere to safe sleep guidelines. Consequently, parents would be better equipped to manage the potential crying and sleeping challenges in the early days and months with their new infant, to maximize sleep and minimize the risk of SIDS and SUID.

Nurses, in developing the prenatal class curriculum, could include infant sleep safety principles and ways to increase self-care to manage mothers' sleep deprivation and their infants' crying and sleeping challenges. Expectant mothers could have opportunities to discuss their plans and concerns regarding their sleep safety. In reality, as observed in my data, not all mothers had the resources to attend prenatal classes. In order to ensure all mothers have equal access to valid and consistent information on sleep safety guidelines, and to gain the support for the mothers' practices in the postpartum period, universal prenatal classes could be proposed as one strategy to empower the mothers with sleep safety.

Mothers in the study shared about their overwhelming struggles with following the sleep safety principles after the birth of their infant. Nurses can continue their support for mothers beyond the early postpartum period to assist mothers to feel empowered to follow through with their sleep safety plans. Nurses, in developing the postnatal education programs and parent-infant groups, should also review and repeat the curriculum on sleep safety and self-care strategies as incorporated in the prenatal curriculum. Nurses can continue to reinforce the risk of SIDS and

SUID as related unsafe sleeping arrangements (Hoogsteen, 2010; Meadows-Oliver & Hendrie, 2013; Shaefer et al., 2010) for all sleeps at all times.

Some mothers in the study downplayed the risk of SIDS and SUID. They denied they have any risk factors for SIDS and SUID. Other mothers indicated that they were not worried about sleep safety during daytime sleeps, only night time sleeps. It would be critical for nurses to remind mothers that risk of SIDS and SUID is associated with any unsafe sleeping arrangements for any sleeps. Nurses can reinforce the importance of mothers' adhering to safe sleep principles for all sleeps, at all times, day and night.

Many mothers in the study expressed feeling ashamed or embarrassed to share with their health professionals about their sleep safety practice. Some mothers described being judged by the health professionals. Nurses can use motivational interviewing to assist them to reflect on their contacts with mothers and assess what transpired in their interactions that might result in negative reactions from mothers. Nurses can be respectful of mothers' choices for sleep safety, while being responsible for informing mothers about evidence-based information on the risks and benefits of the sleeping arrangement in relation to increasing or decreasing the risk of the SIDS and SUID.

Nurses' efforts to avoid imposing judgment on mothers' actions or choices for their infants' sleeping arrangements can result in better outcomes. Nurses can provide a comfortable and non-judgmental environment where parents could feel comfortable to share honestly about their sleep safety arrangements (Svenson, Barclay, & Cooke, 2006). Nurses have critical contact points with parents: prenatally, perinatally and postnatally (Sing et al., 2002). The findings sensitize nurses to mothers being secretive about their actual implemented sleep arrangements because they often felt criticized or stigmatized by the health professionals for their sleep safety arrangements. Engaging with mothers in relational practice (Rollnick, Miller, & Butler, 2008) will assist nurses

to be sensitive to their feelings about sleep safety and to ensure mothers' voices are heard. Consequently, developing an open and trusting relationship with the mothers is very crucial in promoting safe sleep (Colson et al., 2005; Homer et al., 2012).

After the arrival of the infant, many mothers' perceptions of the crib changed. They discarded their original intention to place their infant to sleep in the crib as recommended in the one-page promotional guideline leaflet with a photograph of an infant sleeping independently in an empty crib produced by the Ministry of BC (2011). Instead, they bed shared with their infants because they felt that the crib was too massive, isolated and cold for their new infants who needed warmth and comfort from bed sharing. Nurses can assist mothers to weigh the risks and benefits of bed sharing with their infants versus crib sleeping. Volpe and his team (2013) have advocated for the need to relax the sleep safety guidelines in relation to mothers' tendencies to weigh the risks and benefits of the sleeping arrangement that are contrary to the sleep safety guidelines. Nonetheless, it is important to remind mothers that risks for both SIDS and SUID are linked with unsafe sleep practice.

Mothers in my study emphasized the importance they attached to bed sharing as a means to respond to their infants' distress and needs. The findings suggest that nurses can encourage and support mothers in room sharing rather than bed sharing. Bringing their infants to bed for breastfeeding and comfort, then transferring the infants back to the crib or bassinet in the parents' room minimize the risks for SIDS and SUID. Having the crib located next to the parents' bed or in the same room diminishes the distance between the mother and infant. In such arrangements, the crib might no longer appear to be an isolated wasteland. Mothers would be able to respond to any distress calls from their infant in close proximity in their room. When the infant is safely sleeping in the crib, mothers are able to tend to the needs of the rest of the family, which were important to the women in my study. Specifically, without needing to bed share with the infant,

intimacy needs with the partner are better addressed.

Many mothers in the study felt that bed sharing increased infants' comfort and promoted bonding. For some mothers, space resources limit their choice for sleeping arrangement and they need to bed share because there is no space for a crib in their small living quarters. To make the standard size crib smaller could be one strategy to mitigate the issue of space resource.

Furthermore, a gift box idea such as the Finland tradition could be considered to support all expectant mothers in giving their infant a safe start. The tradition of a baby gift box started in the 1930's and continued today in Finland (Lee, 2013). The infants not only received clothing and newborn items, they also could use the box as a separate sleeping surface for the early days and months. Thus, this arrangement would address the space concerns, thus decreasing the incidence of bed sharing.

When mothers have no other choice except to bed share with their infant or mothers are insistent with their choice of bed sharing, nurses can suggest sleep safety strategies to minimize the risk of SIDS and SUID in their sleeping arrangements. For example, they can ensure the mattress of the adult bed is firm, advise mothers to avoid clutter or heavy blankets and pillows in the bed, recommend the adult bed is placed away from the wall or furniture where potential entrapment could occur, recommend that the infant's own light blanket tucked at chest level and suggest adults sleeping with their infants are not over exhausted or using cigarettes, alcohol, or illegal drugs (McKenna, 2007).

Mothers in the study indicated they accessed information from multiple sources for information and resources to modify their infant's sleeping arrangements. Often, their sources of information were from dubious sources from the Internet, social media, and comments from outsiders or family members. Some mothers have expressed that they felt overwhelmed by the volume of information available on sleep safety. Thus, mothers have expressed challenges in

focusing on the essentials. In some cases, mothers resorted to abandoning the information and doing what they perceived as the best approach. It is critical for nurses to assist mothers to filter available information for validity and credibility and to provide mothers with reliable information sources. In order for nurses to support mothers in accessing accurate and evidence-based information, nurses can critically appraise the evidence of sleep safety principles in the information sources and to stay current with the development of the research literature on sleep safety.

Furthermore, many mothers in the study complained about the inconsistencies in swaddling and sleep safety practice among the acute nurses and public health nurses. The inconsistent information caused much confusion among the mothers. The evidence of the risks of swaddling to SIDS was not robust enough in the literature to be incorporated as part of the evidence-based sleep safety guidelines (American Academy of Pediatrics, 2011; RNAO, 2014; Stokowski, 2014). Without empirical research evidence to substantiate the practice of swaddling as a risk factor to SIDS, nurses cannot recommend the practice as part of the evidence-based SIDS prevention guidelines. Nurses could caution mothers about the dangers of other evidence-based risks, hip dysplasia as associated with tight swaddling practice (Clarke, 2014).

Nurses in both acute and public health communities can endorse and implement consistent evidence-based sleep safety guidelines. In working with mothers, hospital nurses could demonstrate how to place the infant to sleep following the evidence-based sleep safety guidelines. This way, mothers could follow the same sleep practices at home. When public health nurses follow up with the mothers at home, the public health nurse could continue to reinforce the evidence-based sleep safety principles. Clinical nurse educators from the acute settings and public health settings should collaborate to ensure nurses in both settings are following and practicing the same evidence-based sleep safety practice guidelines. Thus, dissemination of

consistent information on sleep safety and demonstration of sleep safety practice could decrease mothers' confusion regarding the sleep safety recommendation.

Some mothers in the study described active involvement from the father in the implementation of sleep safety. The role of transferring the infant from the adult bed after breastfeeding back to the bassinet or crib was often delegated to the fathers. In reality, the intended transfer of the infant back to their own sleeping surface did not occur because fathers might have fallen asleep as well. Because involvement of the father seemed to be critical in mothers' adhering to the sleep safety recommendation of room sharing that promotes breastfeeding and decreases the incidence of bed sharing nurses can include fathers in their teaching and support for sleep safety. It is prudent for the nurses to ensure the fathers are knowledgeable about and supportive of the sleep safety practice. Fathers with adequate and evidence-based information would more likely to support mothers in their efforts to foster sleep safety principles in the infant sleeping arrangements.

5.5.2 Implications for nursing education. Nursing education initiatives can be implemented as early as possible in the student nursing training curriculum to include information about children's sleep norms, and sleep hygiene so that student nurses who receive such information are better equipped to support and assist parents with their safe sleep challenges. During educational programs, using mothers' infant sleep safety cycle and the influencing factors could sensitize nursing students to mothers' potential sleep concerns. Nursing students can also critically appraise the research evidence in the sleep safety literature before using it to guide families around sleep safety. Furthermore, nursing students can be instructed about purple crying and strategies to manage infant fussiness and to remind parents of the relatively short-term nature of these crying episodes.

As evident in the findings, consistent information is crucial in supporting and educating

parents regarding infant sleep safety. It is imperative that nurses working in acute and community settings receive ongoing education and research updates on infant sleep safety recommendations (Hoogsteen, 2010). By increasing nurses' knowledge about sleep safety research and guidelines, nurses are better equipped to support and educate expectant mothers and parents with young infants regarding sleep safety measures. It is prudent for the nurses to critically appraise the literature to ensure evidence-based practice guidelines and information form the foundation of their clinical education and practice with sleep safety. Exposure to evidence about the parents' challenges in the early days and months around infant's crying and sleeping could also assist nurses to more effectively support parents in empathetic ways.

Another area requiring attention in nursing education is the critical nature of the perinatal period when crying and sleeping challenges are the most intense and stressful for families. Because the study findings indicated mothers were not prepared to deal with the infants' sleeping and crying challenges nurses can increase their knowledge about infants' sleep needs and crying behaviours and learn about strategies to support mothers to manage these challenges to support sleep safety principles. As indicated by the mothers in the study, they were expressing how sleep deprived they were in dealing with the challenges associated with their infants' sleeping and crying issues. Nurses can increase their knowledge of the current available community support resources that would help mothers in practical ways to have time for rest and self-care.

5.5.3 Implications for nursing research. This study is the only Canadian studies of mothers' experiences with infant sleep safety. Further Canadian studies would increase and consolidate the body of knowledge on infant sleep safety. Comparisons and contrasts of the Canadian research evidence with the evidence from other countries could contribute to the evidence-based literature on sleep safety. In Volpe et al.'s recent study (2013), they recommended further qualitative studies to increase understanding of mothers' circumstances and

rationale in their decision processes regarding sleep safety. The findings of my study serve as a foundation for the exploration of circumstances and rationale for the mothers' decision-making processes with sleep safety. Future studies could utilize the qualitative findings of my study to develop a survey instrument that could reach more Canadian mothers to obtain a broader perspective about the sleep safety measures and practices.

The participants in this study were predominantly middle class and above, with postsecondary to graduate level of education. They all spoke English fluently. It would be prudent to conduct a survey that could be distributed to parents of differing socioeconomic and educational backgrounds in Greater Vancouver region to explore their experiences with infant sleep safety. In order to reach and recruit participants during the perinatal period in such broad radius, it is crucial to collaborate with primary care practitioners, maternity hospitals, and public health agencies where childbearing parents are most likely to be found. To achieve this objective and universal perspective, the survey instrument would need to be translated into different languages for distribution to all parents regardless of language, education and ethnic backgrounds. The survey instrument could be distributed to every mother who has delivered her infant.

All primary caregivers identified for this study were the mothers. It was apparent in the findings that fathers were involved in the area of sleep safety. It would be beneficial to explore the experiences of the fathers to broaden current knowledge about infant sleep safety. Obtaining information about fathers' roles and experiences with sleep safety might provide strategies to support mothers to comply with sleep safety measures and manage their infants' sleeping and crying challenges.

The majority of the participants in this study expressed their concerns about the inconsistencies in the practice and recommendations on swaddling. There is a lack of research

evidence to support swaddling as a risk factor for SIDS. It is prudent to develop research studies that would explore whether swaddling poses a risk for SIDS.

Even though cultural background or factors did not emerge as a core or central theme in the findings of this study, some mothers made references to their childhood sleeping arrangements influencing their decisions about sleep safety. Thus, the impact of culture should be considered for future studies. As suggested by Ball and Volpe's discussion (2013) on SIDS risk reduction and infant sleep location, the need for further research on cultural factors framed from parents' perspectives about safe sleep would provide insights for further discussion on this topic.

In British Columbia, prevalence of SIDS and SUID remains highest in the Aboriginal community (BC Coroners Services, Child-Death Review Unit, 2009; Perinatal Services of BC, 2011; Tripartite Aboriginal Safe Sleep Initiative, 2013). None of the mothers in my study reported Aboriginal descent. It is imperative that future studies explore Aboriginal parents' experiences with infant sleep safety, as well as any factors influencing their practices. The Aboriginal community should be invited to participate in the quality improvement survey as proposed earlier.

One mother in this study with a family history of SIDS adhered to original sleeping plans despite her experiences with infant crying and sleeping challenges. In future studies, it would be critical to explore any family history with SIDS or SUID to ascertain if the experience influenced parents' perceptions and experiences with sleep safety. Moreover, family history of SIDS or SUID would be a good item to include in the survey instrument.

5.6 Conclusions

The study findings provided an important perspective on Canadian mothers' experiences with infant sleep safety. The identification of the influencing factors and the development of the mothers' infant sleep safety cycle provided an effective theoretical framework to deepen our

understanding of mothers' experiences with infant sleep safety. The mothers' infant sleep safety cycle illustrates mothers' experiences in a cyclical process over different development stages of their infants' lives. As mothers experienced shifts in their views of their infants' developmental abilities at the end of the initial cyclical process with sleep safety, they would formulate new expectations for the next sleep safety developmental stage. Mothers appeared to have the potential to travel through the sleep safety cycle again, by navigating through the five segments of the sleep safety cycle for their developing infant's needs.

Mothers' knowledge and original expectations of sleep safety were abandoned and modified to support whatever sleeping arrangements were effective to promote sleep. Mothers in the study reframed the sleep safety guidelines and downplayed the risk of SIDS, especially during daytime sleeping.

The changes in mothers' perceptions of sleep safety prior to and after the arrival of the new infant, suggested the urgent need for nurses and health care providers to assist mothers to alter expectations, and develop strategies to support sleep safety principles, while managing the sleeping and crying challenges in the early days and months with their new infant.

While dissemination of the safe sleep guidelines to the mothers is a crucial strategy in the prevention campaign of SIDS and SUID, understanding the contexts of mothers' circumstances and supporting and working with mothers through the challenges with infant sleep issues are essential in increasing mothers' compliance and capacity to adhere to sleep safety guidelines, from the start of the sleep safety cycle, for all sleeps, day and night.

References

- Ajao, T.I., Oden, R.P., Joyner, B.L., & Moon, R.Y. (2011). Decisions of black parents about infant bedding and sleep surfaces: A qualitative study. *Pediatrics*, 128(3), 494-502. doi: 10.1542/peds.2011-0072.
- American Academy of Pediatrics (2011). Policy Statement: SIDS and other sleep-related Infant deaths: Expansion of Recommendations for a safe infant sleep environment. *Pediatrics: Official Journal of the American Academy of Pediatrics*, 1030-1039. doi: 10.1542/peds2011-2284.
- Ateah, C. A., & Hamelin, K. J. (2008). Maternal bed sharing practices, experiences, and awareness of risks. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 37(3), 274-281. doi:10.1111/j.1552- 6909.2008.00242.x.
- Ball, H. L. (2002). Reasons to bed-share: Why parents sleep with their infants. *Journal of Reproductive and Infant Psychology*, 20(4), 207-221. doi: 10.1080/0264683021000033147.
- Ball, H.L., & Volpe, L.E. (2013). Sudden infant death syndrome (SIDS) risk reduction and infant sleep location: moving the discussion forward. *Social Science & Medicine*, 79, 84-91. doi: 10.1016/j.socscimed.2012.03.025.
- BC Coroners Services, Child-Death Review Unit (2009). *Safe and sound: A five year retrospective report on Sudden Infant Death in sleep-related circumstance*. Retrieved from www.pssg.gov.bc.ca/coroners/child-death-review. Jan 31, 2011.
- Canadian Pediatric Society (2004 & 2011). Recommendations for safe sleep environments for infants and children. *Pediatric Child Health*, 9(9), 659-663, Reaffirmed February, 2011. Retrieved from <http://www.cps.ca/english/statements/CP/cp04-02.htm>, February 9, 2012.

- Carpenter, R., McGarvey, C., Mitchell, E. A., Tappin, D. M., Vennemann, M.M., Smuk, M., & Carpenter, J. R. (2013). Bed sharing when parents do not smoke: Is there a risk of SIDS? An Individual level analysis of five major case-control studies. *British Medical Journal*, 3, 1-11. doi: 10.1136/bmjopen-2012-002299.
- Cavanagh, S. (1997). Content analysis: Concepts, methods and applications. *Nurse Researcher*, 4, 5-16.
- Chianese, J., Ploof, D., Trovatro, C., & Chang, J. (2009). Inner-city caregivers' perspective on bed sharing with their infants. *Academic Pediatrics*, 9(1), 26-32.
- Clarke, N.M.P. (2014). Swaddling and hip dysplasia: An orthopaedic perspective. *Archives of Diseases in Childhood*, 99(1), 5-6. Doi:10.1136/archdischild-2013-304143.
- Collins, S.A., Surmala, P., Osborne, G., Greenberg, C., Bathory, L.W., Edmunds-Potvin, S., & Arbour, L. (2012). Causes and risk factors for infant mortality in Nunavut, Canada 1999-2011. *Biomedical Central Pediatric*, 12(190), 1-8. doi: 10.1186/1471-2431-12-190.
- Colson, E. R., McCabe, L. K., Fox, K., Levenson, S., Colton, T., Lister, G., & Corwin, M. J. (2005). Barriers to following the Back-to-sleep recommendations: Insights from focus groups with inner-city caregivers. *Ambulatory Pediatrics*, 5(6), 349-354.
- Elo, S., & Kyngas, H. (2007). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107-115. doi: 10.1111/j.1365-2648.2007.04569.x.
- Epstein, J., Jolly, C., & Mullan, L. (2011). A review of images of sleeping infants in UK magazines and on the Internet. *Community Practitioner*, 84(9), 23-26.
- Glaser, B.G., & Strauss, A.L. (1967). *The Discovery of Grounded Theory*. Hawthorne, New York: Aldine.
- Goldenberg, W.A., & Keller, M.A. (2007). Parent-infant co-sleeping: Why the interest and concern? *Infant and Child Development*, 16, 331-339. doi: 10.1002/icd.523.

- Hall, W., & Irvine, V. (2008). E-communication among mothers of infants and toddlers in a community-based cohort: A content analysis. *Journal of Advanced Nursing*, 65(1), 175-183.
- Hanson, L, VandeVusse, L., Roberts, J., & Forristal, A. (2009). A critical appraisal of guidelines for antenatal care: Components of care and priorities in prenatal education. *Journal of Midwifery & Women's Health*, 54(6), 458-468.
- Hauck, F.R., Signore, C., Fein, S.B., & Raju, T.N. (2008). Infant sleeping arrangements and practices during the first year of life. *Pediatrics*, 122, S113-S120. doi: 10.1542/peds.2008-1315.
- Hauck, F.R., Thompson, J., Tanabe, K., Moon, R., & Vennemann, M. (2011). Breastfeeding and reduced risk of Sudden Infant Death Syndrome: A Meta analysis. *Pediatrics*, 128(1), 103-110. doi: 10.1542/peds.2010-3000.
- Henderson-Smart, D.J., Ponsonby, A.L., & Murphy, E. (1998). Reducing the risk of sudden infant death syndrome: A review of the scientific literature. *Journal of Pediatric Child Health*, 34, 213-219.
- Hitchcock, S. (2012). Endorsing safe infant sleep: A call to action. *Nursing for Women's Health*, 16(5), 386-396.
- Hiscock, H. (2006). The crying baby. *Australian Family Physician*, 35(9), 680-684.
- Holloway, I., & Wheeler, S. (2010). *Qualitative Research in Nursing and Healthcare* (3rd ed.). United Kingdom: Wiley-Blackwell Publishing Ltd.
- Homer, C., Armari, E., & Fowler, C. (2012). Bed-sharing with infants in a time of SIDS awareness. *Neonatal, Pediatric & Child Health Nursing*, 15(2), 3-7.

- Hoogsteen, L. (2010). Safe infant sleeping: What is the ideal sleeping environment? *Nursing for Women's Health*, 14(2), 122-129. Retrieved from: <http://JournalsCNE.awhonn.org>. doi: 10.1111/j.1751-486x.2010.01525.x
- Horsley, T., Clifford, T., Barrowman, N., Bennett, S., Yazdi, F., Sampson, M., Dingwall, O., Schacter, H., & Cote, A. (2007). A systematic review: Benefits and harms associated with the practice of bed sharing. *Archives of Pediatrics & Adolescent Medicine*, 161, 237-245.
- Hunt, C.E., & Hauck, F.R. (2006). Sudden infant death syndrome. *Canadian Medical Association Journal*, 174(13), 1861-1869.
- Joyner, B. L., Oden, R. P., Ajao, T. I., & Moon, R. Y. (2010). Where should my baby sleep: A qualitative study of African American infant sleep location decisions. *Journal of the National Medical Association*, 102(10), 881-889.
- Kroniak-Griffin, D., Logsdon, C., Hines-Martin, V., & Turner, C. C. (2006). Contemporary mothering in a diverse society. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 35(5), 671-678. doi: 10.1111/j.1552-6909.2006/00089.x
- Krouse, A., Craig, J., Watson, U., Matthews, Z., Kolski, G., & Isola, K. (2012). Bed sharing influences, attitudes, and practices: Implications for promoting safe infant sleep. *Journal of Child Health Care*, 16(3), 274-283.
- Lee, C. (2005). Relationships among infant sleep patterns, maternal fatigue, and development of depressive symptomatology. *Birth*, 33(3), 187-193.
- Lee, H. (2013). Why Finnish babies sleep in cardboard boxes? *BBC News Magazine*, June 4, 2103. Retrieved from <http://www.bbc.com/news/magazine-22751415>. March 29, 2014.

- McDaniel, B.T., Coyne, S.M., & Holmes, E.K. (2012). New mothers and media use: Associations between blogging, social networking, and maternal-being. *Maternal Child Health Journal, 16*(7), 1509-1517. doi: 10.1007/s10995-0110918-2.
- McKenna, J.J. (2007). *Sleeping with Your Baby: A Parent's Guide to Cosleeping*. Washington DC: Platypus Media LLC.
- McKenna, J.J., & McDade, T. (2005). Why babies should never sleep alone: A review of the co sleeping controversy in relation to SIDS, bed sharing and breastfeeding. *Pediatric Respiratory Reviews, 6*, 134-152. doi: 10.1016/j.prrv.2005.03.006.
- McKenna, J.J., & Volpe, L.E. (2007). Sleeping with baby: An internet-based sampling of parental experiences, choices, perceptions, and interpretations in a Western industrialized context. *Infant Child Development, 16*, 359-385. doi: 10.1002/icd.525.
- Meadows-Oliver, M., & Hendrie, J. (2013). Expanded back to sleep guidelines: Primary care approach. *Pediatric Nursing, 39*(1), 40-49.
- Milne, J., & Oberle, K. (2005). Enhancing rigor in qualitative description. *Journal of Wound, Ostomy and Continence Nursing, November/December*, 413-420.
- Mindell, J.A., Kuhn, B., Lewin, D.S., Meltzer, L.J., & Sadeh, A. (2006). Behavioral treatment of bedtime problems and nights wakings in infants and young children. *Sleep, 29*(10), 1263-1276.
- Ministry of Health of BC (2011). *Baby's Best Chance: Parents' Handbook of Pregnancy and Baby Care*. (3rd revision, 6th ed.). Victoria: The Queen's Printer of British Columbia.
- Ministry of Health of BC (2011). Every sleep counts! Nap time, nighttime, home or away. Retrieved from http://www.health.gov.bc.ca/library/publications/year/2011every_sleep_counts_web.pdf. July 20, 2013.

- Ministry of Public Safety and Solicitor General, BC Coroners Service (2011). *Information bulletin, July 5, 2011*. Retrieved from <http://www2.news.gov.bc.ca/news> release 2009-2013/2011. September 13, 2011.
- Moon, R.Y., & Fu, L. (2012). Sudden infant death syndrome: An update. *Pediatrics in Review*, 33(7), 314-320.
- Moon, R.Y., Oden, R.P., Joyner, B.L., & Ajao, T.I. (2010). Qualitative analysis of beliefs and perceptions about sudden infant death syndrome in African American mothers: Implications for safe sleep recommendations. *The Journal of Pediatrics*, 157(1), 92-97.
- Morse, J.M. (2008). Confusing categories and themes. *Qualitative Health Research*, 18, 727-728. doi: 10.1177/1049732308314930.
- Mosley, J.M., Stokes, S.D., & Ulmer, A. (2007). Infant sleep position: Discerning knowledge from practice. *American Journal of Health Behaviour*, 31(6), 573-582.
- Neergaard, M.A., Olesen, F., Andersen, R.S., & Sondergaard J. (2009). Qualitative description: the poor cousin of health research? *Biomedical Medical Central Medical Research Methodology*, 9(52), doi: 10.1186/1471-2288-9-52.
- Oden, R.P., Joyner, B.L., Ajao, T.I., & Moon, R.Y. (2010). Factors influencing African American mothers' decisions about sleep position: A qualitative study. *Journal of the National Medical Association*, 102(10), 870-880.
- Ostfeld, B.M., Perl, H., Esposito, L., Hempstead, K., Hinnen, R., Sandler, A., Pearson, P.G., & Hegyi, T. (2006). Sleep environment, positional, lifestyle, and demographic characteristics associated with bed sharing in sudden infant death syndrome cases: A population-based study. *Pediatrics*, 118(5), 2051-2059. doi:10.1542/peds.2006-0176.
- Periano, P., Algarin, C., & Uauy, R. (2003). Sleep-wake states and their regulatory mechanisms throughout early human development. *Journal of Pediatrics*, 143, S70-S79.

- Perinatal Services of BC (2011). *Health promotion guideline 1: Safe sleep environment guideline for infants 0 to 12 months of age*. Retrieved from <http://www.perinataleservices.bc.ca>.
- Polit, D. F., & Beck, C. T. (2012). *Nursing research: Generating and assessing evidence for nursing practice* (9th ed). Philadelphia: Lippincott, Williams, & Wilkins.
- Pope, C., Ziebland, S., & Mays, N. (2000). Qualitative research in health care: Analyzing the qualitative data. *British Medical Journal*, 320, 114-116.
- Public Health Agency of Canada (2011). *Joint Statement on Safe Sleep: Preventing Sudden Infant Deaths in Canada*. Retrieved from [www.publichealth.gc.ca/safe sleep](http://www.publichealth.gc.ca/safe-sleep). August 12, 2012.
- Registered Nurses' Association of Ontario (2014). *Clinical Best Practice Guidelines: Working with Families to Promote Safe Sleep for Infants 0-12 Months of Age*. Retrieved from: <http://rnao.ca/sites/rnao-ca/files/PromoteSafeSleepForinfant.pdf>. March 29, 2014.
- Rollnick, S., Miller, W.R., & Butler, C.C. (2008). *Motivational Interviewing in Health Care: Helping Patients Change Behaviour*. New York: The Guildford Press.
- Safe Sleep Initiative of the Tripartite, First Nations and Aboriginal Maternal and Child Health Strategy Area (2013). *Honouring our babies: Safe sleep cards*. Retrieved from <http://www.fnha.ca>.
- Sandelowski, M. (2000). Focus on research methods: Whatever happened to qualitative description? *Research in Nursing & Health*, 23,334-340.
- Schnitzer, P.G., Covington, T.M., & Dykstra, H.K. (2012). Sudden unexpected infant deaths: Sleep environment and circumstances. *American Journal of Public Health*, 102(6), 1204-1212.

- Shaefer, S.J.M., Herman, S.E., Frank, S.J., Adkins, M., & Terhaar, M. (2010). Translating infant safe sleep evidence into nursing practice. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 39(6), 618-626.
- Singh, D., Newburn, M., Smith, N., & Wiggins, M. (2002). The information needs of first-time mothers. *The British Journal of Midwifery*, 10(1), 54-58.
- Sobral, M.C., & Gruber, M.E. (2009). Risks and benefits of parent/child bed sharing. *Journal of the American Academy of Nurse Practitioners*, 21, 474-479. doi: 10.1111/j.1745-7599.2009.00430.x.
- Stokowski, L. (2014). Death from Swaddling. Retrieved from: http://www.medscape.com/viewarticle/821892_print. March 18, 2014.
- Svensson, J., Barclay, I., & Cooke, M. (2006). The concerns and interest of expectant and new parents: Assessing learning needs. *Journal of Perinatal Education*, 15(14), 18-27. doi: 10.1624/105812406X151385.
- Vennemann, M.M., Hense, H., Bajanowski, T., Blair, P., Complojer, C., Moon, R., & Kiechl-Kohlendorfer, U. (2012). Bed sharing and the risk of Sudden Infant Death Syndrome: Can we resolve the debate? *The Journal of Pediatrics*, 160(1), 4448.e2. doi:10.1016/j.jpeds.2011.06.05.
- Volpe, L.E., Ball, H.L., & McKenna, J.J. (2013). Nighttime parenting strategies and sleep-related risks to infants. *Social Science & Medicine*, 79, 92-100. doi: 10.1016/j.socscimed.2012.05.043

Appendix A: Letter of Consent

Principal Investigator: Dr Wendy Hall, UBC School of Nursing, Tel: 604-822-7447
Email: Wendy.Hall@nursing.ubc.ca

Co-investigator: Annie Lau, UBC Graduate student in Masters of Science in Nursing,
Tel: 604-809-2742; Email: safesleepubc@gmail.com

Purpose of study:

The purpose of this study is to explore the perceptions and experiences of the parents about safe sleep for their infants. A secondary purpose is to explore parents' perceptions of factors that influence their abilities to assist their infants to sleep safely. This research inquiry is part of my thesis research work for my graduate study in the UBC School of Nursing.

Study Involvement:

Your demographic data will be collected. You are invited to participate in an audiotaped interview with the co-investigator to share your perceptions and experiences regarding safe sleep for your infant. The interviews will be approximately one to one and a half hours long. They will be conducted at a time and place that is convenient for you.

Potential risks:

If you are not comfortable to share your experiences at any point during the interview, you can decline to respond to any question at any time. If you are not comfortable in continuing with the interview process and would like to terminate your involvement in the study, your participation can be terminated at any time.

Potential benefits:

There may not be any direct benefits to you from participating in this study. You may enjoy the opportunity to share your experiences with safe sleep. The insights obtained from your experience will help nurses and health professionals to gain a better understanding of how to support parents around safe sleep. Practical and feasible strategies to improve support and education for parents with infants to enhance infant sleep safety may be developed.

Honorarium:

An Honorarium of a \$25 gift card will be given to the participants who take part in this study.

Dissemination of results:

The results of this study will be reported back to the participants in the form of a written summary. The dissemination of the study findings will be through future publication or seminar presentation to parents, nurses and other health professionals.

Confidentiality:

The interviews will be audio taped for transcription. Your personal information will not appear anywhere on the transcripts. Your personal information will be kept and stored in a separate and secured place. The interview data will be stored in a confidential and secured storage. Your demographic data will be used strictly for the purpose of describing the general characteristics of

the parents participating in the study. Your name will not appear anywhere in the data. The demographic information will be kept and stored in a secured place. Only the principal investigator and co-investigator will have access to your personal, demographic and interview data. The data will be destroyed five years after the completion of the study.

Contact for the study:

If you have any questions or further inquiries about this study, please feel free to contact the principal investigator and co-investigator.

Contact for the rights of the research subjects:

If you have any concerns about your rights as a research subject, please contact the Research Subject Information Line at the UBC Office of Research Services at 604-822-8598 or email to RSIL@ors.ubc.ca.

Consent:

Your involvement with this study is entirely voluntary and you can terminate your participation at any time. Your signature below indicates that you have read and understand this consent document and agree to participate in this study.

Signatures

_____	_____	_____
Printed name of participant	Signature	Date

_____	_____	_____
Printed name of principal	Signature	Date

Investigator or co-investigator

Appendix B: Safe Sleep Interview Guide

Interview Guide:

1. What do you consider to be safe sleep for your baby?
2. Why do you think this is safe for your baby?
3. Tell me about how and where your baby sleeps and naps.
4. How do you keep your baby safe while sleeping?
5. How did you come to do it this way?
6. How easy or challenging is it to keep your baby safe while sleeping?
7. What kind of information about safe sleep have you received?
8. What else has influenced your thinking and choices?
9. Is there any question I should have asked you that I did not ask?

Appendix C: Safe Sleep Demographic Information**Participants' Demographic Information:**

Primary care giver:

Mother
Father

Age of primary care giver:

>18
18-24
25-29
30-34
>35

Relationship Status:

Single
Divorced/Separated
Widowed
Common Law
Married

Other parent living in the same home:

Yes
No

Infant's birthdate:

(dd/mm/yy)

Infant is your first baby:

Yes
No

Number of children at home:

1
2
>2

Age of children at home:

<6 months
6 to 12 months
1 to 2 years old

2 to 4 years old
4 to 5 years old
>5 years old

Ethnicity:

Aboriginal
African
American
Arab
Asian
South Asian
Canadian
Caribbean
Chinese
European
Latin
Central or South American
Other

Type of residence:

Rental
Own
Detached house
Condominium
Townhouse
Basement suite

Number of bedroom in residence:

Studio suite (open concept with no bedroom)
1
2
3
>3

Highest level of education achieved:

Primary School
High school
Post Secondary
Graduate
Post Graduate

Annual Income:

Income assistance
<\$20, 000

\$21,000 to \$40,000
\$41,000 to \$60,000
>\$60,0000

Feeding Method:

Breastfeeding
Formula
Mixed Feeding (both)

Prenatally:

Smoking:

None
Occasionally
Regularly

Alcohol use:

None
Occasionally
Regularly

Illegal Substance use:

None
Occasionally
Regularly

Postnatally:

Smoking:

None
Occasionally
Regularly

Alcohol use:

None
Occasionally
Regularly

Illegal Substance use:

None
Occasionally
Regularly