PARENTS' PERCEPTIONS OF AN Intervention FOR INFANTS WITH BEHAVIORAL SLEEP PROBLEMS

By

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Abstract

Between 13% and 35% of infants and young children have experienced behavioural sleep problems. A pilot study, which was entitled: *Evaluation of an Intervention Aimed at Resolving Behavioural Sleep Problems in 6-to-12-month-old Infants: A Pilot Study*, was undertaken to evaluate the efficacy of an intervention. My study comprised the qualitative component of the pilot study. The purpose of my study was to explore parents’ perceptions about the sleep intervention used in the pilot study and any burden associated with the study. The sleep intervention included: providing parents information about normal infant sleep, controlled comforting, bedtime routines, organized daytime schedules and naps, and completing forms to record routines and controlled comforting. Following a teaching session about the study intervention, each family implemented the intervention which also included bi-weekly follow-up phone calls to offer support. I used a descriptive, exploratory research design. Through purposive sampling, I identified and interviewed 14 families who had completed the intervention. I used inductive content analysis method to analyze the data. Nine themes emerged from my analysis: changes in perspectives about sleep, gaining a framework to tackle sleep problems, unanticipated changes resulting from using the strategies in the study, challenges for parents, fitting intervention strategies into parents’ realities, factors interfering with successful interventions, parents’ support systems, parents’ expectations of the study, and inadvertent benefits of the study. Each theme subsumed a number of sub-themes. The thesis includes implications of these findings for nursing education, practice, and research.
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CHAPTER 1
INTRODUCTION

Background to the Problem

Infant sleep problems are one of most common issues for which parents seek help from health care professionals (Morris, St. James-Roberts, Sleep, & Gillham, 2001; Thiedke, 2001; Thunström, 2000, 2002). The most common concerns are night waking and bedtime struggles (Mindell, 1993). Parents who experience such problems request advice for interventions (France & Blampied, 1999) and information about normal sleep patterns (Armstrong, Quinn, & Dadds, 1994) from professionals. For example, in Vancouver, approximately 30% of calls to a newborn hotline have been about infants' sleep problems (UBC Public Affairs, 2003). It has been documented that infants’ sleep problems have caused stress to mothers, for example depression. They have also affected family lives, for example arguments between parents (Kataria, Swanson, & Trevathan, 1987). Additionally, sleep problems in infancy are associated with adverse health outcomes later in childhood, such as attention-deficit/hyperactivity disorder (ADHD) (Thunström, 2002). Therefore, infants’ sleep problems affect parents, family dynamics, and infants’ health, and need to be resolved.

A child who goes to bed unwillingly or wakes frequently during the night can be highly disruptive to a family and costly to health services (Morris et al., 2001). In the United Kingdom, the annual cost burden to the National Health Services (NHS) of infant crying and sleeping problems in the first 12 weeks was £65,768,512.00 (US$ 108,547,715) (Morris, et al). This estimation is only based on NHS contacts from parents of problem sleepers who were younger than 3 months of age. Potential cost incurred from parents’ lower job performance or absence from work due to lack of sleep and psychological stress was not estimated in Morris’s study. One
can conclude that the economic impact on society from infants' sleep problems is significant.

Research on infant sleep problems is plentiful in the field of child psychology and psychiatry in Europe, Australia, and the United States of America (USA) (France, 1992; Galbraith, Pritchard, & Hewitt, 1993; Thunström, 1999a). These research studies have been focused on the effectiveness of different sleep interventions. However, there has been paucity of Canadian studies addressing the problem, and, in particular, research by the discipline of nursing. Thus a pilot project has been conducted in Vancouver Coastal Health Authority (VCHA) in British Columbia, Canada. The title of this project is: Evaluation of an Intervention Aimed at Resolving Behavioral Sleep Problems in 6-to-12-month-old Infants: A Pilot Study. This project is the first of its kind in Canada (UBC Public Affairs, 2003), and its findings will be helpful in serving as guidelines for healthcare providers in the community and as a basis for further research. For the purpose of being concise, I will refer to the study as the pilot study in this thesis. One of the objectives of the pilot study is to determine parents' perspectives about implementing the sleep intervention and its effectiveness, as well as any study burden associated with participating in the pilot study. I have achieved this objective by undertaking a qualitative inquiry about parents' perceptions. This study serves as a thesis project, which is part of my graduate program for a Master of Science in Nursing, at the University of British Columbia (UBC).

Problem Statement

Despite voluminous studies on children's sleep behavior and interventions and outcomes, parents' perceptions have seldom been explored. One report indicates that parents demanded more information (Armstrong et al., 1994). Another report indicated that more than 50% of parents in a sleep program were dissatisfied with the advice provided (Thunström, 1999a).
finding is consistent with the finding of a study, which was done almost nineteen years earlier with participants in a sleep clinic, that “nearly half of the families felt that no one had offered any useful advice or sympathetic support” (Chavin & Tinson, 1980, p.478). These reports imply that, for almost two decades, researchers have not sought to understand parents’ needs or to determine what parents regarded as appropriate help and advice. Further studies of the interaction between parents and professionals regarding sleep problems are “urgently needed” (Thunström, 1999a, p.1316). We need to better understand parental and family expectations and barriers to interventions, so that we can provide individualized care and appropriate recommendations to families in need (Blum, 1999). Qualitative research which explores parents’ perceptions of sleep interventions is necessary to address this gap.

Purpose

The aim of this study was to describe parents’ perceptions of a sleep intervention used in the pilot study. It explored participants’ success with the components of the intervention, any difficulties following through with the suggested procedures, and study burden as experienced by parents.

Research Questions

The research questions were:

1. How did parents perceive the effectiveness of the sleep intervention for their infant with sleep problems?

2. What were participants’ perceptions of difficulties and burden associated with participating in the pilot study?

The following sections include a description of the pilot study, recruitment criteria and definitions used in the pilot study, and ethical considerations.
Description of the Pilot Study

The pilot study was conducted in Vancouver, British Columbia. The Vancouver Coastal Health Authority was used to access parents via their Newborn Hotline, which receives 30% of calls about infant sleep problems. Parents who called the Newborn Hotline about their infants’ behavioral sleep problems were initially screened for recruitment by Community Health Nurses. Eligible parents were contacted by the project coordinator of the pilot study and screened again. Those who met the inclusion criteria were invited to participate. After parents verbally agreed to participate, a graduate research assistant (a Registered Nurse) visited parents a week after recruitment. The graduate research assistant provided the opportunity for parents to ask questions about the pilot study, sign a consent form and complete a series of baseline measures. Because this study served as the qualitative component of the pilot study, parents also consented to be approached for participation in this study. As part of the baseline data collection, parents completed a questionnaire that include demographic questions and scales measuring depression, marital satisfaction, child temperament, cognitions about infant sleep, sleepiness, sleep quality, and fatigue.

During the course of the intervention, each infant wore an electronic device called an actigraph, which recorded the child’s sleep wake periods, for 24 hours a day for 3 days. During these 3 days, the parents also filled out a sleep diary, indicating when their child slept and woke during the night and day, the length of the periods, and crying associated with sleeping, waking and eating patterns.

The week following the baseline assessments, parents in groups of 3-6 couples were provided with a two-hour teaching session at School of Nursing, UBC. The parents were requested to use the intervention with their infants directly after the teaching session. They were
provided with forms to help them document their infant's routines during the day and the amount of controlled comforting they were doing at night. Over the following two weeks, the project coordinator called parents twice a week to offer support and answer questions. At both six and 16 weeks after the teaching session, all parents and infants had the baseline measures repeated by the graduate research assistant. There were 35 families who completed the pilot study.

Definition of Terms

For the purpose of this study, the definitions of the following terms were consistent with those used in the pilot study.

Sleep problems

The term sleep problem is differentiated from sleep disorder which is associated with medical ailments and requires medical attention. Sleep problems in this study were defined as the child having two or more night-wakings per night or being awake longer than 20 minutes for a minimum four nights per week for more than eight weeks.

Sleep intervention

The intervention used in the pilot study include a two-hour teaching and question-and-answer session, completion of sleep-wake-feed charts and controlled comforting charts, and 4 telephone calls offering support. The two-hour teaching session provided information about infant development, normal sleep behavior, positive daytime and bedtime routines, positive and negative sleep associations, and the controlled comforting intervention.

Parents were encouraged to establish regularity in the timing of sleep and activities, routines around naps and bedtimes, a consistent sleep environment, and appropriate stimuli before sleep. The strategy of controlled comforting recommended in the pilot study included information about clarifying parental goals, organizing support, and remaining in close proximity
to the child without removing him/her from the cot, which could include patting or rubbing the infant’s back. Parents were advised to spend a few minutes with the child and to increase their periods of absence to a maximum of 10 minutes. They were encouraged to keep a controlled comforting chart so that they could keep track of any change in waking and crying episodes.

*Infants*

In this study, infants were defined as children ranging from 6 to 12 months at the time of recruitment into the pilot study. The oldest children in this study were 16 months of age at the final point of data collection, because the oldest enrollment age for the pilot study was 12 months and follow-up data were collected up to 4 months after the intervention.

*Parents*

Parents were defined as two people joined in relationship and living in the same household. They were assumed to be the primary caregivers for the child, whether or not they were living with other members of extended family. The selection criteria were as follows:

- The parents had an infant with behavioral sleep problems and had participated in the pilot study.
- Their infant was otherwise healthy, and free from medical conditions such as respiratory problems, chronic asthma, severe snoring, or mental retardation.
- Their infant was not receiving any medical treatment for the sleep problem, or for other neurological problems.
- Their infant was aged between 6 months to 1 year.
- Their infant did not have live twin or triplet siblings.
- The parents spoke and understood English.
- The parents had a working telephone.
• The parents did not work shifts.
• The parents did not have a diagnosed sleep disorder or mental health problem.
• The parents lived in the Vancouver Coastal Health Region.

Ethical Considerations

Several measures were implemented to assure the protection of the rights of participants. Ethical approval was granted by the UBC Behavioral Ethics Board and the Vancouver Coastal Health Authority. Participants in the pilot study had been given letters of information (Appendix A), had been fully informed about the nature of the study and the possible follow-up interview by me, and had signed informed consent for both the pilot study and this study (Appendix B). Subject participation was strictly voluntary, with freedom to withdraw at any time, even during the interview. No risks were inherent in this study. On the contrary, participants may have benefited from being interviewed about their perceptions. Confidentiality of the informants was maintained throughout the study, because tape recordings and transcriptions were labeled with codes instead of participants’ names. Pseudonyms were used in the transcripts. Participants’ names have not been used in any products of this study such as the thesis and manuscripts.

Chapter Summary

Infant sleep problems are common concerns that parents raise. They affect both parents’ and infants’ psychological and physical well-being, and may be associated with behavioural problems later in the childhood such as ADHD. The economic impact upon the society caused by infant sleep problems is significant. While many studies have been conducted to examine the effectiveness of sleep interventions, few have explored parents’ perceptions about study interventions. In order to help parents manage their infants’ sleep problems, health care professionals need to be aware of parents’ concerns and the successes and difficulties parents
may experience while using a prescribed sleep intervention. Research is necessary to understand parents' experiences. The pilot study provided an opportunity for me to conduct a qualitative evaluation of parents' perceptions about participation in the project. Thus, I undertook this descriptive qualitative research study. The next chapter provides a review of the literature.
CHAPTER 2
REVIEW OF LITERATURE

Introduction

Over the past two decades, sleep problems and related issues among infants and young children have been studied extensively. It has been reported that between 15% and 35% of infants and young children show some type of sleep problems depending on the scale of the study and age of children in question (Armstrong et al., 1994; France, 1992; Jenkins, Owen, Bax, & Hart, 1984; Kuhn, Mayfield, & Kuhn, 1999; Pollock, 1992; Thunström, 2000). Infant sleep problems are defined as difficulties in getting to sleep, as well as prolonged and frequent night awakenings (Minde et al., 1993). In Uppsala, Sweden, Thunström’s team (1999a) investigated 2518 children aged six to eighteen months and found that 16% of parents reported their children as having moderate or severe difficulties in falling asleep at night and 30% reported frequent night waking. Six percent of the children in their study had sleep problems severe enough to meet the diagnostic criteria as disorders. Infant sleep problems are common manifestations during early childhood that may result in long-term behavioral problems for affected children. Parents are better able to identify problematic sleep behaviors if they had knowledge about normal sleep pattern of infants.

Normal Sleep Pattern in Infants

In newborns, the amount of sleep is divided fairly equally between night and day. Their sleep pattern changes over the first few months of life to follow a diurnal rhythm (Thiedke, 2001). Nighttime sleep gradually becomes consolidated over the first year into a single uninterrupted block of time, and daytime sleep gradually decreases over the first three years. By the age of four, most children no longer require a daytime nap (Thiedke).
Infants' sleep is quite different from the sleep of adults. Infants younger than six months of age spend 50 percent of their sleep time in the active rapid eye movement (REM) phase of sleep (France & Blampied, 1999), compared with adults who spend 20 percent of their sleep in REM phase (Thiedke, 2001). Infants enter sleep through an initial active REM stage, in contrast to adults, who do not enter REM sleep until 90 minutes into the sleep cycle. Active REM emerges more often during a sleep cycle in infants, resulting in shorter sleep cycles. Until six months of age, quiet non-rapid eye movement (NREM) phase, which signifies deep sleep, cannot be subdivided into the four electroencephalographic (EEG) stages known in the mature sleep pattern (Thiedke).

By the age of six months, an infant's sleep pattern should closely resemble that of an adult. After the initial settling at bedtime, an infant drifts into sleep from stage I of NREM through stages II, III and IV, then the drifts back to stage I from stages III through II. After one to two cycles of NREM, the infant will enter REM phase at about 60 to 90 minutes into sleep (Thiedke, 2001). The first third of the night is mostly deep sleep (NREM stage III and IV); while the last one-half of the night is predominantly stage II of NREM and REM. By the age of 8 months, an infant will spend one-third of sleep time in the REM state and two-thirds of sleep time in the NREM state (France & Blampied, 1999).

Understanding normal sleep patterns of infants and young children sheds light on the nature of infants' sleep problems. Young infants spend relatively large amount of time sleeping in a state of light sleep, and the majority of infants wake during the REM phase of sleep (France & Blampied, 1999). Time-lapse videotape recordings of infant sleep demonstrated that most infants wake during the night (Minde et al., 1993) and the difference between reported good sleepers and reported poor sleepers is that good sleepers can self-soothe themselves back to sleep
without waking other people. In other words, parents of 'good' sleepers are unlikely to recognize that their infants wake during the night (Thunström, 1999b), while parents of poor sleepers are signaled by their infants who cannot self-soothe (Minde et al) and are, therefore, likely to view their infants as having problematic night waking.

Effect of Sleep Problems to the Child and the Family

Contrary to common belief, sleep problems in infants cannot be dismissed as transient developmental aberrations, because a significant portion of infants with sleep problems continue to show the same problem after the infancy period (Jenkins et al., 1984; Weir & Dinnick, 1988). These children are at risk of developing future behavior problems (Kataria et al., 1987; Thunström, 2002). Although some sleep-disturbed children have shown a normal physiologic development (Thunström, 1999b) and obtained slightly higher scores in intellectual performance tests (Pollock, 1992), others have had significantly more difficult temperamental profiles and difficulty in adapting to changes in their environment (Atkinson, Vetere, & Grayson, 1995). Pollock speculated that those children in their study scored modestly higher in vocabulary and reading tests, because their parents had been responsive to their calls and had spent more time with them. A recent study found that poor quality of sleep may negatively affect the child’s neurobehavioral functions such as attention, cognition, and memory (Sadeh, Gruber, & Raviv, 2002).

In today's society, parents are the primary caregivers for their children, and their sleep will be deprived if they are constantly woken by their infants' cries in the middle of the night. Without previous experience, new parents may consider their infants' sleep patterns as normal and the resulting deprivation of sleep as part of normal parenting (Chavin & Tinson, 1980; France, 1994). However, it has been documented that parents' sleep deprivation and increased
stress levels have been associated with their infants' sleep problems (France & Blampied, 1999; Mindell, 1993). Some parents have difficulty coping with the stress, and their physiological well-being is affected by states such as malaise and fatigue (Pollock, 1992; Thunström, 1999b). A recent randomized controlled trial found that maternal depression was the result rather than the cause of infant's crying (Hiscock & Wake, 2002). A longitudinal study that followed sleep-disturbed infants to 3 to 4 years of age added evidence to the claim that infants sleep problems cause maternal depression (Lam, Hiscock, & Wake, 2003). Parental stress and maternal depression can challenge the harmony of parents' marriages (Chavin & Tinson, 1980; Kerr & Jowett, 1994). Furthermore, in some cases, child abuse by parents has been reported as a result of their child's sleep problems (Chavin & Tinson, 1980; van der Wal, van den Bloom, Pauw-Plomp, & de Jonge, 1998).

Studies show that most of the sleep problems in children are amenable to treatments (Kerr, Jowett, & Smith, 1996; Kuhn et al., 1999; Minde, Faucon, & Falkner, 1994; Mindell, 1993; Reid, Walter, & O'Leary, 1999) and much of the negative impact on parents and family function can be alleviated with successful interventions (Hiscock & Wake, 2002; Kuhn et al., 1999; Mindell, 1993). A number of interventions for infant sleep problems have been described in the literature. These interventions are based on different theories using different methods for treating the problem. They include pharmacological treatment, the psychodynamic approach for parents, and behavioral modification for infants.

Pharmacological Treatment to Infants' Sleep Problems

Studies show that a wide variety of medications have been prescribed or recommended by pediatric practitioners for sleep disturbances in children (Owens, Rosen, & Mindell, 2003). In the United States, prescription medications that have been used to treat sleep problems include
antihistamines, chloral hydrate, barbiturates, phenothiazines, tricyclic antidepressants, benzodiazepines and α-agonists. Over-the-counter drugs include diphenhydramine, melatonin and herbal preparations (note: at the time of this writing, melatonin is not yet legally available in Canada). Owens and colleagues observed that, although an empirical basis for the use of drugs was largely lacking, the use of both prescription and nonprescription medications for pediatric sleep problems was a relatively common practice among community-based pediatricians in the United States. Most of the prescription medications are aimed at the sleep problems that are perceived to arise from underlying medical problems such as attention deficit and hyperactivity disorder (ADHD), learning disability, and Rett syndrome (Reed & Findling, 2002). The use of sleep medications for these medical conditions is beyond the scope of this study and will not be discussed. However, the use of pharmacological agents for sleep problems in healthy young children has been explored in recent research. Commonly used medications are sedatives and hypnotics including antihistamines.

Over-the-counter antihistamines, such as diphenhydramine, were the most commonly recommended pharmacological remedy by pediatricians of all medications in all age groups of children in the United States (Owens et al., 2003). Owens and colleagues speculated that the frequent use of these medications was probably because of their familiarity to pediatricians and acceptability to parents. However, the authors cautioned that, although generally safe, these medications were weak and often ineffective soporifics and might cause paradoxical central nervous system excitation.

The most common prescription drug for sleep problems in young children is trimeprazine which has been undergone several controlled investigations (France, Blampied, & Wilkinson, 1999; Reed & Findling, 2002). Trimeprazine is a phenothiazine-derived antihistamine with
relatively long acting sedative properties. In a placebo-controlled crossover study, researchers found that trimeprazine did produce small but detectable improvements in night waking for children aged 1 to 3 years, but the effects were clinically non-significant (Simonoff & Stores, 1987). A more recent double-blind, placebo-controlled study in New Zealand added weight to the claim that trimeprazine was not a clinically effective treatment for infant sleep disturbances (France et al., 1999). In 1991, France’s team used a double-blind placebo-controlled study to evaluate the effectiveness of trimeprazine in combination of extinction, a behavioral intervention which will be elaborated in the behavioral interventions section, for preschool children with chronic sleep disturbance (France, Blampied, & Wilkinson, 1991). They found that all groups reduced their sleep disturbance to low levels. While the control group and placebo group declined slowly, the medication group declined abruptly. They reported that trimeprazine appeared to eliminate the post-treatment response bursts of intensified waking and crying. Thus, France and colleagues (1999) suggested that trimeprazine should be prescribed only as an adjunct to a behavioral program, such as extinction, rather than a stand-alone treatment.

Researchers have concluded that pharmacotherapy, although a common practice among pediatricians in the USA, is only effective for short term situational use such as travel or acute pain (Anders & Eiben, 1997; Owens et al., 2003). Medications for sleep may be prescribed for sleep disturbances due to underlying medical conditions such as ADHD. There is, however, contradictory evidence about the long term effect on healthy infants and young children. In addition, there is a significant lack of knowledge concerning the efficacy, tolerance, and safety profile of soporific drugs in this population (Owens et al; Reed & Findling, 2002). Therefore, drugs cannot be viewed as a cure but rather as a short term intervention (Ramchandani, Wiggs, Webb, & Stores, 2000). Even for short term management, the use of medications is discouraged
by some practitioners because it may implicitly encourage parents to seek out pharmacologic solutions for their child’s behavioral problems (Owens, 2000). Behavioral management, which focuses on parents’ responses to their child’s waking and day-time and bed-time routine restructuring, remains the first line of treatment in most cases (Ramchandani et al).

Psychodynamic Approach for Parents

The psychodynamic treatment for infants’ sleep problems is one where the treatment design uses cognitive reasoning to change the behaviors of parents. Cognitive treatment means that the intervention is about working with thoughts, attitudes, and beliefs about child rearing of the parents (Owens, France, & Wiggs, 1999). The goal of this intervention is to change the behavior and responses of parents to their infants so that their infants’ behavior can be modified. Through this approach, a practitioner may use psychoanalysis to understand parents’ beliefs and fear about their infant’s crying. Then, based on this understanding, the practitioner can provide information and advice for parents to tackle their infant’s sleep problem. Very often, the psychodynamic approach involves revisiting parents’ parenting styles and the strategies that they have been using to deal with their infant’s crying.

Parenting style is viewed as the central factor that changes a child's sleep behavior (France & Blampied, 1999). Two types of parenting styles are detrimental to a child’s sleep behavior: over-stimulating and ambivalent parenting. According to France and Blampied, over-stimulating parenting involves features such as vigilant monitoring of the child; quick response to their infant’s cry; and responses that are high in intensity and long in duration. These researchers stated that this parenting style would inadvertently gratify undesirable behavior of the infant, and its consequence would be to reinforce the infant’s crying and calling out for help to settle back to sleep.
According to France and Blampied (1999), ambivalent parenting is the style of an anxious, overly-assiduous parent who alternates between over-stimulating parenting and parental withdrawal precipitated by fatigue and anger, depression, or self-doubt. These parents use different comforting approaches or even withhold their responses to their infants’ crying. Studies suggest that American parents tend to use a wide variety of parent-infant interactions especially at nighttime (Goodlin-Jones, Burnham, Gaylor, & Anders, 2001). Goodlin-Jones and colleagues observed that parents of sleep disturbed infants had a greater tendency to use inconsistent comforting techniques, which included putting their infants to bed asleep, cuddling and rocking them even when they were asleep, staying with them as they fall asleep, or co-sleeping with them. The ambivalent parenting style conveys confusing messages to the infant, and may adversely affect the child’s sleep behavior (France & Blampied, 1999).

Psychoanalysis has been used to help parents tackle their infants’ sleep problems (Skuladottir & Thome, 2003). This approach addresses parents’ understanding of their infants rather than a particular behavior. In a recent study, Skuladottir and Thome explored parents’ understanding of their children’s waking and crying at night, and the needs of their infants for parental assistance to go back to sleep. They provided one-to-one psychotherapy sessions for participating parents, and the research personnel discussed parental separation anxiety and parents’ difficulty leaving their child, even for a short time, as well as concerns with putting their child in his/her own bed awake. Skuladottir and Thome concluded that parents’ understanding of their perceptions about their infants’ behavior and increased knowledge of their infants’ temperament and character might have helped them succeed with better handling of their child’s crying and, consequently, the sleep problems. Since their study employed both psychoanalysis
and behavioral interventions, it was not clear if psychoanalysis was an effective intervention by itself.

A randomized controlled study, which provided a home visit to parents and consolidated their discussions about their interventions with a printed health education booklet, reported that the increase in parents’ knowledge about sleep and settling behaviors helped prevent sleep problems in their infants (Kerr et al., 1996). However, it was not known whether the improvement in infants’ sleep behavior in that study was the result of the one-to-one discussion with parents, the printed material, or both. Kerr and colleagues argued that while both one-to-one discussion and printed material provided information; the one-to-one discussion session gave parents a sense of psychological support and might have been aimed more specifically at their situations, as opposed to general information. They concluded that psychodynamic treatments, which involved personalized counseling and increased parents’ understanding of their parenting style and their infant’s sleep behavior, are effective in dealing with infant sleep problems.

Another randomized controlled trial demonstrated that educational booklets and a telephone helpline about sleep interventions made no difference in mothers’ behaviors in dealing with their infants, and hence made no difference in their infants’ sleep problems (Saint James-Roberts, Sleep, Morris, Owen, & Gillham, 2001). That study did not provide support for the claim that psychodynamic interventions help parents resolve their infants’ sleep problems. In other words, general information about sleep problems and their interventions may help parents understand their situations but can have little, if any, effect on their ways of dealing with their infants. There is, therefore, lack of evidence to show that a psychodynamic approach is effective for resolving infant sleep problems. However, studies have shown that when psychodynamic interventions are delivered through direct contact between researchers and participants, they
Behavioral Interventions

Behavioral interventions are considered to be the most effective in treating young children's sleep problems. After reviewing nine studies on sleep interventions for children under 5 years of age, Ramchandani and colleagues (2000) concluded that "behavioral interventions are more likely to be both effective in the short term and to be of continuing benefit in the longer term" (p.212). Behavioral management of sleep problems in infants and young children occurs when the principles of learning theory are applied to bring about a change in how an infant responds to a particular circumstance (Owens et al., 1999). Neurologically, an infant starts to establish circadian rhythm as early as four months of age (Armstrong et al., 1994). However, environmental time cues seem to be more influential than neurological maturation in the establishment of circadian cycle in a child (France & Blampied, 1999). For children with sleep problems, falling asleep is often associated with parental interventions and they may have difficulty returning to sleep until those conditions are reinstated. On the basis of that information, parents should provide coordinated, low-stimulation care, with well defined daytime and nighttime cycles for their infants in order to help them develop sleep and wake rhythms.

As it is mentioned earlier in this chapter, most infants wake at night. Some can self-sooth themselves back to sleep and some cannot. Those who are unable to self-soothe will cry and demand attention. One of the arguments about how behavioral interventions work is that behavioral interventions provide an environment that helps infants to learn to resettle when they wake in a familiar darkened surroundings at night (Nikolopoulou & St. James-Roberts, 2003).
Although there are many different types of strategies for behavioral modifications, only those that are relevant to the present study will be discussed.

**Extinction**

Extinction, which means withdrawal of the parents’ response to their infant’s crying at the time of night awakening, has been reported as the most successful intervention (France, 1992; Rickert & Johnson, 1988), albeit with some controversy. It is also called standard ignoring (Reid et al., 1999) or systematic ignoring (Rickert & Johnson) by other researchers. Extinction is based on the premise that babies can self-soothe themselves back to sleep after waking at night, without their parents’ intervention (Goodlin-Jones et al., 2001; Minde et al., 1993), and that self-soothing skill and falling asleep independently can be learned by infants without parental help (Hiscock & Wake, 2002). Many parents feel that extinction is unethical and may possibly be detrimental to their child’s development (France, 1994; Owens et al., 1999; Rickert & Johnson, 1988). They are, therefore, unwilling to maintain the commitment and consistency that those treatment programs require. However, it has been demonstrated in an experimental-controlled trial that extinction neither leads to any deterioration in infant security, nor does it cause negative behavioral characteristics in the infants. On the contrary, there are increases in infants’ security, likeability, and emotionality/tension scores following the treatment of sleep problems with extinction (France, 1992).

**Confrontation**

The principle of this strategy is the same as that of extinction and some researchers regard it an extension of extinction applied at bedtime (France, 1994; Reid et al., 1999). The technique is to settle the child in bed and leave the child to go to sleep alone; the parents do not return to the room. A correlational study showed that children who were put to bed awake and
left to fall asleep on their own were more likely to self-soothe back to sleep after night awakenings (Goodlin-Jones et al., 2001). Because this strategy may result in excessive crying, especially at the beginning of the program, parents are advised to go into the room at five to ten minutes intervals to reassure the child and themselves. It is important that the parents are consistent with their strategies and do not comfort the child more than necessary at these times (Boomer & Deakin, 1991). Due to the excessive crying of their child, parents may experience anxiety and guilt, and may eventually withdraw from the program (Reid et al). In addition, this type of intervention might be harmful to parents’ already shattered confidence about taking care of their baby (Seymour, Bayfield, Brock, & During, 1983).

**Controlled Crying**

Controlled crying is also called graduated ignoring (Reid et al., 1999). Parents are to respond to their infant’s cry at increasing time intervals, allowing the infant to fall asleep by him/herself. Intervals between checking are gradually increased from 5 to 20 minutes. Improvement to infants’ sleep using this strategy have been reported (Mindell, 1999; Owens et al., 1999). A randomized controlled study involving 152 mothers of children aged 6 to 12 months, who reported that their infants had severe sleep problems, demonstrated that the controlled crying intervention effectively reduced infant sleep problems and alleviated symptoms of maternal depression (Hiscock & Wake, 2002). A well-controlled, randomized study found both controlled crying and positive routines to be equally effective in reducing bedtime tantrums (Adams & Rickert, 1989). In addition, a controlled trial with small sample which compared controlled crying and extinction claimed that both strategies were similarly effective at two-month follow up, with no negative side-effects (Reid et al).
**Gradual Withdrawal**

A much slower method than confrontation, but more acceptable to parents, is called gradual withdrawal (Boomer & Deakin, 1991). A typical plan of gradual withdrawal begins with letting the child sit on parents’ lap in the child’s bedroom and gradually progresses to letting the child lie in bed awake while the parents sit outside the bedroom with the door closed (Boomer & Deakin, 1991; Minde et al., 1994). This method requires consistency from the parents over an extended period of time, and has been found to be less effective than confrontation. Boomer and Deakin found that the success rate of confrontation is twice that of gradual withdrawal.

**Bedtime Routine**

A bedtime routine helps to ameliorate young children’s bedtime struggles. Boomer and Deakin (1991) reported that almost half of the children who attended a sleep clinic for their alleged sleep problems in Stockport, United Kingdom had no bedtime routine and fell asleep with the presence of a parent giving comfort. They commented that the aim of setting bedtime routines was to provide cues around cots or beds for falling asleep. This strategy has been reported to be a promising intervention (Mindell, 1999) and is often used in combination with other strategies. One of the earlier randomized controlled studies concerning positive bedtime routines was done by Adams and Rickert (1989). They compared the effectiveness of controlled crying and positive routines and found that positive bedtime routines were equal in effectiveness to controlled crying and more effective than the control group, in which no strategy was used.

To avoid the development of ambivalent parenting, parents should institute a predictable bedtime sequence of events, such as quiet play, bath, story and then let the child fall asleep alone in bed (Seymour et al., 1983; Weir & Dinnick, 1988). Physical play and exciting activity are discouraged (Galbraith et al., 1993). The use of a sleep aid such as a stuffed toy may be helpful
A comfortably cool, quiet and sufficiently dark bedroom can promote good sleep hygiene (Blum & Carey, 1996). These routines should be consistent over time and among all caregivers for the child.

Organized Daytime Feeding and Nap Routines

This intervention is designed to help infants establish the circadian cycle by developing a predictable daily routine such as mealtimes, patterns of social interactions, and naps (Kerr, Jowett, & Smith, 1997). Consistent waking times in the morning is one of the most important cues that can help children establish circadian rhythm (Blum & Carey, 1996). To this end, parents themselves have to be consistent even during weekends or holidays. Daytime naps should be encouraged because studies have suggested that fatigue from lack of daytime naps may lead to a longer night settling period and a shorter duration of night sleep (Seymour et al., 1983). A survey done in England indicated that 99% of babies take daytime naps (Scott & Richards, 1990). While nap frequency and length should be individualized and developmentally appropriate, naps should be avoided close to bedtime and the length should be limited to ensure that the child will be tired at bedtime (Blum & Carey). It is also important to distinguish the living area for play and cuddling activities from the bedroom area for sleep (Seymour et al.).

While the strategies involved in this intervention seem quite self-evident, this intervention has not been empirically tested.

Parents’ Reactions to Interventions

Among scientific studies about infant sleep problems, intervention outcomes are often measured by the number of night awakenings (Rickert & Johnson, 1988), duration of infants’ sleep (St. James-Roberts et al. (St. James-Roberts, Sleep, Morris, Owen, & Gillham, 2001), 2001), number of feeds during a 24-hour period (Nikolopoulou & St. James-Roberts, 2003), or
maternal well-being (Hiscock & Wake, 2001; Kerr et al., 1996). The ways in which the parents implemented the interventions, however, have rarely been explored. Researchers like Rickert and Johnson (1988) stated in their discussion that parental resistance to their study interventions was expected. The relationship between the resistance and the study outcome, however, was not investigated. Mindell (1999) suggested that, in order for an intervention to be successful, it needed to be feasible for parents. The researcher went on to elaborate that feasibility encompassed issues such as parents' acceptance and parents' compliance to the intervention. For example, as was indicated earlier in this chapter, extinction is not well accepted by parents and some researchers find low levels of parental compliance in implementing extinction (Rickert & Johnson).

In a study comparing the efficacy of two behavioral interventions for infants' sleep problems, Rickert and Johnson (1988) found that 26 out of 27 sets of parents who were assigned to implement extinction with their infants expressed difficulty with carrying out the intervention although they had, at one time, tried to let their children "cry it out". Rickert and Johnson concluded that some parents considered ignoring their children's crying an unacceptable treatment because of possible effects on emotional development. How the parents' inconsistency around the implementation of the intervention affected the outcomes was not reported in that study. France (1994) explained that, due to the increased crying during the initial stage of implementation of extinction, parents might think that they had worsened the problem and might be unwilling to carry out the intervention consistently. As a result, the outcome measures might indicate that the intervention was ineffective. France suggested that parental education about the possible outcome of this intervention and continuous support to parents were important for the success of these types of interventions.
The notion of feasibility also applies to the context of family situations. St. James-Roberts and colleagues (2001) found that, although their study outcome showed that their intervention was significant in preventing infants from developing sleep problems, their participants were unable to persevere with the intervention in the middle of the night. They speculated that one specific strategy, which was to stretch feeding intervals after 3 weeks of age by delaying feeding a crying baby, was impracticable in the middle of the night where parents’ first concern was to resettle their babies so that they could resume their own sleep. St. James-Roberts’ team also found that their participants were not consistent in carrying out the interventions and might implement some aspects but ignore others. For instance, stretching the feeding interval as an intervention was implemented initially by most parents but not maintained as their children grew older.

The claim that parents are selective in implementing study interventions is supported by Nikolopoulou and St. James-Roberts’s (2003) large scale randomized controlled study. They observed that most mothers who were invited to take part in their study declined allocation to a randomly selected form of baby care. The researchers speculated that the refusal was because these parents held strong views about baby care and were unwilling to carry out the type of baby care that they did not want. However, research results showed that, once the parents agreed to implement a study intervention, there were means to reinforce parents’ commitment to the study. In one study, St. James-Roberts and colleagues (2001) provided one postpartum home visit and 4 subsequent telephone interviews to parents and infants 3, 6, 9, and 12 weeks of age. They felt that closer contact helped parents succeed at the intervention, and that the building of a close relationship over a longer period of time provided additional support and guidance to parents.
Parents’ need for support has been documented by other researchers. Skuladottir and Thome (2003) recommended that fathers, in order to show their support for their partners, should be actively involved in carrying out their intervention protocol. Minde and colleagues (1994) specifically asked fathers to take over the sleep management of their infants and their intervention yielded positive outcomes. In addition, a family-centered intervention and continuity of support have been viewed as essential for long-term success for parents dealing with infant’s sleep problems (Skuladottir & Thome). Recent studies suggested future research should explore family dynamics and parents’ concerns about the study interventions. In other words, future research should be directed to assessing how individual parents feel about, and manage behavioral interventions (Nikolopoulou & St. James-Roberts, 2003). Increased understanding of parents’ viewpoints and expectations has the potential to improve program design, delivery, and effectiveness.

Chapter Summary

In this chapter, the nature of infant sleep problems, normal infant sleep patterns, and interventions aimed at resolving infant behavioral sleep problems were discussed. Pharmacological treatment has been used but has only been found to be effective for the short-term. Parental education, which includes components of direct contact psychological counseling, has been demonstrated as effective in producing behavioral changes on the part of parents. Behavioral interventions for infants with sleep problems have been reported to be effective both in the short-term and long-term. Several types of behavioral interventions were discussed in this chapter. They included: extinction, confrontation, controlled crying, gradual withdrawal, bedtime routines, as well as organized daytime feeding, activities and nap routines. It was noted that parents’ reactions to study interventions was an under-researched area. Findings from research
did, however, suggest that several parental behaviors seem to influence the effectiveness of some interventions. These behaviors included: inconsistency in carrying out intervention, choosing interventions that they felt were acceptable over others, modifying intervention strategies, and relying on research personnel for psychological support. In next chapter, I will discuss the research method of this study.
CHAPTER 3
RESEARCH METHOD

Research Design

Qualitative research methods provide researchers with the means to explore complex real-life situations such as health and health services. A descriptive study focuses on a specific event for the purpose of describing and elucidating a phenomena (Polit & Hungler, 1999), while an exploratory study investigates the full nature of the phenomenon, the manner in which it is manifested, and the other factors with which it is related (Polit & Hungler). I used a descriptive, exploratory method to understand parents’ perceptions of the intervention they used in a sleep study to tackle their infants’ sleep problems. The design I used contributes to an understanding of a phenomenon, and its related factors, about which little is known. This study conforms to the qualitative research paradigm and incorporates an inductive content analysis.

Sample

The target population for this study was those parents who were enrolled in a pilot study of a behavioral sleep intervention for their infants. I undertook a purposive sampling method, wherein informants were selected according to certain characteristics because they were believed to be most representative of this population of interest or productive for this study (Polit & Hungler, 1999). In other words, I sought to include “outliers” and to use non-homogenous sampling techniques that are conventionally discounted in quantitative approaches (Barbour, 2001). This sampling approach was important because parents, including those who did and those who did not experience difficulties with the intervention, could provide unique information about their perceptions and experiences. Therefore, I tried to enroll parents who had a great deal of difficulty and those who had little difficulty in implementing the sleep intervention. Parents
who were less articulate about their reactions or who had responded negatively to the pilot study were included. Such a strategy can help to maximize variations in the data and to decrease the threat of "elite bias" (Sandelowski, 1986, p. 32). Sample size was determined by the nature of the data collected (Sandelowski). Therefore, I stopped recruiting participants when the information obtained from the interviewees was similar to that obtained from previous interviews. These conditions constituted a state of data saturation, where little new information had emerged. I felt I had reached saturation after I interviewed fourteen families.

Sampling

In order to achieve purposive sampling, I followed a number of procedures to recruit participants. Initially, when the first group of participants in the pilot study was approaching the 16-week follow-up for their data collection, I obtained a list of parents who had completed the program from the project coordinator. Then I met with the project coordinator and the principal investigator to discuss the pilot study. The principal investigator was the chairperson of my research committee. The meeting was to determine the possible candidates for this study who had indicated difficulties with the intervention or had appeared to be having issues that were worth exploring. As a result of the discussion, several families were identified that they might provide exceptional information for my study. I telephoned the eligible parents after their completion of the 16-week follow-up measures in the pilot study. I made extra effort to contact those families who were identified in the discussion. Sometimes, I needed to call the same family several times, because they did not reply to the voice message I had left. I contacted a total of 33 families by telephone and 14 of them agreed to be interviewed. Of the 33 families contacted, about a third did not return phone calls even though several messages had been left on their answering machines. Some of the families returned my calls but stated various reasons for
declining interviews. Those reasons included: in the process of moving, too busy with their lives, or not interested in interviews.

Data Collection

For this study, the means of data collection was interviews. I scheduled the interviews at a time and place that was convenient for the parents. All the interviews were conducted in participants’ homes and were electronically audio-recorded. I asked for the interview to be scheduled at a time when both parents were present and, preferably, the baby was asleep. However, 3 interviews were conducted with only the mother and some other interviews were interrupted by the baby.

The principal investigator of the pilot study had developed a semi-structured interview guide to direct the flow of the qualitative interviews (Appendix C). I used the trigger questions to elicit data so that the interviewees could freely express their ideas about their experiences. During the interview, I used prompts if the participant had difficulty responding to the trigger questions. For example, in one interview, I asked a mother (21009) whether there were situations or people who would interfere with her ability to carry out the bedtime routine. She replied that her mother, once in a while, spent nights with them and would want to rock the baby to sleep, however, she could not recall any situation where she was unable to carry out bedtime routine. I asked, “Holidays?” She immediately stated, “The holidays were difficult.” Then she went on to describe their family vacation in California.

Although the trigger questions provided a focus for the interview, I asked spontaneous questions throughout the course of the interviews, in order to clarify informants’ answers. For example, in one interview, the parents indicated that they did not have social support. The mother said (71039): “To talk about it? And who understands? Because you can’t talk to other
moms and their babies are perfect, right? They sleep through the night. They don’t have the
troubles that you have.” I replied to her comment: “so you think the other parents may not understand you?” Asking this question by paraphrasing her statement, I helped this mother to clarify her social situation and peer-support. Then she answered:

Some do, but not always. You know. I find that a lot of my close friends that are moms, I can talk to them really well, but sometimes you don’t always see them, and the other moms I interact with, like at the community centre library, they’re like... they never really talk about those things. Like everything’s good, and you know, I don’t know.

The father also contributed his opinion: “It seems that way... It might not be that way.” Then I clarified what she said earlier: “But you didn’t really go into detail with those moms?” She replied: “No.”

I sought to clarify information frequently over the course of the data collection process. As I conducted more interviews, my ability to listen and respond to subtle meanings in parents’ comments was improved. I was able to ask parents to provide further information and give examples. This resulted in richer data from the interviews. All of the interviews were approximately one hour in duration. The audio-recordings of the interviews were transcribed by professional transcriptionist shortly after each interview. To ensure that the transcriptions of the conversations were accurate, I checked the transcription by listening to the recordings while reading the transcripts.

Data Analysis

There are two distinct features about the process of data analysis in qualitative inquiry. First, the process of data analysis does not start at the end of the data collection process. In many qualitative methods, contrary to conventional quantitative approaches, the analytical process
occurs concurrently during data collection. Because data are analyzed concurrently with ongoing data collection, the analysis tends to shape the upcoming interviews (Pope, Ziebland, & Mays, 2000). Pope and colleagues stated that such continuous analysis was almost inevitable in qualitative research because the researcher was “in the field” collecting the data and it was impossible not to start thinking about what was being heard and seen. That was the case in this study.

After the initial three interviews, I noticed that most of the participants tended to talk about some topics more than others. I decided that, for the remainder of the interviews, rather than going through the sequence of my triggered questions, I would begin by asking parents about their most positive and negative experience in implementing the intervention. That meant I let parents describe their most compelling experiences first, and then I asked questions about those experiences. The interviews were relaxed and filled with laughter. Several topics were discussed in tandem. Sometimes, as mentioned in the previous section, I would prompt parents to explain, in depth, about certain ideas which emerged during the interview. Pope and colleagues (2000) indicated that the advantage of interim analysis was that it enabled the researcher to look for deviant or negative cases, and allowed the researcher to refine questions and to pursue emerging avenues of inquiry in greater depth.

Another distinct feature of data analysis in qualitative inquiry is that all data do not contribute equally toward the project goals. Some interviews provided by some participants are given more analytic weight than those from other participants (Morse, 2003). Within interviews, some data are irrelevant to the analysis or lacking descriptive value, whereas some data will provide key elements that will enlighten and indicate new and interesting dimensions in the developing analysis (Morse). In this study, some of the information collected was essential for
knowledge generation, but some was irrelevant and needed to be discarded. For example, while describing the intensity of his baby daughter’s cry, a father jokingly said “I thought we were considering adoption” (71040). I decided to disregard this information, because I understood that he had no intention of giving up his baby and that information was not relevant to the study questions.

Sometimes, the parents made comments that had not been mentioned in the previous interviews. I would follow-up with questions about that idea in the subsequent interviews with other parents. For example, a mother stated that she would not discuss the sleep study with her friends because she believed that her friends would disparage her ability as a mother. She described that she would only implement the intervention in private at home. She presented a new idea about parents’ self-image, which I decided to explore in subsequent interviews. I was aware that my data collection should cease when no new information was emerging or saturation of data has been reached. In this study, after fourteen interviews were completed, I found that the description of experiences and perceptions from the final interviews were similar to those from previous interviews.

After the audio recordings were transcribed into textual data, I analyzed the interviews. According to Pope and colleagues (2000), textual data are typically explored inductively using content analysis to generate categories and explanations. Inductive content analysis is appropriate to research areas where little is known. In this study, therefore, I used inductive content analysis for the data analysis.

The process of the inductive content analysis has been documented by several scholars (Pope et al., 2000; Waltz, Strickland, & Lenz, 1991). The procedures that I followed were based on descriptions of these scholars:
1. I defined the universe of content to be analyzed as the interview transcripts and field notes.

2. I selected sentences and phrases to be the units of analysis.

3. I began the process of categorizing the content by reading the transcript and field notes to get a sense of the whole meaning. At this stage, I sometimes needed to re-read the transcript to have a better understanding of the whole interview.

4. I broke the transcript down into phrases and sentences or codes. Then I circled the phrases or sentences and placed a remark or a code in the margin next to the phase or sentence that represented an idea. Following that approach, I identified a substantial amount of codes from each transcript.

5. After coding a considerable number of transcripts, I compared and contrasted codes within and between interviews to review similarities and differences. Pope and colleagues called this step constant comparison. Constant comparison required a coherent and systematic approach. The key point about this step was inclusiveness, and categories were added to reflect as many of the nuances in the data as possible. With the help of computer word processing software, Microsoft Word®, I used the cut-and-paste function to place the words and sentences into appropriate categories.

6. After comparing and contrasting the meaning of the sentences, I could easily delete some sentences or move them to other categories. At this point, I found that there were a number of “fuzzy categories” which were not mutually exclusive. After theoretical and practical discussions with my committee members, I refined and reduced these “fuzzy categories” by either moving some of them into well established categories or clustering them under a new category.
7. I tentatively developed conceptual categories from the codes and comparisons, and obtained a number of categories. Each category was bounded by a definition which was unique to that category and exclusive from other categories. At this step, themes emerged.

8. Finally, I refined these themes by discussing them and their relationships with the advisors on my research committee. This step was necessary to ensure the rigor of this study. During this step, I re-grouped the categories, refined the definitions of categories, and merged the categories until my research chair and I were satisfied with the grouping and definitions of the categories.

Rigor

Measures to ensure the rigor of this research were interwoven throughout the design, data collection, and data analysis. Sandelowski (1986) suggested four factors that related to the tests of rigor in qualitative inquiry: truth value, applicability, consistency, and neutrality.

Credibility is the criterion against which the truth value of a qualitative investigation is evaluated (Sandelowski, 1986). A study is credible when other people can recognize the experience when presented with the findings. The truth value of this study resided in experiences and clear themes, which represented parents who had infants with sleep problems. The major threat to the truth value of a qualitative study is “going native” which lies in the closeness of the investigator-subject relationship (Sandelowski). This threat was significantly reduced in this study because, although this study was a part of the pilot study, I participated only in the qualitative component of the pilot study and did not know any of the participants until the time of recruitment to this study. Given the nature of the interviews, the opportunity to develop an in-depth investigator-participant relationship was minimal.
Fittingness is, according to Sandelowski (1986), the criterion against which the applicability of qualitative research is measured. It refers to the ability of the research findings to "fit" into contexts outside the study situation and the findings to "fit" the data from which they were derived (Sandelowski). Quotations from the parents demonstrated the fit between the findings and the data. When themes derived from parents' perceptions were compared with the literature, the study themes fit with previous works. Two threats that may undermine fittingness are "elite bias" and "holistic fallacy" (Sandelowski). "Elite bias" is caused by over-representation of data from those who are eager and articulate. "Holistic fallacy" is the failure of the researcher to include all the data in the findings, but to present the findings as though they contain all the data. Both of these threats can reduce the representativeness of the study findings. However, representativeness of the data can be enhanced by sampling a variety of subjects (Sandelowski, Davis, & Harris, 1989). Sandelowski (1986) pointed out that researchers must establish the typicality or atypicality of observed events, behaviors, or responses in the lives of the subjects.

In this study, I enhanced the representativeness of data by interviewing parents who had experienced different levels of satisfaction with the behavioral intervention. Therefore, fittingness of the findings was improved by eliminating or reducing "elite bias" and "holistic fallacy" as a result of purposive sampling and the inclusion of positive and negative cases. The observed responses seemed typical of the few descriptions in the literature of parents who had infants with sleep problems.

Auditability is a criterion identified by Sandelowski (1986) to evaluate the consistency of qualitative findings. A qualitative study and its findings are auditable when another researcher can clearly follow the decision trail used by the investigator in the study. The auditability of this
study was increased by presenting a clear decision trail concerning the study to my research committee. Research materials concerning all phases of this study were made available for the auditing process. In addition, as part of ensuring the auditability of a qualitative study, Sandelowski suggested that another researcher should arrive at the same or comparable, but not contradictory conclusions, given the researcher’s data, perspective, and situation. To support auditability, I kept close contact with my research committee during the whole process of this study. I consulted the chair of my committee from time to time to ensure that my analytical process was on the right track, and that my interpretations of the findings were aligned with those of my committee chair, who is experienced in this type of inquiry.

Confirmability is a criterion of neutrality, which means that the findings are relatively free from bias (Sandelowski, 1986). By fulfilling the criteria of credibility, fittingness and auditability, the criterion of confirmability can be achieved (Sandelowski). This study demonstrated credibility, fittingness, and auditability.

Assumptions and Limitations

When using content analysis as a method of analysis, there was a philosophical assumption of a correspondence between the event told and the event experienced (Sandelowski, 1994). Given that the parents took the initiative to call the Newborn Hotline for help with their infants’ sleep problems, and that the parents consented to participate in the study, it was appropriate to assume that participants would disclose the truth about their experiences and feelings. Because parents found themselves in a desperate situation, due to their infants’ sleep problems, their experiences were quite distressing. Thus, I could assume that the parents were able to recall their feelings and perceptions which they had experienced over a period of 16 weeks.
Analyzing only interview transcripts is characteristic of inductive content analysis. As mentioned in previous section, this type of investigation was suitable for an initial inquiry of a phenomenon about which little had been explored. However, ignoring non-verbal clues such as smiling and frowning can be a limitation for me to fully understand participants' responses. In addition, the fact that the sample was taken from a pre-existing study limited the generalizability of this study, because the findings of this study were only relevant to the pilot study. Moreover, the aim of this study was to only explore parents' perceptions of sleep interventions and burden of participating in the pilot study, the perceptions of other issues about their infants' sleep problems were not investigated. That meant the findings of this study would limit us only to understand parents' perceptions about sleep interventions, study burden, and factors leading to study outcomes.

Chapter Summary

In this study, I used a descriptive, exploratory research design. A total of 14 parents were recruited by purposive sampling approach and interviewed for approximately one hour in their homes after they had completed the 16th week follow-up measurement for the pilot study. I used semi-structured questions to guide the audio-recorded interviews, which were transcribed into textual data for analysis. I used inductive content analysis to analyze those textual data. Assumptions and limitations associated with this study were discussed after a detailed explanation of its rigor. In the next chapter, I will present the findings.
Chapter 4

PRESENTATION OF FINDINGS

Introduction

This chapter describes the findings of the study, which explored the perceptions of participants about the interventions introduced to them in a study for infants with behavioural sleep problems. Given that this study was a part of a bigger study, which examined the effects of interventions for infants with behavioural sleep problems, I tried to contact those parents who had experienced different levels of success and difficulties in implementing the study intervention. Thirty-three families were contacted by telephone and 14 of them agreed to be interviewed. All interviews took place in participants' homes, and lasted for approximately one hour.

Description of Sample

The age of the 14 couples in this study ranged from 27 to 44 years, with a mean of 34.11 years. They had received between 13 and 25 years of formal education; their mean was 17.18 years. Twelve of them (42.9%) had post graduate degrees, while 7 (25%) held university degrees and 5 (17.9%) had completed college. The median family annual income was in the $60,000 - $89,000 range. Among these 14 families, five were living in condominium apartment buildings, one was living in a town-house, and one was living in a detached house with basement tenants. The remainder of couples were living in detached houses. Four of these 14 families had one older child. In three families, the siblings were between four and four-and-a-half years old. In the fourth family, the sibling was fifteen years old. At the time of recruitment to the pilot study, the age of these 14 infants were between 6 to 12 months with a mean of 7.9 months.
In terms of cultural background, 16 participants identified themselves as Canadians, 4 as Europeans, and one as American. That meant, three-quarters of participants in this study were from Western societies. The remaining 25% of the participants were Chinese, Asian, and other. Before they were involved with the pilot study, majority of these couples (60.7%) had done nothing to alleviate the troubles associated with their infants’ sleep problems. Approximately one-third (28.6%) of them had tried extinction, the crying-it-out method. Two out of the 28 parents had used controlled comforting method, before entering into the pilot study. One parent indicated that rocking and holding was the strategy she used to deal with her child’s crying.

Findings

I used inductive content analysis to analyse the data collected, resulting in 9 themes with a number of sub-themes under each theme. These themes included: changes in perspectives about sleep, gaining a framework to tackle sleep problems, unanticipated changes resulting from using the strategies in the study, challenges for parents, fitting intervention strategies into parents’ realities, factors interfering with successful interventions, parents’ support systems, parent’s expectations of the study, and inadvertent benefits of the study. The 9 themes and their sub-themes are summarized in table 1 and described in the sections that follow. Study numbers are provided for respective quotations from participants, and pseudonyms are used when I refer to particular participants.
### Table 4.1

*Summary of themes of parents’ perceptions about study intervention used in the pilot study*

<table>
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<th>Themes</th>
<th>Sub-themes</th>
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Changes in Parents’ Perspectives about Sleep

A significant number of participants indicated that the biggest impact of the study for them was the change in their perspectives about sleep behaviour. In the teaching session, parents were introduced to information about normal sleep behaviour and the effects on families of infant behavioural sleep problems. During the process of the study, those parents experienced changes in the behaviours of their infants, and these changes validated the information, which was given out in the teaching session. Four sub-themes emerged throughout the interviews. These included: children can learn to self-soothe to sleep, good sleep leads to healthier and happier children, normal sleep cycles are important, and children benefit from having routines.

Children can Learn to Self-Soothe to Sleep

The information provided by the research team of the pilot study gave parents insight that babies need to learn to fall asleep independently. Parents had instinctively related their baby’s crying to negative feelings. When an infant woke up from sleep crying, many parents thought their infants were having pain or had had nightmares, and would comfort their babies promptly. One father explained how he felt when he heard his infant crying. He said (71035): “Well I guess I’m not wanting him to be in pain or be suffering or hungry or anything like that. So, I’m wanting to give him everything that he needs.” When responding to their children’s cry by actively intervening these parents failed to provide an opportunity for their children to self-soothe to sleep. After trying out the interventions and witnessing the results, parents realized that their infants possessed the ability to self-soothe themselves back to sleep without their help. One dad said the following (61030):

She starts crying for a while, and then after where she realizes nobody’s coming back, then she just falls asleep. I think in the beginning when we didn’t do the method, every
time she cried we would go in and pick her up. Eventually it was [the situation that] you had to carry her or rock her to sleep before she actually slept. But I think the main thing with the intervention was that it basically set out, ‘this is what you do’, and as long as you follow it through, I think most kids probably could be trained.

Some parents believed that their children’s waking from sleep and inability to fall back to sleep were due to external factors such as noisy environments, hot weather, or uncomfortable mattresses. One mother, who shared the same room with the infant, had questioned herself (71035) “Are we making some noises that he hears when we are sleeping? Am I snoring?” Participating in the study helped her understand that the problem was due to the child’s lack of ability to self-soothe. A comment from this same mother illustrated this:

I remember I was having a hard time wondering why he woke up so many times. I just felt ‘what is wrong?’ He is a light sleeper. He tosses and turns a lot. And I thought he is hitting the crib sides and waking himself up and crying. Or the mattress is making so much noise that he cannot sleep again because it’s just making noise... And then the lady that told us that he might not know how to put himself back to sleep, because you are always holding him. So, I think that helped me to put a little bit of perspective and say ‘yah, maybe he doesn’t know how to go back to sleep.’

This mother’s comment indicated that her baby probably continued to wake in the middle of the night, but did not require her assistance in order to go back to sleep. Another mother said that (21009):

And also that they need to gain the skills to fall asleep on their own, and if their parents are always helping them fall asleep, then you could have a five year old that still needs
parents to fall asleep, and that’s not really what most parents aspire to have for their children.

A related issue to poor sleeping behaviour is crying. As mentioned earlier, parents believed that a baby cried because he/she was in distress. A dad said (71035): “I just felt that he’s crying, he must be in some kind of distress, and I don’t know what to do to help him.” The teaching session helped parents realise that this might not necessarily be the case. From participating in the study, parents came to understand that the reasons for an infant’s crying might not necessarily be any physical distress. An infant could cry from frustration because the infant did not know how to comfort him/herself. Parents realized that infants could learn how to self-comfort as long as they were given the chance to master the skills. A mother (31014) said that the interventions, especially the controlled comforting, “gave me the confidence to leave her by herself and I wasn’t being cruel by doing that.” The information that was given to parents led them to understand that crying was not necessarily indicative of physical distress but rather, it was the necessary step for their babies to go through in order to learn self-soothe. A father explained that (61030):

The only thing is don’t feel guilty about letting her cry. That’s the main thing. As long as you know that most children can comfort themselves, or self-soothe, you just have to give them the opportunity to try.

Parents described seeing their infants gain the skills of soothing themselves and putting themselves to sleep even at very young age. They did not believe that young infants could develop those skills, until they saw the improvement in sleep behaviours of their infants. A father said (21011): “Probably because he knows that we won’t go and pick him up right away… That is kind of he learn the way. It is kind of weird to say, he is so young.” These parents understood
that it was important for their babies to go through the learning process and that crying might not be purely negative when it came to children learning and child rearing.

*Good Sleep Behaviour Leads to a Healthier and Happier Child*

Parents learned, from participating in the study, that adequate sleep was important to the other aspects of their children’s life. They observed that once their children slept better at night, they would have better naps during the day and would eat better. One mother described the correlation between poor sleep and poor weight gain. She said (31017):

> We knew that the sleep had deteriorated. At first she used to get a little bit more, like maybe ten hours. And when we dropped down to the eight hours in a twenty-four [hours], we knew that we had to do this. Things weren’t going well. And she wasn’t gaining weight, and we were going to the paediatrician every week, and he was a bit worried. And so we knew this was important. I knew that if we could get her sleep better that things would turn around… By the time she was about eight months, things were really much better… She hasn’t gone below her [growth] curve much. So, it’s okay. She’s happy. She eats really well, and she sleeps well when we provide the conditions.

Another parent saw that her infant’s emotional state was affected by the quality of sleep (71039):

> I do remember that when she wakes up she actually plays in her crib. Like, she wouldn’t call us. She’d be pretty content. She’d just sit in her crib and play until we came and got her. But when she wasn’t sleeping well, she’d wake up crying for us.

Furthermore, parents noticed that, not only consistent night sleep, but also consistent daytime naps were important for the well being of their infants. They became conscious about maintaining normal sleep cycles and an adequate amount of sleep during the day. One of the
mothers indicated that good sleep was important for the well being of an individual and it would be better to have this habit started off early in life (11002):

We had information on this sleep habit that started now that carries with her for most of her life. It is very important to get off with good sleep. We felt a lot of guilt about having her cry. And the education help us realised it is for her good too... It helps us to realise how important this was something that we are doing for her.

*Normal Sleep Cycles are Important*

A lot of interviewees talked about sleep cycles. The information about sleep cycles made parents conscious about the length of sleep and total amount of time their child slept during a 24 hour period. They understood that a natural sleep cycle lasted between 60 to 90 minutes. Before entering into the study, a lot of parents would let their children take cat naps (about 20 to 30 minutes), whenever they wanted. It did not occur to them that an incomplete sleep cycle was not replenishing. Participating in the study helped parents observe the difference in their infants’ behaviour when they took longer naps. One mother reported (11002):

They taught me not to let her take half-hour naps here and there. And how to use controlled comforting to help along the naps at least for an hour. And that was helpful, because once in a while she had a whole bunch of half hour naps during the day and always be tired. Half hour nap is not replenishing enough for them.

When they acknowledged the importance of sleep to the well-being of their infants, parents became more conscious about the total amount of sleep their infants got in 24 hour period. One mother said (71040):

I know that at her age, now, she should be getting about 14 hours of sleep, with the last two days being an exception, she gets between 14 and 15 hours sleep a day... Before that
it was more like, maybe, 12, and a lot of that was interrupted sleep. So I know that we’ve come a long way.

These quotations reflect the extension of parents’ concerns from only night sleep to daytime naps. Parents realized that both the quantity and quality of sleep affected the general well-being of their infants. To promote restful sleep and naps, infants’ activities had to be more structured by parents. That led parents to realize the importance of routines.

*Children Benefit from Having Routines*

All parents who participated in the study interviews appreciated the idea of establishing daily routines for their children. They commented that their children liked routines. These parents believed that their children needed routines so that they would know what to expect. One mother said (61034) “I think that babies are happier when they know what to expect. When they’re not surprised, they’re more settled and calm.” Her partner thought that babies needed routines to help them develop a rhythm, he said, “they’ve also got their own internal body clocks. I think instinctively they expect things. If you can kind of get them into the routine, that their body kind of expects food at this hour, and expects sleep at that hour…” These parents described structuring their days to be in tune with their infants’ rhythms, which resulted in improved sleep behaviour of their infants.

Some babies adapted well to routines, their sleep patterns became predictable, and there was no more night-time struggles. One dad observed (71039):

I find that with our baby, anyway, that routine is really important. She knows that when she has the bottle at night, it’s close to bedtime. She knows that when she has the bath it’s close to bedtime. By the time we get her out of the bath, changed, she’s out. I mean, she’s yawning, I mean she knows its bedtime. So by the time we put her in her crib,
within five minutes, generally, she’s out. So I think that’s really important, at least in that way.

Through the study, parents realised that consistent routines helped promote better sleep behaviour for their children.

Gaining a Framework to Tackle Sleep Problems

Most of the parents had read extensively before becoming involved in the study. They understood the principles of what they had read, but their strategies would usually go nowhere when they became overwhelmed by their infants’ cries. One of the parents tried a gentle approach of putting her infant to sleep but became frustrated. She recalled her experience (41018):

We’ve read lots of books...there was one book that a friend had recommended. It was a very relaxed approach to putting your child to sleep...And so we tried that but it wasn’t fast enough. I remember sitting down while I was doing it and thinking “I need some guidelines. I need someone wanting me, needing me to do this. And I need to look at a checklist and say ‘Okay this is what I am going to do. This is my night.’” I needed some structure, and there wasn’t enough structure with that one.

The parents obtained a number of guidelines by participating in the study, and these guidelines helped participants succeed in the interventions in a relatively short period of time. A mother reported (71040):

So going to the orientation session, and getting advice and guidelines from the principal investigator, it forced us to say “Okay, we’re going to approach this the exact same way for this amount of time, and we’ll see what happens.” And I think if it weren’t for something structured like this study, I don’t know that we would have gotten to that point
as quickly as we did. I think we would have gone through a lot of failed experiments on how to get Nicole to sleep through the night, and it would have been a more frustrating experience.

The parents felt that the study information was helpful, because it gave them a plan to follow. It was especially important when implementing controlled comforting. One parent said that the strategies of the study interventions gave her a middle ground between the books and reality (31014). These parents needed a pre-meditated strategy to follow, especially when they felt “absolutely crazy” and on the verge of giving up, as one of the mother put it (41018). The strategies that conformed to a structured framework, which the parents found helpful, included using step-by-step guidelines for controlled comforting, avoiding feeding to sleep, avoiding short naps, avoiding co-sleeping with baby, and delaying responding to baby until he/she is fully awake from sleep.

*Using Step-by-step Guidelines for Controlled Comforting*

The study information about controlled comforting indicated that parents should put the infants in their cribs awake. After saying good-night and offering comfort items to their infants, they should leave the bedrooms and have the doors closed. If the baby cried, they would go back and check the infant, pat the infant’s back to soothe him/her or use some other comforting strategy, and then leave the bedroom. If the infant continued crying, parents would go back to check the infant in increasing intervals. The participants found this structured guideline very helpful. Here is a mother’s testimonial (41018):

What I found most helpful was the step-by-step procedure for trying to gradually get a baby to go down... The plan for going in after 30 seconds, and then after a delayed time,
was helpful because it was something that I could follow when I’m thinking “I can’t do this anymore”… There was something to fall back on. So that was very useful for me.

Some parents believed that going back to check the baby was important because the baby would not feel neglected. Before entering into the study, some parents had tried other methods. The most common one they mentioned was the so-called crying-it-out method. In this method, parents felt they were supposed to leave the child in the bedroom crying him/herself to sleep, and not go back to check the child. These parents indicated that they had been unable to persist with that method. A mother recalled (71040):

That was just letting her cry it out. Like, not going in there at all… That didn’t seem to work for her, I think because she felt alone, and really, I don’t know if neglected is the right word. But I don’t think she… and also I don’t think we were being consistent enough.

These parents noticed that their infants could gain the skills necessary for self-soothing when they felt secure and knew that their parents were around. One parent said (21011) “It’s partly that he has learnt over the time period that we are still there, we are not gone.”

One strategy that stood out about controlled comforting was not making eye contact with the child when parents were trying to comfort the child. One parent explained that this strategy was not to engage the child when checking the child because she was crying, but just to soothe her and then leave. Parents said that they had not avoided eye contact before starting the study intervention. A mother explained (31015):

I think the information that really stood out in my mind was not making eye contact with the child if she’s crying. To not really acknowledge that you’re coming back because
she’s crying, but just to soothe her while not looking at her, and then to leave. So that was one thing that we hadn’t been doing before, so that, I think made a big difference.

When responding to a crying baby, parents were asked not to pick up the baby, but to offer some form of comforting such as patting or rubbing the baby’s back. This strategy, however, did not come naturally to a lot of parents. This mother’s experience was typical (71040):

I think that what was most useful was teaching us not to pick up our daughter, even when the controlled comforting wasn’t always working. I think human nature is, you know, babies cry, is you pick up your baby. What we learned was to really be consistent, and even if you want to, don’t pick up your baby... It was something that didn’t come naturally to us, but I think it proved to be very useful.

Participants were aware that both parents needed to be consistent with this method and they tried not to stray from it, even occasionally. While still providing comfort and ensuring safety, parents learned to prevent themselves from picking up their infants and rocking or feeding them to sleep.

Avoiding Feeding to Sleep

The majority of the interviewees indicated that the most important step they took was to stop breastfeeding their baby to sleep. These mothers had found that breastfeeding has been the easiest way to soothe a crying baby, and that was why they had been using this method to put their infants to sleep in the past. However, from participating in the study, they learned that breastfeeding their babies to sleep resulted in the babies associating breastfeeding with comfort and sleep. These babies were unable to fall asleep without the comfort of being at the breast. These mothers had found themselves in situations where they were the only persons able to put their babies to sleep, and their babies would wake up soon after being put in a crib. When a baby woke up several times at night, the mother’s sleep would be severely disrupted. A mother
reported (31014), “She’d always gone to sleep on the breast. And it was fine, she went to sleep okay but she didn’t stay asleep. And then I had to keep going up and feeding her in the middle of the night, which was very exhausting.” The result of breaking the association between breastfeeding and sleep was recognized by parents in the study. One of the mothers articulated (31015):

Having that break between feeding and then sleeping, I think helped her to be able to soothe herself. Just like, she knows how to fall asleep without actually being on my breast, which was what she was doing before. So you know, having that break, I think, just forced her to do it herself, rather than relying on me. So that was the big thing.

These parents were also clear that they had to be consistent with this strategy, which meant that they avoided breastfeeding their children to sleep when it was naptime. Parents also learned that feeding baby just prior to sleep meant that the baby associated a full stomach with sleep and was unable to fall back to sleep after waking up in the middle of the night. On the advice of the research staff, this mother, who used to give a bottle of milk to her baby at bedtime, offered the bottle 30 minutes before bedtime to break the association between feeding and sleep. After that, the baby was able to self-soothe back to sleep in the middle of the night. She recalled (21008):

After the second month we never rocked her again, she [would fall asleep by] herself. The first time, it was 30 minutes and after that she would quiet herself in 5 minutes… because at first we give her the bottle of milk just before the sleep, then I think I called [the principal investigator] and she told me maybe give her the bottle of milk half hour before letting her sleep. That means not to make her stomach too full just before the sleep. Yah, I think it’s quite good. We just try to let her have the milk before the bath.
Avoiding Short Naps

Instead of letting their children taking cat-naps, parents were told to encourage their children to fall back to sleep after a short nap, by not picking them up and by patting their children back to sleep. Parents said that the information on sleep cycles helped them to understand that half-an-hour nap was not replenishing enough. A mother said (21009):

It definitely changed my opinion in that I would try to get it at least an hour nap out of her, whereas she wasn’t always before. So, I would work to try to get her to go back to sleep, if she wouldn’t have at least an hour. And now she consistently does have at least an hour, so obviously that’s working better.

Avoiding Co-sleeping with Baby

One of the dads (71040) particularly enjoyed letting his infant daughter sleep by his side, while he was resting on a couch. His wife discouraged this practice because the study personnel in the teaching session indicated that the baby would require a parent’s presence for comforting and could not fall asleep on her own. Another mother said that she used to bring her baby to bed with her in the morning hoping that the baby would sleep a little longer. Once she stopped doing that, she found that there was big improvement of her baby’s sleep behaviour. She stated (71040):

We had made a number of recommended changes, but the one thing that we kept holding out on was bringing our baby to bed early in the morning. Um, if she woke up early in the morning, I would nurse her in my bed and let her stay there. And I think it was the principal investigator who finally told me, “You know, we needed to try cutting that out altogether”. And it was shortly after doing that that we really started to see significant progress, where she got the message that her crib was where she had to sleep all the time.
And, you know, thanks to her guidance... So now she knows how to go to sleep on her own, wide awake. And when she wakes up at night, she knows how to fall back asleep.

**Delaying Responding to the Baby until He/she is Fully Awake from Sleep**

Parents used to attend to their babies immediately when they stirred or rolled over in sleep. Upon receiving information about different types of sleep cycle, e.g., deep sleep and light sleep, parents understood that their babies’ stirring might not be associated with waking. Parents’ responses to their babies’ movements might rouse him/her from sleep. One mother commented (41018):

There were times when he was stirring, and he’d roll over, and a minute of fussing, and then he’d go back to sleep. And so that made a very big difference, actually... I didn’t know that when we had [my older one], and I would be in there immediately. So that was a very helpful piece of information.

Some parents indicated that their baby might open his/her eyes but not necessarily be awake. They learned to wait to respond to the baby until the baby was completely awake. Another mother put it (71035):

I usually figure that if he sits up in his crib, that he’s usually awake. But I will try to resist responding to him if he’s calling out, just on the chance that he’s talking in his sleep, and I didn’t want to disturb him. I wait to see a more positive sign. The room is dark, so you can’t really see if he’s looking at you, but I try to stay perfectly still...

During the study, parents also learned the importance of not disturbing a sleeping baby. One parent described his experience that demonstrated this issue. His baby moved a lot while asleep. On several occasions, the baby moved to the corner of the crib. He thought his son was not comfortable. As a parent, he thought he was providing comfort and warmth to his baby when he
moved the baby back to the middle of the crib. His efforts resulted in waking up the baby. He learned that the baby found comfort and sense of security at the side of the crib. Moving him to the middle of the crib roused the baby from sleep. This father stopped doing that after receiving information in the teaching session to let the baby sleep where he was, and found that his baby slept better. The father said (71035):

After the seminar that we were at... I said “Okay if he feels comfortable up in the side, I’ll let him be.” You know, his feet going down one side, his head going down the other, and his arms half stuck outside the crib, I’ll just leave him there. And I don’t know whether it’s better, but he seemed to sleep better of the fact that I wasn’t moving him.

Using Progress Notes to Track the Baby’s Pattern of Activities

At the beginning of the study, participants were given progress sheets to record the daily activities, mealtimes, naptimes and night sleep of their babies. The informants said that recording these mundane details of their babies’ activities helped them to recognize patterns or lack of patterns, in some cases, of their babies. A mother said that (21009):

Because it puts down on paper what your routine is, and how long your naps are and that kind of thing, and you can start to see a pattern after a few days and see how the routine is playing out in reality, as opposed to just what you think you’re accomplishing... and you can see what you can be doing in terms of increasing the amount of routine in their schedule.

Another mother described how charting progress helped her establish good routine for her daughter (31014):

At least you could see on each chart if you did the same things at the same time, roughly, on each day. That really helped me, especially in establishing a really good routine for
her. Because I could look at it and go, “oh my goodness, on Monday I fed her about 9 o’clock, and the next day I didn’t feed her until an hour and a half later, so no wonder the poor thing’s all over the place.” So you know, I found a really good visual picture to help us with routine.

Charting the progress not only helped parents to see the patterns of routines, but also to see the progress. It was encouraging for parents to see the improvement of their infants’ sleep problems. A mother said that (61034): “every once in a while we did, you know, look at it and it was nice to see the improvement.” Another mother made a similar comment (31015): “those charts helped see improvement, which is important because it may be incremental improvement, which you don’t really see unless you chart it down.

Unanticipated Changes Resulting from Using the Strategies in the Study

When these parents of poor sleepers sought help from health care professionals, they expected to do something to change their babies’ sleep behaviour. What they did not anticipate was that changes that occur in them. Participants reported that they regained confidence as parents, after realising their problems were common; their change in perspectives about sleep led to the changes in their parenting style.

Regaining Confidence as Parents

Most of the parents in the study did not have experience or knowledge of young children with sleep problems. Children’s sleep problems had seldom been the subject of discussion in social gatherings, a point on which I will elaborate later in the analysis. The parents in the study tended to think that their infant’s sleep problem was unique, and after trying several strategies to no avail, they had started to question their ability as parents. Some of them even wondered if it was them causing the problem. One mother put it (41018) “As a parent, you always ask yourself
‘am I to blame? And so what can I change?’ The sort of enticing thing about the sleep study is here is something will help me break whatever I am creating in this.” This parent felt inadequate as a mother and hoped that someone might be able to help her with her parenting. Some parents felt that their infants were particularly problematic and felt hopeless in dealing with the problem. One interviewee explained (61030) “And sometimes you try these methods, and it might not be your fault. It could just be the child. So you just lose confidence that it’s going to work. You lose confidence in yourself that you can do something right.”

Participating in the study helped the parents realise that there were other parents facing similar problems with their infants. The study helped them appreciate that they were normal parents and that their infants’ problems were common and amendable. One mother said that (71040), after the teaching session, “you kind of walked away feeling normal, that you weren’t a total failure as parents.” A dad also stated that (21008) “and you feel like you meet others, and you know, oh, we are the same. You will be comfortable because not only your kids have that... it is not your kids have some really difficult, but it’s a general problem we are facing, and there are some ways to work out.” To tackle sleep problems successfully, parents needed to have confidence in themselves. A mother elaborated (41018):

That’s very significant knowing that you’re not alone in this. Because in the middle of the night, when you’re dealing with a crying baby, and you’re so exhausted, even knowing that two houses down someone else is probably doing this, too. And that you are not parenting wrong. I think that’s the trick.

Her comment seemed to indicate that the trick to succeed in dealing with her infant’s sleep problem was to have confidence in herself, and to believe that she was using the right strategy, so that she could persevere with the interventions. Another mother explained it very well (61034)
“Just be strong, and tough it out. Because once you’ve made it through one thing, there’s still more hurdles. Trusted that at some point, eventually, this has got to work.”

Change in Parenting Style

Parents commented that in all the prenatal classes they attended and in interactions with health care workers, they were told to feed the baby whenever he/she wants, and let the baby sleep whenever he/she wants. They had never received suggestions about routines in terms of feeding, naps, playtime, and bedtime. Marge (61034), one of the interviewees, talked about her experience:

All the prenatal classes that we took, the prenatal books that I read were all sort of, I don’t know if baby-centered is the right word, but...just don’t ever have structure. So it took a long time before we put in structure. And I think that if we had put structure in for Paul months earlier, we wouldn’t have run into all the problems that we ran into.

When it came to their infants’ sleep, parents would just wait until their infants seemed tired enough to fall asleep by themselves. Another mother reported (31017) “At first it wasn’t an actual set bedtime, because we would wait for the tired cues. We would wait for her to rub her eyes, or so on.” Participating in the study helped parents realize that it was important to have some control over schedules. Rather than totally relying on the infant to give cues about fatigue, they established a bedtime routine which they would go through every night. This same mother went on to explain:

When we started doing a more formal night-time [routine], where she would actually sleep a little bit more, and be in the crib and so on. It wasn’t always at exactly the same time, but having the routine and so on; just cued her that she knew this was bedtime.
She indicated that, sometimes, even when her baby did not seem interested in sleeping, she would “cue the child that that was bedtime”.

When it came to naps, parents tried to create a quiet environment conducive for naps for their baby. As parents shifted parenting style to a less child-directed and more parent-directed approach, they became more conscious about routines and made efforts to ensure routines were in place. Mick, Marge’s partner, described their shift in parenting style:

We very much started on one end of the spectrum, the feed him when he wants to be fed, sleep when he wants to sleep, and now we’re almost, not completely, but very far, much further on the other end of the spectrum. That it’s got to be rigid and he’s got to have a schedule.

Some parents realized that having a more parent-directed approach was necessary when their child became more developed. A mother explained (71040):

I think that it becomes more apparent when your child is no longer a newborn or a young infant. I mean, when you have a newborn, they don’t have a manipulative bone in their body… They just have basic needs -- food, shelter, love. As they grow older,… they become very clever, and they know what they need to do to get your attention. And so, you realize that you do have to be more than just a caregiver, you have to provide some structure, and you have to learn when to say no. You just have a tougher skin. You’re not always going to respond to every cry, or pick her up every time she fusses or moans.

Challenges for Parents

When the parents participated in the study, they knew that they needed to implement interventions for their infants. In the following six sub-themes, I will discuss the difficulties that participants experienced as a result of their involvement in the study.
**Persevering with Interventions**

Some strategies required parents to give up what they had been doing and to switch to different ways of dealing with their babies. Breastfeeding to sleep and picking up a crying baby were strategies that they were asked to change. While parents were well aware that they needed to follow through the interventions, it was difficult for them not to choose an easier and faster solution, which meant breastfeeding to sleep and cuddling a crying baby. A mother explained (41018):

> Probably the biggest challenge was getting him down to his crib awake and not asleep on my breast, and breaking that connection, which we have now totally entrenched. That was a challenge because it was so easy [to have him sleep on my breast]...It was hard to, you know, find the will to do that.

As mentioned earlier in this chapter, a lot of parents in the interviews claimed that it was against their parental instinct to leave a baby crying, and they just picked up the baby without giving it a second thought. It took them a while to remember to stick with the interventions. Situations, like waking in the middle of the night, created conditions where parents were too tired and not in the mood to listen to the baby crying. In those situations, parents often gave in. A mother described her experience (61034):

> But at the time you think, “I can’t even make it through this one night with having him cry this much.” And you also think, “I’m so tired, I just need him to sleep tonight, so I can function tomorrow. Like, I don’t have the energy to be able to survive tomorrow if I don’t get some sleep tonight.”

Another mother commented (21009), “Sometimes you’re a bit tired and you just don’t want to put up with the crying as much, so occasionally you give in, but you know that you’re giving in
when you do it.” By that she meant she knew that she had sabotaged the progress she made thus far in the study. But she saw that as a break for her on-going effort in tackling her baby’s sleep problem.

Sticking to the interventions also became more challenging when parents had other commitments. Some parents had home-based businesses and had deadlines to meet. Some mothers worked part-time and had to prepare for their jobs. Some parents had examinations to write. These commitments consumed considerable amount of parents’ time and energy, and left little time for parents to struggle with a crying baby. On several occasions, parents confessed that they chose not to follow through the interventions to give themselves a break. The following comment made by one of the mothers illustrated this challenge very well (41018).

“I was preparing for an exam, and I had no extra reserves for following the interventions, you know, being up every two hours. It was easier to have him on the mattress, where he would sleep or one of us could sleep with him. And that works like a charm.”

While exhaustion and limited time posed challenges to parents, external factors such as being away from home also acted as barriers to parents’ effort to carry out the interventions. When families went travelling or spent a night in friend’s place, there were a lot of elements that were out of parents’ control and that undermined parents’ ability to carry out the interventions. Parents reminisced about several situations such as: parents and baby had to share a bedroom, no crib was available, the infants got too excited in an unfamiliar environment and did not respond to the intervention, and their friends or family members were sleeping in the next bedroom and would be disturbed by the baby’s cry. A father described their trip to Britain (31014):
When we were on a trip and staying in friend’s homes, we had no choice but to bring her [to our bed] because they work at 6 am. And at two or three in the morning when she’s crying, we will not be very welcome house guests.

Being away from home or on a family trip was the most common cause of breaking babies’ routines. Breaking routines, however, could result in relapses in babies’ sleep problems, which I will discuss later in this chapter.

**Difficulties with Sticking to Routines**

A small number of interviewees told me that, although they agreed that routine was good for babies, they did not like to stick to schedules. It took them extra effort to create a routine for themselves. One mother even said that she would rather not give any routines to her children, because forcing herself to stick to routine made her life difficult. She said: (31012) “I just have a hard time following a routine. I’m just not very good at it. I like to go sort of instinctively on the kids.” When asked if her baby liked routine, her answer was positive but routine was too hard for her. She went on to explain that: “I felt that there was too much structure and I found that it was too hard to follow, for me, in that sense.”

Another mother stated that she was running a home-based business, which dictated her day-to-day schedule. Some days, she needed to deliver items to clients. The delivery time might fall onto her baby’s nap time. Some days, she needed to talk to clients over the phone and could not afford to have baby crying in the background. She would end up breastfeeding the baby to sleep. She explained that (31015):

I found this the hardest out of all of the techniques to do...I have it in a round-about idea of plus or minus an hour when she should be napping. I just sort of having her sleep through the night was the more important thing... Even though she was falling asleep at
the breast during the day, she was still okay to sleep through the night without breastfeeding. I just let her system work this way. Otherwise I'd just be fighting with her during the day, and it was just too difficult for me.

These examples illustrated that consistency of daily schedules might not be possible in some families. A number of parents found it extremely challenging to stick to routines, because consistent routines were not their choice of life-style.

Dealing with the Effects of the Interventions on Others

In this study, parents were concerned that the effects of the interventions might inconvenience others. Those with whom the parents were most concerned were siblings and neighbours who shared the same condominium.

Concerns about children's siblings.

Among the fourteen families interviewed, four families had an older child in addition to the baby in study. In these four families, three had a child who was a pre-schooler and one of them had a child who was a teenager. These parents were concerned that they should not only focus on the baby to the detriment of siblings. For a sibling who was school-aged, a mother described her need to arrange her day according to the schedule of her other child because school and other extracurricular activities were important. The baby’s nap time would depend on when they would go for a stroll in the park, so that the sibling could play with friends, or when they would have a car-ride to take the sibling for classes. Therefore, the baby’s daytime activities were inconsistent on day-to-day basis. A mother whose infant son was in the study, talked about her concern (31012):

My daughter needs some attention too. I can’t just have a nice quiet routine for him. It runs more on her schedule. We do have to do things for her, and he follows along...If I’m
not home, I don’t make it a priority to be home for his naps, unless I need the time myself… I won’t pull Bonnie away from playing with her friends, if I think that he needs to nap. I’ll just push him in the stroller and he’ll fall asleep. And then he’ll probably have a shorter nap than if he was at home.

When it came to bedtime routine, the older child tended to sabotage the routine. A father of two girls, Clare and Anne, shared his experience (Anne was the child in study who was about 18 months old at the time of interview) (61030):

The only thing is at night time; Clare comes in and tries to sabotage things. If we try to put one to sleep, the other one’s running around. We put Clare down first, but Anne will run down the hall and go into her room, and come out, and we have to chase her. And then when we’re trying to put her to sleep, Clare will come out and worries everyone. So we put one down, and then we keep her in and deal with the other.

In this family, the parents needed to put the older girl to bed first. They waited until the older one fell asleep before they started the bedtime routine for the younger one. In reality, things did not always happen in this sequence and the bedtime routine would not be carried out for that night.

Concerns about neighbours

Among the 14 families who agreed to interviews, five were living in condominium buildings, one of them had their basement rented out and one of them was living in a townhouse where neighbours were in close proximity. All those who raised a concern about bothering their neighbours were living in this type of housing, although none of them received any complaints about their babies’ cries. One father (31014) expressed that letting his infant cry was “extremely difficult when you’re living in an apartment, surrounded by people.” Worrying about their
neighbours was a factor that made parents respond to their infant’s cry sooner than they might 
have if they had been in a house. A mother said (31017):

Because we live in a building, and we were conscious that everyone in the building  
would wake up with Shannon, not just us. So, we would go to her maybe a little quicker 
than we might have if we’d been in a house and on our own, where we knew it wasn’t  
going to affect anyone else.

At the time of the interview, this mother still needed to deal with the night waking of the baby,  
although she was fairly successful with other interventions such as controlled comforting,  
daytime and bedtime routines.

*Adapting the Interventions to a Baby’s Development*

Parents found it very challenging when their infants learned to stand up in their cribs.  
Although they used the controlled comforting intervention and then left the room, as soon as they  
left, the child would stand up and hold on to the rail of the crib and not let go. Parents felt that  
these activities would just exacerbate the child’s protest and they usually gave in. A mother  
recalled her experience (41018):

It’s a physical development, he was able to stand up and pull himself up. When we  
started, he couldn’t do that. He would sort of fall asleep, if he whimpered for ten minutes.  
And that’s fine, he’d wear himself out and sleep. Once he developed the ability to stand  
up in the crib and hold on, he would do that. He would just stand up there, and you could  
see this, he’s be just barely holding on, but he wouldn’t let go. He would not go back  
down. I mean, that was when I left him in there for an hour one time... It was hard doing  
in and out thing. There was no improvement. Certainly coming back in to him infuriated  
him.
This family ended up giving up the controlled comforting intervention. With a pre-school age son and this baby, this family were not able to follow through the interventions that the study prescribed. Another family commented that, when their child started to stand up in the crib but was not steady enough to hold on, their child might fall and hurt herself. They would check the child sooner than they did when their child was unable to stand up. When, later, the child became steadier and was able to hold on the rail for longer, her cry became more hysterical. These parents were worried that she might hit herself against the sides of the crib. This family finally gave up the controlled comforting strategy, but persisted with other strategies.

Children's other physical developments, such as eating, could disrupt the interventions. Several babies in the study were reported by their parents as finicky eaters. One of these mothers reported that (11002)

I found her a finicky eater and she doesn’t always want to eat. She doesn’t get a good feeding at one time and she will be very hungry shortly after so I will try to feed her again. It is not so easy to feed her. I just happen to feed her whenever I think she will be feeding... A lot of time we stick to schedule, but it doesn’t always work that way. If she had a bad eating day then the schedule is scrapped.

In another case, the baby lost weight, and then the paediatrician advised against omitting night feedings. This mother said (31017):

And this time between six and eight months she lost a pound, just over a pound...I think she really did need to feed at night time. The two feeds. And the doctor had agreed that two feeds was pretty normal, and just go with it. She was one of those babies that needed it.”
Dealing with Family Circumstances that Interfered with Routines

Difficult family circumstances were challenges that were not experienced by every parent in my interviews, but were significant enough to mention. In one of these families, one of the parents (usually the father) worked long hours and left the other parent looking after two children. Dealing with two young children was a challenge that undermined maintaining the routines. A mother claimed (31012) “With two kids, it’s hard to follow a strict bedtime routine. Plus, my husband works in the evenings, and so I’m on my own. So, it’s hard to follow. We do the same things but a little bit out of order.” In this family, the husband provided minimal commitment to the study intervention and limited support to the mother. This family was least successful in all aspects of the intervention.

The home environment was controlled by parents to some degree when implementing the intervention, but there was a limit. Some families in the study had only one bedroom. They could sneak into the bedroom after the baby fell asleep at night so that they could also sleep. Their challenge was the night waking when they slept in the same room. The baby could see them and even call out for them. They could not implement the strategies of controlled comforting by leaving the baby by himself and then going back to check him. The mother explained (71035) “because we all sleep in the same room, he can see us in the bed. So the two minutes comforting thing doesn’t work, because he sees us there. He just cries and cries and cries.” For this family, the parents would just leave the baby crying in the crib as long as they could tolerate the crying. Sometimes, they would get up and walk the baby in the living room. Fortunately, night waking did not happen very often to their baby.
Dealing with Childcare Providers who Undermine the Interventions

A large number of parents in the study experienced situations where child care providers were unable to follow through with the intervention, either because they did not agree with the approach or they found the approach too much trouble. Parents tried their best to lay out plans and steps to follow, but many child care providers did not follow through with controlled comforting. They were not committed to the daytime routines. A mother’s experience explained it all (21009):

Occasionally if my mother is here, she wants to rock her to sleep, so the bedtime routine goes out the window. But you know what, I mean that’s a grandparent’s prerogative, and I feel that I can try to suggest to her as much as possible about the things that I do, but she needs to make her own decisions about what she elects to do. You know, far be it for me to tell someone who’s raised that many kids what they should be doing. Other people might be more stringent upon it, but I just don’t think that if you’re getting free help from people that you can dictate to them too much what they’re doing.

Fitting Intervention Strategies into Reality

Most of the parents started implementing the interventions exactly as they had been taught. After seeing the results of these initial strategies, they developed confidence. Some parents began to pick the strategies that worked best for them, or to adapt the strategies that they had been taught. I will describe different ways that parents used the strategies to cope with their lives.

Using Interventions as Prescribed

About one quarter of respondents claimed that they had consistent daytime and bedtime routines. In all these cases, controlled comforting worked very well for them and their babies
responded quickly and the responses were relatively consistent. By the time of the interview, all of these parents were no longer practicing controlled comforting. Their children could settle to sleep as quickly as within five to ten minutes. They slept long periods without waking or if they did wake, they went back to sleep without parents’ attention. Occasionally parents needed controlled comforting to deal with relapses, which usually occurred after travelling or illness.

These parents observed that their babies loved the bedtime routine and looked forward to it. That encouraged them to maintain a consistent bedtime routine. One family even made up a slogan for their bedtime routine: 5B’s – bottle, bath, brushing teeth, books, bed. All these parents expressed a fondness for bedtime stories. They enjoyed the quiet moments when they and their infants could spend time together. The bedtime routine was a unique experience shared among the baby, the mother, and the father. Another family considered the bedtime routine so important that they asked their friends and relatives not to call during those hours in the evening.

These families also maintained consistent daytime schedules. They did the same things at a relatively similar time everyday. Slight fluctuations occurred, but basically the parents were relatively strict. Parents put in a lot of effort to maintain the routines. They rearranged their own social lives in order to accommodate the child’s routine. When there were errands to run, they would make sure that the time away from home would not fall at baby’s nap time; or purposefully arranged a longer ride so that the baby could have a stretch of a whole hour nap in the car seat. They arranged the time with friends who wanted to visit so that the friends would visit during the baby’s nap time. My interviews with these parents were carried out while their babies were asleep. That way, the baby would not be too excited when seeing someone visiting and refuse settling for a nap. When there were occasions where they dined out with friends, instead of booking the table at eight o’clock, they booked the table at six o’clock so that they
could maintain baby’s bedtime at eight o’clock. While each of these changes seemed rather insignificant, numerous trivial changes created major changes in the parents’ life-style. These parents adjusted so they could incorporate the intervention into their lives.

**Using Bedtime routines but not Daytime Routines**

Families that fell into this category were relatively successful in using controlled comforting. As a result, there was no more night time struggles. Once the immediate problem was solved, these parents lost the incentive to be attentive to other aspect of the intervention. They did maintain relatively consistent bedtime routine for the reasons mentioned above. These parents, however, were less committed to maintaining a routine during the day. It seemed to be easier for parents to maintain a consistent meal time but not nap time. Some parents explained that the nap time might sometimes conflict with their schedule of other social activities, such as shopping, friends’ visits, and their infants’ classes. A mother said (21009)

> I guess just occasionally when we’re out visiting people or we have a group of other babies that we visit, and so, you know, for nap times at ten it can be difficult to work into that visiting schedule, and admittedly I am not as rigid as some people that I know of carrying out the schedule.

There was a family where the mother worked part-time and sent the baby to daycare three days a week. There was no consistency in terms of daytime schedule between the daycare centre and home. This mother said that the lack of consistency did not seem affecting her baby’s night sleep. There were parents in the study who had home-based businesses and were unable to maintain a routine. Some parents had other children to look after and maintaining baby’s routine would interfere with that of other children. Keeping a consistent daytime routine was viewed by these parents as being either unrealistic or unnecessary. A mother said that (61030):
And because during the daytime you’re not consistent anyway, because you might be out shopping or in the car... And sometimes in the day, of course, she would just fall asleep in the car. So I was kind of thinking, what do you do? I guess it doesn’t matter in the daytime as much. Because the sleep problem’s not so much in the day... it’s more night waking that’s a problem for the parents.

*Using Routines while Ignoring Controlled Comforting*

Again, about one quarter of interviewees reported that controlled comforting was not for them, they felt it was too traumatic both for them and for their babies. They chose not to implement this strategy. Instead, they focused on scheduling daytime activities and bedtime rituals. A mother described her baby’s routine (41018):

> We have quite a rigid routine actually... But his napping was more varied. He was doing the couple of naps a day, and never really knew exactly when they were... Now he goes down at noon pretty much every day. So now he’s down to one nap. He naps longer, he goes down more easily. Yah, things are more predictable.

These parents noticed that the progress was slow and also not consistent, but they found it was easier both for their children and for them. One mother said that (31012): “he doesn’t go to bed at exactly the same time every night. He’s not, you know, it’s in a time frame of an hour... different every night. It’s sort of, whatever works for him, it works better for us.”

As their children got older, some parents became more flexible about daytime routines. They understood that their children needed less sleep during the day when they got older, and modified their daytime routines to accommodate those changes. They reported that their children often changed to one long nap a day instead of two shorter naps.
Tailoring Controlled Comforting

In implementing the controlled comforting, some parents did not stick to the increasing interval when it came to checking their babies between withdrawals from the room. Depending on the reaction of their baby and the comfort level of the parents, some parents would go check at shorter intervals while some waited for longer. Some parents reported that their infants got more upset when they saw them, so they chose to wait longer before going back into the room. There were a couple of families that opted not to go back and check the baby because their presence seemed to exacerbate their infants’ cry. A mother described her experience (61034):

Because Paul actually got worse every time we went in his room. You could not, unless you picked him up, he wouldn’t stop crying. You could talk; you could rub him, his tummy. He would scream louder and louder and louder. So the paediatrician told us that we had to not go in, and had to let him wind himself down that way.

Some parents simply waited until their infants stopped crying and settled to sleep. Other parents, after seeing their infants’ positive response to controlled comforting, stopped using the regular checking interval. As their confidence grew, they would stay out of their infants’ room longer and longer. They would finally reach a point where they would leave their infants in the room knowing that they would be fine and would fall asleep. A father reported (21011):

Now we found that, since we’ve been doing in the program, that when we put him to bed, even just a touch on his back, instead of start with a rub giving him a little bit of massage on his back. He seems to be taking it. He knows what’s going on... if he is having a bad day or something, he will cry for 5 minutes at the most. That’s a bad day.
Then his wife supplemented "I found that pretty much just put him to his crib and rub his back for a minute or two then we just leave for the last two weeks." Another mother offered her explanation (21009):

I guess now I do a modified approach in that I put her in her bed and I tell her it's bedtime, and I close the door, and, you know, I'm not going back in anymore, because I found that over time, as she got older and she knew the routine, I went back in two and four minutes, and that just sort of rewarded her. It's easier for the two of us in terms of her temperament if I just close the door and I just don't go back in until I figure that she's asleep and then I'll put her blankets on.

A mother said that the design of the strategies was flexible that she could do what she thought would better work for her baby (61030):

She would cry harder if I stayed longer. But then I read it, and it said you could stay two minutes, and it said to leave and stay longer, like go up to ten minutes. So I would generally stay out for ten minutes because it was too hard for me to go back in. So I just looked at it and it seemed flexible, so I kind of did what I thought was better for her. And it worked.

Using Techniques to Reinforce Controlled Comforting

Amongst all three interventions, controlled comforting was the most challenging to parents who agreed to be interviewed. Some parents spent more then half of the interview time talking about their experience of using controlled comforting. It is not surprising that they needed a coping mechanism to reinforce their efforts to use this intervention. Some parents (31017) said they had a game plan. By that, they meant they pre-planned their reactions for specific situations. The principle they used was not to make decisions when they were not
cognitively sharp, such as when they were half-asleep in the middle of the night. A mother explained (61034):

You weren’t trying to make a decision when you just weren’t really capable of making a decision. And that was a huge thing that I would recommend for anybody to do it, don’t make your decision in the middle of the night.

Some found that, when implementing controlled comforting, it was better for the implementing partner to be emotionally removed from the scene. Using distractions was helpful, such as concentrating on timing by watching the timer provided by the study team, talking to close friend on the telephone, and talking to each other about other issues. Some parents would physically leave the scene so they could not hear their infants crying so clearly. They went downstairs to the living room. As one of the mothers experienced (61034) “the bedrooms are upstairs. Even go downstairs so it’s quieter. And you still can hear him, and you’ll be able to hear if anything goes really wrong... But you’re not getting it at full volume.” Others would turn off the baby monitor (31015), “But we had to shut off our baby monitor, because that just made it worse. We can hear her fine, even though she’s upstairs.”

Parents taking turns to implement the controlled comforting was a coping method used by many informants in this study. A father said (21011) “we switch to put him to sleep instead of one person put him to sleep; we switch over so that one person would not feel guilty all the time.” By feeling guilty, this father meant having bad feeling when they heard their baby crying. Other parents explained that mom and dad taking turns to put their baby to bed, also helped to break the association of breastfeeding with sleeping for the baby.
Factors Interfering with Successful Interventions

There were a number of factors that interfered with parents' successful implementation of the intervention. They included infants’ relapses, parents’ fears about harming their babies, failing in the study and being judged.

*Infants’ Relapses*

The infants’ relapses were the most common and most difficult challenge faced by parents because they had to “start it all over again”. Relapses occurred after a baby responded well with the interventions and progressed to sleeping long spans of time during the night. Parents found that suddenly, triggered by some events such as illnesses or teething, the baby would begin waking again at night and crying for hours. A mother articulated her experience (31014):

> After a little while she was sleeping very well. She would sleep for nine or ten hours in a stretch, which was great. But then there’d be other nights where she’d wake up. But again you can’t really explain why.

Relapses were traumatic for parents, because it made them feel that all the effort they had made in the past weeks was reduced to nothing. They had to respond to the difficulty once again. After analysing the data, I noted that, while some relapses seemed to be without an obvious reason, most of the relapses were due to interruption of routines. Interruptions could occur as the result of family travelling, illness of the baby, starting daycare or increase in number of days in daycare, the baby’s teething, and weaning from breastfeeding when the mom was preparing to go back to work. A mother’s explanation was a typical one (41018):

> We were doing all right from April and the first half of May. And then he got sick in May, and we were in the hospital a couple of nights. And then there were two very
significant interruptions in the whole routine. And it's amazing how quickly he can break that and having to start over again.

Some informants did not expect relapse and thought that the sleep problems, once solved, would be gone permanently. A mom said (21011) "I wanted to get it at one shot." Despite warning from research staff that relapses could occur, parents were still feeling bewildered when their infants waking at night and crying again. A mother recalled (71039):

I think the principal investigator was saying, kind of like this is where to start... I'm pretty sure she mentioned things like that. Like sickness, illness, teething, change of their environment... these things could affect what you're trying to do.

This mother described her experience with her infant's relapses in the same interview:

There have been a few times lately where she's been crying for a while. And that's why we're going through a whole new thing right now. We're trying to figure out what's wrong with her, because she's waking up crying for no apparent reason.

In many interviews, parents expressed their desperation when faced with relapses and reported calling the project coordinator and the principal investigator for help.

*Parents' Fears about Crying Causing Harm to their Babies*

Being upset by their babies' cries was the most common comment made by parents throughout the interviews. Parents' concerns about their infants' crying can be categorised into different elements: the fear of causing suffering and the fear of causing damage to the baby. Parents perceived that baby's crying was a call for help, and they should immediately intervene to stop the crying. A father said (71035) that:

I'm not against getting him up and giving him something to settle him down. My rule of thumb is that I'll offer it to him. If he doesn't seem hungry, I'll perhaps give him some
Advil. But if that doesn’t work, then I typically try to ignore him and to sleep. Sometimes it’s difficult to ignore him.

The parents also perceived that the inability to stop their children’s crying meant that their children’s needs were not met. They felt frustrated because they could not identify the needs of their children and, therefore, could not fulfil them. The same father went on to describe his experience “I feel bad because I can’t help him and give him what he wants, really. And I can’t help him get to sleep.” As a result they felt sad and guilty because they felt that their duties as parents were not served. A mother said (21009) “It felt bad. You feel like you’ve abandoned her, and she’s quite small. She’s dependent upon you. So you just feel sad.”

Although most parents rationalised that crying would not cause physical harm, they worried about whether there was any long-term effects on their baby’s psychological and emotional development from using controlled comforting and having the baby cry. They felt that the child, feeling abandoned, might have issues in the future. One mother said (61034) “I was worried about how is this going to hurt him in the future. Are we doing any permanent damage by letting him cry with his trust, or being so upset?” The fears were more overwhelming when parents first started implementing the intervention because, as reported by parents, their babies’ crying escalated in the initial period. With older infants, parents had apprehension that their children would cause physical harm to themselves. Older infants, after the initial steps into the interventions, would sometimes became hysterical and might bounce against the side of the crib, vomit, lose their voices, or lose control to a point where they could not settle, even when the parents were comforting them. A father said (21008):

I think eleven months, so the time she can stand up. Each time when she wake up, she just stand up and cry, and then start knocking her head against the crib, then cry very
high, and then she won’t stop. I mean we try to not give in, we found it’s too hard. In the night, who can sleep by doing that?

All of these incidents occurred during the relapses, after initially positive responses to the intervention. Parents were concerned that they might cause suffering and damage to their child.

*Fear of Failing in the Intervention*

Some parents expressed concern about their familiarity with the intervention, because they had either learned about or tried similar interventions in the past. They had been exposed to the intervention through books and other healthcare professionals, and were afraid that they would fail. They may also have tried something similar or a slightly different approach with their older child or the same child when he/she was younger. The parents, who had been unsuccessful in their previous attempts, were afraid that they might fail again, therefore, they held a sceptical view about the study intervention. A mother had tried unsuccessfully the crying-it-out method with the same baby who was, later, enrolled into the study. She said that she was initially sceptical about the study. She said (71035): “so we didn’t try that again. Well, we figured, I needed to know more about the program before we did anything.” Another mother said (31015):

Well, we had tried the crying to sleep ourselves, so I wasn’t sure… I mean, before we went to the meeting where we were taught the intervention, I was hoping it would be something else, other than crying to sleep. So when I first heard it was going to be this system, I was a little bit unsure that it would work, because it hadn’t worked in the past for her.

They did not want to go through processes, which they felt might be fruitless. One mother recalled that she asked the facilitator during the teaching session what would happen if she failed. She was expecting an alternative method in case the intervention provided by the study
did not work. When the mother was reassured that she would not be categorized as a failure, if the intervention resulted in limited or no progress, she agreed to participate.

*Fear of Being Judged*

The majority of the informants did not openly talk to friends about their involvement in a sleep study. They might only mention it in passing to close friends and family members. The most common comment from these parents was: "They would not understand. Their babies are perfect, they can sleep anywhere." These parents felt they could not confide in others because they did not want to be judged as problem parents. A mother explained (31014):

No we didn’t really talk about it, because... you know I felt I didn’t really tell people we had a problem with her sleeping. You hear so many other parents say “oh, my child’s slept for 12 hours from when he was 6 months old, and what’s the matter with you? What are you doing wrong?” I thought even if I am doing something wrong, I really don’t need someone else to go and rub it in. so I thought “Let’s just keep it to ourselves.” We didn’t really discuss it with our families. I think that the families...the bits that we did say...all the rest of them pooh-poohed it... “Why are you wasting your time with that nonsense?” I was just “we’ll just keep this to ourselves.”

This mother figured that others would consider her as an incompetent person who had been leading a miserable life. She would only implement the intervention in private without anyone present. Another mother had similar opinion (11002):

I thought they might think it was unnecessary or foolish. It was a system we were trying and we were lost at that time. It was something we hooked on to it. We didn’t know how to get her to sleep other than my breast. It was kind of everything we were looking for at
this point in time. I didn’t want to hear anybody saying a nay about it. So I just didn’t do it [in front of friends].

These parents were afraid of negative remarks. They would be devastated, if they had ended up failing with the intervention and all their friends had knowledge about the failure. In addition, it seemed that parents tended to avoid discussing sensitive issues, such as parenting, at social gatherings. When asked why she was not talking about the interventions, a mother replied (31017) “just some of our friends think we’re a little bit regimented to a schedule.” While some non-supportive comments were imaginative, some were real. A mother confined (31014) “his mother thinks ‘you can’t let her cry. How can you let her cry? I’ve had five children, and so many grandchildren, and it’s wrong to do it.’ So you feel... like I’m...” Then her husband explained further “Oh yah. When you’ve got your mother in your ear, squawking away, ‘you don’t know what you’re doing, I’ve raised forty-nine thousand children.’” To sum up, these parents had experienced the effects of their infants sleep problems for a while before entering into the study. They had often received negative comments or experienced failure with other strategies. Their self-confidence was shattered and they felt desolate and vulnerable. Avoiding discussion of the problem was a way to avoid being judged negatively.

Parents’ Support Systems

Implementing the intervention provided by the study required some support systems for parents. The study was designed with telephone contact twice weekly for two weeks to support and encourage parents. Some parents relied heavily on the phone calls and sought further contact. Other parents seemed to need less supports around the intervention. The following categories described the presence or absence of support for parents and source of support they received.
Feeling Emotionally Isolated

There were a small number of parents who claimed to be alone in dealing with their infants' sleep problems. They felt that other people would not understand them because their friends' babies slept well. A mother said (31017):

We don't have any family or anyone that lives in Vancouver ... I think, just some of our friends think we're a little bit regimented to a schedule.... because most babies sleep in the car pretty well. But she [their baby] cannot accommodate those things... We get a few comments here and there, that babies will sleep when they need to, you know that whole thing. And we just brush it off.

Interestingly, the families who had felt isolated indicated that they had consulted several health professionals about their babies' sleep problems and had received information and advice. One of them called the study personnel a few times for advice. Two had received help from grandparents for child care. It was apparent that, when talking about support, they were referring to ongoing emotional support. They felt emotionally isolated and regarded that as a way of modern life. They said that they relied on each other for support. A mother said (61034) “A lot of our family is long distance, so as much as they could, they really did... the phone only does so much. It’s a hard life.” Her husband agreed “yah, we feel a little bit alone.”

Receiving Psychological Support from Close Friends and Relatives

More than half of interviewees reported that they received psychological support from friends and family members. Although some of them had family living far from where they lived, they talked about the problems and the study intervention on the telephone. Those who said that they received psychological support often were those who were willing to talk about their problem freely. A mother said (41018) “well for friends we talk about it a lot... it's
certainly a hot topic of conversation among parents. So yah, there would be sharing of ideas, and what works and doesn’t work, and um, just general support for everybody.” Some parents felt they could share their ordeal with social acquaintances. A mother talked about her infant’s problem with other mothers from prenatal class. A significant amount of support came from grandparents and in-laws. A mother said (71035) “I am usually the one that talks about it. I usually talk with my mother-in-law a fair bit. And so when I feel depressed about why he’s crying and stuff, I tell her.”

Receiving Practical Support from Family Members

In some families, family members offered babysitting when the mother needed to be away for a number of hours. Some families had grandparents who would stay in their homes and prepare meals so that the mothers could take a rest. On some occasions, grandparents might not agree with the philosophy of the intervention provided by the study, however, they still provided practical help. A father said (21008):

I think, like my wife said, maybe her parents is around, and they found it’s not … although they didn’t say anything, but you know that they found it very hard and stressful if they hear the kid crying, non-stop… the rest is pretty helpful because we got someone to help for dinner, like something else, so we can get focused on her.

In another situation, the grandfather looked after the sibling so that the mother could concentrate on the infant. While the most common source of practical support was from grandparents, there was one family that the help came from the mother’s sister. She provided childcare when the mother needed to be away from home for her part-time job.
Relying Research Staff as Support

Parents found research staff supportive, because they provided one-on-one problem solving for them. A mother said the phone conversations with research staff were the best bit of the study, she said (31014):

It was a very individual thing. You could ask her specific questions, she was on the phone with you for 15 or 20 minutes at a time. It’s very one-to-one. And she gave a lot of the general information, not just about controlled comforting, but about sleep techniques in general. I think that was the bit I found most helpful. You know, having someone who’s going to phone every couple of days “How’s it going? What’s your questions?”

This mother would write down her questions whenever she encountered a problem about the intervention and her baby’s sleep behaviour. She would go through all of her questions with the project coordinator when she called.

There were a marginal number of parents who relied totally on research staff as support. A mother said (71040):

There were times when I just needed someone to say “you’re doing great. Hang in there. It’s not easy. You are making progress, and you just need to try to focus on this.” I needed a support system, and the project coordinator was there to answer questions, and to offer some advice, but she wasn’t necessarily trying to pick me up and make me feel better, which is what I would have liked as well. I mean, some days, I just think I took it to heart too much and it would have been nice to have someone who was perhaps a little bit more cheering... I think she did her best to keep me on track, but I probably wanted a little bit more.
When parents experienced difficulty, they would call the project coordinator or the principal investigator for help. Some said that they got the support they needed, while some had expected more. For example, a mother said (31012) “I had help from the principal investigator… She was the only one in the study who I sort of sought out for help, and who was helpful.” Others felt frustrated when the project coordinator was not immediately available. A mother put it (11002):

The unhelpful was a couple of times it’s hard to get them. Sometimes I called couple of times over a period of a week and nobody called me back. Then I got angry with them and I email people. When they did finally get in touch with me, they had some good answers and good solutions and they follow-up. They called me, then that’s good. Research staff is not always there.”

Parents’ Expectations of the Study

Those parents who sought help from Newborn Hotline and subsequently got enrolled into the study were desperate about their infants’ sleep problems. While they shared the same problem, their expectations of the study varied. Parents’ expectations of the study could be categorised into the study process, the study outcome and the burdens associated with the study.

About the Study Process

One of the most common comments from parents was that they expected more contact with research staff, such as more telephone calls and more visits. Some wanted the phone calls increased up to 3 times a week and for an extra week. Some suggested there should be a regular follow-up phone call every 6 weeks. A mother said (41018) “it would sort of take four to six weeks to see a big change. And most people that I talked to said that the first six weeks they
noticed improvements. And so, it maybe the six weeks was a reasonable time to have contact. So that would be more helpful.”

They also assumed that the research assistant would be more involved and show interest in their progress when she was returning questionnaires and the actigraph device. They thought that by participating in the study, they would receive a service in return. A mother said (11002):

I thought somebody might come, somebody would come, put a band on her anklet and drop off things, like a nurse would sit down and say “do you have any questions and concerns?” if I had some, she would talk about that with me. About the next step or next feed you want to take or how stuff going. But she just dropped of, here is the anklet, and here is the fill things. It just get home that the study is more for them, than it is for us. If we have a lot of problems, there weren’t somebody there every time. We were aware that we are doing stuff. But we weren’t aware that they were always caring.

Some parents viewed research personnel as their support systems, which was elaborated in the previous section; they expected research staff to be available by phone whenever they needed them, and that research staff would return phone call shortly after a message was left. In situations where their expectations were not met, they expressed resentment. A mother said (71040) “I remember there were times where I was thinking to myself ‘I can’t wait two days to talk to the project coordinator. I need to talk to her now.’”

Some parents wanted to receive support from other study participants. They suggested follow-up gatherings with these parents. This father’s comment is typical (31015):

The only criticism I have is that, after the [teaching] session there wasn’t a great deal of support. I didn’t feel that support when I left, other than through the researchers. But I think a greater emphasis could be put on the people, the participants. I know you’re
saying they may actually influence each other in how they perceive the study, and everything else, but I think that at this point in the process, for follow-up, it would be nice, just as double reassurance.

Other parents suggested exchanging telephone numbers with other participants, or forming internet chat group. All these suggestions were originated from the same motive – gaining support by sharing experiences.

Other aspects of the study process were unanimously positive. These aspects included the format of the teaching session, the answers and information provided by research staff, and the study process in general.

*Expectations that Exceeded Study Protocol*

In the teaching session, participants were told that the results of the study intervention depended on a lot of factors such as infants’ illness, teething, or family situations. They were told that the intervention might not work. A mother said that (71039):

The actual information session...[the principal investigator] kind of looked at it from different perspectives, I think. It wasn’t all just like this perfect thing that everyone’s world is going to be perfect the next day. Like she made it known it might not work. It could work. She was pretty, you know, open about that. She didn’t have us all brain-washed that the next day our babies were going to be sleeping forever through the night, and life would be beautiful.

A small number of interviewees, however, indicated that they expected the study intervention to work like a “magic bullet” and to solve their infants’ problems instantly. Some expected that the intervention outcome could be manipulated to cater for parents’ life styles. One parent said that she expected the study would miraculously change their whole situation. She
expected a nurse would stay in their home and do the interventions with them. She said (11002) "when I heard about it I pictured a nurse moving in for a week and doing with us, alongside with us. I thought controlled comforting would take maybe 4 or 5 days. I thought it would be done a lot faster than that."

Another parent thought that there was a way to manipulate the outcome of the intervention. They wanted to shift baby’s waking time from five to eight in the morning. They reported that they handled the sleep problem very well and the whole family had good nights’ sleep. However, they did not want to get up 5 in the morning start their day with their child. The father said (31015) “We were told what was the period of time that a baby could sleep that didn’t need fed again. But we were never told how to extend that time, or how to adjust that time if it’s not fitting into your schedule.”

All interviewees said that they were curious about the study results. A mother said (61030): “yah, I am interested, I’m curious to know how they did.” They were enthusiastic to know how other parents were doing, as well as how their intervention outcomes were when compared with the rest of the group. A mother said that (71040):

You know what might have been useful or interesting, would have been to meet up with… we met up with the other parents participating in the study at the very beginning. We thought it would have been at least fun to meet up with all of these parents again to see how everyone was doing, and then maybe compare notes… I think, something maybe worth considering, in the future, if there’s a similar study, you know, have a follow-up session maybe mid-way through the study.

Some participants were only interested in the interpretation of their own results. A mother said (31014): “we’d have liked some feedback from the questionnaires what we did. And also from
the watch, the actigraph, or whatever.” Having participated in the study, parents felt that they were part of the study and wanted to know the results of the study.

Burdens Associated with the Study

As mentioned earlier, most of the interviewees felt that the study process was acceptable and the amount of time required by the study was reasonable. The only remarks made by informants were about the questionnaires and the data collection. In the study, questionnaires were used for collecting data on parents’ psychological and emotional states. Participants were asked to answer the questionnaires three times during the period of 16 weeks while they were in the study. Some parents found that the questionnaires were troublesome because they were long and repetitive. A mother indicated (41018) “you have a whole series of questions that are sort of repeating each other. Are you looking for consistency in answers? But there were a lot of very similar [questions]. Maybe that could be reduced a little bit.” Another parent said the questionnaire caused inconsistency in his answers (71039), “some of the questions are... I guess it's set up that way...are redundant. You know, they ask the same questions in a different way. And I find myself answering the same question differently.” Some parents felt that the questionnaires were irrelevant to their babies’ problems. A mother said (71040):

The questionnaire leaves you with the impression that fatigue is automatically associated with your baby’s sleep patterns. Your own fatigue. When I could be just as tired as I was five months age, but that doesn’t mean that we haven’t made progress with our daughter. It could mean that I’m working on a project, and I’m staying up way too late and not getting enough sleep. The questions were misleading, because it assumes that if you’re tired, it’s because your baby’s not sleeping well, and which is not the case... there is
more to life than how your baby is sleeping. So whenever I fill these out, I’m like, “I think they’re going to reach the wrong conclusion here.”

The interviewees also commented that the data recording was sometimes difficult for them, although they were told and consented to record sleep diaries and keep progress sheets. Participants found data recording particularly troublesome in the middle of the night when they were half-asleep. They said that they were required to log the time when the baby woke but they could not see the clock. On several occasions they thought they would record it in the morning, but then they would forget about the incident in the morning. A mother said (21011) “the sleep diary and everything...Sometimes when he wakes up, you kind of forget. You know you will write that down and we go back to bed. You kind of think I will write that down in the morning but you kind of forget.” A mother said she was more tired during the days of sleep diary charting (61034):

Like maybe at the baseline data and the six week data, when you don’t have to log it with the whole assessment, you don’t have to write down every single detail in the middle of the night, you don’t wake up as fully. But those three nights, every time he woke up in the middle of the night, I was right wide awake and writing everything down right then. And then it was harder for me to get back to sleep every time, because I just felt like I owed it to the study to be thorough and everything. So that did interfere a little bit. It was just for those three days of a little bit of extra tiredness. Not a huge thing.

Some parents in the interview, therefore, suggested an easier format of charting the sleep diary.

A father said that (71035):

I think it could have been organized differently, because it was almost two distinct groups of things going on... I think that that same information could have used the space a little
bit better, and maybe just reorganized to make things a little bit clearer... I am not going to say user friendly... but a little bit more straight-forward.

Inadvertent Benefits of the Study

As a resulting of participating in the study, parents experienced some effects that they had not anticipated. Those effects created positive feelings for parents and, therefore, I considered them benefits. One of these benefits, commitment to the study, was the direct result of being a participant in a formal study. The other benefit such as increased understanding between partners on parenting issues was the result of carrying out the interventions.

Commitment to the study Facilitated the Outcomes

Several parents reflected that had they not been in a formal study, they would not have tried as hard as they did. These parents felt that they were compelled to commit to the study and forced themselves to put extra effort to follow through the interventions. Knowing that there were other parents in the same boat, these parents had more incentive to persevere. Joanne, one of the mothers, said (71040):

Because we were taking part in a study, it helped me kind of go, it was almost as if there was a certain accountability to our actions. I wanted to make this work, and I had the project coordinator calling once in a while to check in. and it was helpful because it forced us to be more consistent than we might normally be.

Participants were willing to try a bit longer than they would have because they had faith in the study. They believed that the intervention would work. Chris, Joanne’s partner, explained:

And I think just really, like to Joanne’s point, because it was study, you were very committed to following the guidelines, and going ahead. And she was doing the chart, and so you felt that you were committed to doing it. And then what was reassuring is,
within a relatively short period of time, the results came, so it kind of reinforced that
"hey, this was actually going to work."

The information (especially the video) presented in the teaching session inspired long-
term commitment. The video showed a couple who made slow progress with controlled
comforting. The video helped to lower parents' expectations of immediate results so that they
would not give up easily. Judy and Tom were one of the couples who found the teaching session
helped them to set a realistic expectation. Judy said (31015):

Go back to the seminar. One thing that really did help was one of the videos, that they
had a family talking about how long it took them to do the intervention, and it was a
really long time. So at least that set our mind up to saying "Okay, I shouldn't expect this
to work so very quickly." It did for us, but at least I knew not to...

Then Tom finished her sentence: "not to set your expectations too high." Judy went on to explain
that: "and that it could take four or five months, like it did in the video. Or for us it didn't, but we
were lucky. That was very good."

To sum up, being involved in a formal study helped to enhance the positive feelings of parents
who implemented the intervention.

*Increase Understanding between Partners on Parenting Issues*

In one family, the baby was falling sleep more easily in the mother's arms than in the
father's. The mother assumed that the father did not want to hear the baby cry and did not want
to put the baby to sleep. As a result, she was the one who rocked the baby and then put him down
in the crib every night. The mother felt trapped by the situation. As a result of participating in the
study, they talked about the sleep issue and she found that she was wrong. The father said
(61034) "I can handle it if he cries. You don't have to put him down every night." After that
discussion, the parents took turns settling the baby each night. The mother commented that “it was kind of weird that I hadn’t specifically talked to you [her husband] about it, it sounds weird but...” The study provided opportunity for discussion between parents. Family interaction was enhanced. This resulted in better understanding and agreement between parents.

The fact that both parents participated in the study helped them to align their parenting skills. One family, the father did not believe in routines for young children. He thought it would come naturally and gradually. He said (71040):

I think that the positive for me was, you know, we were on polar... I won’t say polar opposite... before we started, but we were definitely... had different opinions. Joanne was more concerned than I was about getting Nicole to get into a sleep routine. And my perspective was “It’s just going to take some time. Don’t expect it to...” After attending the teaching session, he understood why his wife saw routines as so important and began to get more involved in their baby’s routine. He also supported the mother’s decision about what was appropriate for the baby and what was not. He went on to elaborate “so, I think, going through this program, I think it helped, like I said, me better understand the need for a routine. And I think, a bit of a balancing act.”

Some informants stated that the questionnaires gave them the opportunity to discuss their feelings with each other. A mother said (31014):

Actually, it’s quite interesting, after the first time we did the questionnaire, we sort of compared answers afterwards, and it was quite an interesting exercise. Ours were quite similar, almost the same. His were just more extreme. So if I was a four, he was five. Or, if I was a two, he was a one. Occasionally there were things where we disagreed. So we’d
sort of discuss and say, “well, why do you think that?” It’s quite interesting to actually discuss it.

Chapter Summary

In summary, my analysis of the 14 interviews elicited 9 themes: changes in perspectives about sleep, gaining a framework to tackle sleep problems, unanticipated changes resulting from participation in the study, challenges for parents, fitting intervention strategies into parents’ realities, factors interfering with successful interventions, parents’ support systems, parents’ expectations of the study, and inadvertent benefits of the study. Each theme was divided into several sub-themes and was illustrated by quotations from interviewees. The next chapter will focus on a discussion of these findings and their implications for parent education, nursing practice, nursing education and research.
Chapter 5

SUMMARY, DISCUSSION OF FINDINGS, IMPLICATIONS FOR NURSING, AND CONCLUSIONS

Summary of the Study

This study was the qualitative component of a larger research project, Evaluation of an Intervention Aimed at Resolving Behavioural Sleep Problems in 6-to-12-month-old Infants: A Pilot Study. The purpose of this study was to explore the parents' perceptions about the sleep intervention used in the pilot study and the burden associated with the study. Parents who experienced infant sleep problems called the Newborn Hotline, a service provided by the Vancouver Coastal Health Authority. The community health nurses from the Newborn Hotline screened parents for the pilot study. Eligible parents were contacted by the project coordinator of the pilot study and screened again. Seven groups of families were recruited over a span of 19 weeks, and each group contained 3 to 6 families. A total of 39 families consented to participate, and 35 of them completed the study. Baseline data were collected on all parents and infants participating in the pilot study. Baseline data included: demographic information, measures of depression, sleepiness, sleep quality, fatigue, marital harmony, cognitions about infant sleep and infant temperament. Parents completed a sleep diary for 3 days while an actigraph was worn for the corresponding 3 days by each child.

The seven groups were provided with the same treatment by the research staff according to study protocol in the pilot study. Each group received a two-hour teaching, and question-and-answer session about normal infant sleep cycles, the importance of sleep, and the intervention used in the pilot study. The components of the sleep intervention used in the pilot study included: controlled comforting, bedtime routines, and organized daytime schedules and naps. Following
the teaching session, each family implemented the intervention, which included keeping sleep charts and follow-up phone calls. The project coordinator of the pilot study called each family twice a week for two weeks to provide support to the parents. These phone calls also served as avenues for research staff and parents to problem-solve issues specific to the family. At the 6th and 16th week following the teaching session in UBC, participants were asked to fill out questionnaires which were identical to those used in the baseline data collection.

I recruited eligible families by contacting them after they had completed their 16th week follow-up measures in the pilot study. Fourteen families agreed to interviews. Sampling was purposive, but limited to families who had completed the intervention in the pilot study. In the interviews, I asked parents about the helpful and unhelpful information they received from the pilot study, the study burden, and any difficulty they experienced in implementing the study intervention. I also asked about any concerns and problems, and the help and support that they received from research staff. This study was a descriptive, exploratory design. I used open-ended trigger questions in the interviews to obtain data. The parents described their experiences from their perspectives. All interviews took place in informants' homes and were audio-recorded. Each recorded interview was transcribed by a professional transcriptionist shortly after each interview.

I used inductive content analysis to analyze the data (Pope et al., 2000; Waltz et al., 1991). Nine themes emerged from my analysis: changes in perspectives about sleep, gaining a framework to tackle sleep problems, unanticipated changes resulting from using the strategies in the study, challenges for parents, fitting intervention strategies into parents' realities, factors interfering with successful interventions, parents' support systems, parents' expectations of the study, and inadvertent benefits of the study. Each theme was comprised of a number of sub-
themes. The sub-themes illustrated the components of the theme and were supported with quotations from the parents.

Discussion of Findings

Despite the voluminous studies on interventions for young children's behavioral sleep problems, parents' perceptions about study interventions have rarely been explored. Reports have stated that parents demanded more information about sleep interventions (Armstrong et al., 1994), and that more than 50% of participating parents in a sleep intervention study were dissatisfied with the advice provided (Thunström, 1999a). Those reports suggested that participating parents were dissatisfied, because they did not receive the service they had expected, and the interventions used in those studies did not achieve the result that parents had expected. Previous studies have failed to explore the expectations of parents who participate in intervention studies. This study was an initial attempt to fill that gap.

In the first section, I will discuss the findings in the context of the literature. However, because research on parents' perceptions about study interventions is limited, some of my findings are discussed in terms of more general literature on parenting.

Changes in Parents' Perspectives about Sleep

Parents' perspectives about sleep and the sleep problems of their infants have not been previously explored. It has been suggested that parents from Western societies have higher perceptions of sleep problems; parents from societies where parents' co-sleeping with their children has been normative have had lower perceptions of sleep problems (Abbott, 1992; France & Blampied, 1999). In those discussions, how parents perceived sleep and sleep problems was not elaborated. The findings of this study showed that parents varied in terms of their thoughts about normal infant sleep behaviour. For those parents who had some ideas about infant sleep,
their understanding was often incomplete or incorrect. For example, some parents indicated that they did not know that normal infants' sleep cycles were 60 to 90 minutes long and they would let their infants take cat-naps during the day. They did not know that their babies’ night time tantrums and night awakenings could be attributed to non-recuperative daytime naps. The teaching sessions in the pilot study played an important role in changing parents’ perspectives about infants’ sleep, daytime naps, and daytime routines. Parents’ lack of knowledge about normal sleep pattern and sleep problems has been acknowledged (Armstrong et al., 1994). My finding is important, because parents’ lack of knowledge about normal sleep patterns and sleep problems could lead to inappropriate efforts to solve the problems, misdiagnosis of infant sleep problems, and unnecessary medical treatment. Armstrong and colleagues claimed that parents’ misconceptions would lead to misdiagnosis of gastro-esophageal reflux and overuse of sedative medication. More importantly, they found that 31% of 25-38 month-old children were disciplined (mostly by smacking) by their primary care-givers, to get them to settle. If parents’ lack of understanding about infant sleep is reduced, they may be less likely to strike their children.

In addition, the process of implementing the intervention helped parents understand that infants could learn to self-soothe when favourable conditions were provided. Parents’ feedback on their understanding of their babies’ ability to learn self-soothing and falling asleep independently validate the claims made by authors of several parenting magazines (Chollar, 1989; Schmitt, 2002). It has been suggested that babies as young as 6 months have memory skills and can remember people and experiences (Hall, 1997), and therefore, are able to learn self-comforting skills.
In my study, parents saw that good sleep led to healthier and happier babies, and they realised that children benefited from having routines. These observations supported the claims in publications which have suggested that most babies respond well to routine because it makes them feel secure about having their needs met, and, as a result, they sleep and eat better (Howard, 2002; Piazzoni, 2001; Schmitt, 2002). Other authors suggested that parents should help their infants to adjust to life by establishing routines that make the baby’s world stable (Hall, 1997). As a result of gaining knowledge and experience from the study, parents changed their perspectives about infant sleep. Some informants reported that when their babies had a good night’s sleep, their babies would eat better and would have better mood during the day. This finding supported the result of an earlier study which suggested that resolving babies’ nighttime sleep problems could improve their daytime interactions with key care-providers (Minde et al., 1994), so that their daytime routines could be maintained.

The changes that parents described in their perceptions are evidence of successful intervention through a psychodynamic approach for parents in dealing with their infants’ behavioral sleep problems. In other words, the teaching session and the subsequent telephone contacts worked to alter parents’ thoughts and beliefs about infant sleep, daytime routines, and bedtime rituals. After parents cognitively accepted new ideas, they changed their responses to their infants’ crying, and, ultimately, changed the sleep behaviors of their infants. This observation validated Minde and colleagues’ suggestions that changes in parental behaviours would be followed by modifications in the behaviour of the children (Minde et al., 1994). Some authors claimed that parental behavior is associated with infants’ poor sleep (Finn, 2002), and parents’ responses to their infants’ crying could inadvertently affect their infants’ sleep behavior (France & Blampied, 1999); the findings from my study showed that parental responses can also
positively affect their infants’ sleep behaviour. Data from this study showed that changes in perspectives about sleep occurred in most of the informants. That meant psychodynamic intervention for parents was effective in the pilot study.

*The Study Intervention as a Framework to Tackle Sleep Problems*

Parents in this study remarked positively about the intervention provided by the pilot study, because it gave them a framework to tackle their infants’ sleep problems. They were provided with practical hints about strategies they should use and strategies they should avoid. The framework was particularly useful when they felt desperate about their infants’ crying.

Consistent with Reid and colleagues’ (1999) work, findings from this study indicated that parents had tried extinction, or similar methods to no avail, because they had given up too soon when they became frantic in response to their infants’ crying. My respondents felt that what they had done had exacerbated their infants’ cries and questioned the effect of the study intervention. They also indicated that they needed to be reassured that what they were doing to their infants would not harm them. France (1992) had documented that there was an increase in crying, both in intensity and duration, in the period shortly after a successful attempt of the extinction intervention. In another publication, she called this phenomenon post-extinction-response-burst, and speculated that this phenomenon might lead parents to believe that they had made the problem worse and to give up implementing extinction (France & Blampied, 1999). Therefore, France (1994) suggested that parents should use extinction under the direction and support of someone skilled in such procedures. In other words, parents should be provided with guidelines and corresponding strategies to each obstacle they encountered during the implementation of the study interventions. In the pilot study, the follow-up telephone calls provided parents with the
on-going support, reassurances and opportunities for asking questions and problem-solving, parents acknowledged the benefit of those phone calls.

Controlled comforting, used in the pilot study, was different from extinction. This aspect of the intervention was well-structured by providing guidelines and telephone contacts. What particularly useful for parents were the step-by-step guidelines for controlled comforting. The guidelines suggested parents could check their infants in 2-5 minute intervals and then gradually extend the intervals. The guidelines also suggested what parents should do and should not do when they returned to their babies' room to check that their babies were safe. Parents in the study said that they needed a plan to follow, and they needed someone to tell them which procedures they should implement. Having a framework was helpful for parents to deal with difficult situations, such as prolonged crying from their infants, and when the infants woke in the middle of the night when parents were extremely tired.

**Parents’ Challenges**

The theme that persevering with the intervention was a challenge to participants supported similar claims in previous studies. Previous research reported various degrees of non-compliance to treatment protocols, on the part of the parents (France, 1994; France, 1992; Rickert & Johnson, 1988). These researchers hypothesized that the parental resistance was because the interventions were either too traumatic for parents or they contradicted parents’ beliefs about child-rearing. Although findings of this study supported the claim that some parents found it difficult to carry out controlled comforting, because of the intense crying from their infants (Rickert & Johnson, 1988), the reasons provided by parents who elected to disregard controlled comforting was often external factors rather than internal beliefs. No parent in my study indicated that the practice of controlled comforting was contradictory to their beliefs of
parenting. Instead, there were circumstantial factors that affected their ability to leave their infants crying. In one case, for example, the grandparents were visiting the family and the parents felt that leaving the child crying for a prolonged period of time was not agreeable to the grandparents. In another family, the parents avoid letting their infant cry at night because of the concern about their basement tenants.

The fact that none of my interviewees indicated controlled comforting was contradictory to their beliefs about parenting did not support the speculations made by other researchers such as France and Blampied (1999), Rickert and Johnson (1988). The possible reason for the discrepancy could be that all the eligible interviewees in my study had completed the intervention in the pilot study. I could not contact the drop-outs, and hence, was unable to collect data on those who were unwilling or unable to carry on with the pilot study. This is one of the limitations of this study.

The claim that some parents experience difficulties with persistence in carrying out interventions (Rickert & Johnson, 1988; St. James-Roberts et al., 2001) was supported by the findings from this study. Furthermore, the difficulties are more complex than those described in other studies. Parents in this study indicated that one of the difficulties for them to persevere with the controlled comforting in the middle of the night was extreme tiredness. This finding supported St. James-Roberts and colleagues’ (2001) speculation that parents were unwilling to carry out their study intervention at night because they wanted to resume sleep as soon as they could. Parents in my study stated that another reason for their inability to carry out controlled comforting in the middle of the night was the concern about neighbours. Participants who lived in condominium apartment buildings and who shared their house with tenants were worried that their babies’ cries might disturb their neighbours. This is the reality that accompanies city living,
and an important barrier that behavioural sleep intervention program developers need to consider.

Another difficulty that my respondents experienced was finding the balance between maintaining daytime routines for their infants and tending to the needs of the babies’ siblings and family circumstances. This finding reflected the reality of parents’ lives, in which several issues were as important as tackling their babies’ sleep problems. For example, one of my informants said that she would fit her younger child’s routines to those of her older child, including school and social schedule. There were lifestyle decisions made by parents that had repercussion for their infants. It has been reported that parents who had other children, in addition to the child in the study, experienced more difficulty complying with treatment and had higher drop-out rates (Reid et al., 1999). Reid and colleagues suggested added support might be needed to help those parents. Daytime routines were difficult to maintain when the child was looked after by child care providers during the day. In my study, these child care providers were usually grandparents who undermined the idea of routines. These were the circumstances over which parents felt they had no or little control.

Parents adapted some strategies of the study intervention to their children’s development. My findings are consistent with the claim made by St. James-Roberts and colleagues (2001) that some parents implemented only some components of their study intervention. A review of pharmacological and behavioural interventions for sleep problems suggested that parents were unwilling to follow through with many of those interventions, hence jeopardizing treatment effectiveness (Kuhn & Weidinger, 2000). Some researchers called this behaviour lack of fidelity of (Burke, Kuhn, & Peterson, 2004) or low compliance to (Rickert & Johnson, 1988) the intervention. Parents in this study gave us insight about why they selected and modified
components of the study intervention. They stated that, as their infants grew older, their daytime activities changed and, hence, routines changed. Even though the parents only participated in the pilot study for 16 weeks, their infants went through developmental changes. It seemed natural to them that some routines needed to be adjusted to meet their babies’ needs, and some strategies might no longer work. This argument aligned with Lam and colleagues’ discussion of their study outcome that, sometimes, the nature of the sleep problems might have changed such that the sleep strategies taught in the original study might no longer be appropriate (Lam et al., 2003). They suggested that “booster sessions” might be required to maintain treatment effects. The telephone contacts in the pilot study, which offered advice and problem-solving, acted as “booster sessions” for parents. I considered parents’ selection and modification of the components of study intervention in the pilot study as the parents’ adapting to their babies’ developmental changes rather than lack of fidelity or compliance on the part of parents.

_Fitting Intervention Strategies into Parents’ Realities_

This theme supported previous claims that parents were selective in implementing study interventions. Nikolopoulou and St. James-Roberts (2003) noticed that implementations of their study interventions had been patchy in some respects, in their earlier study (Saint James-Roberts et al., 2001), and speculated that parents refused to implement some of their intervention, because they held different beliefs about baby care. Parents in my study reported trying all of the strategies and then selecting those strategies that worked for their life styles and personalities. For example, some parents ignored daytime routines because of home-based businesses, while some parents adhered to daytime routines, but ignored controlled comforting because circumstantial factors forbade them from letting their babies cry for prolonged periods of time. Some parents tailored the controlled comforting technique so that it fitted into their life
situations. For example, a mother offered her T-shirt to her infant as a way to comfort the child. These findings showed that parents balanced “ideal” intervention strategies, with their own realities. These parents are not “non-compliant”, but are actively adjusting and adapting the intervention strategies into their lives.

Factors interfering with successful interventions

Relapse, which usually occurred when the consistency of routines was broken, was one of the biggest challenges for parents in the pilot study. Situations like family vacations or infants' illnesses led to the interruption of routines because parents were unable to carry out the interventions during these incidents. When these situations were over, parents found that their infants’ sleep behaviors had regressed to pre-intervention states. A recent longitudinal study showed that about one in five of young children experienced recurrence of sleep problems after these problems had been resolved by sleep interventions as infants (Lam et al., 2003). France and Blampied (1999) have formulated three models of the development of infants' sleep problems and parental management, and relapse is one of those models. They termed that as “secondary sleep disturbance” (p. 275). France and Blampied commented that many infants who had settled to regular sleep behavior reverted to waking and crying later in their first or second year, and the secondary sleep disturbance was precipitated by a disruptive event such as a child or parent illness, family holiday, or a move to a new house. The finding from my study validated the comment made by France and Blampied. France and Blampied suggested that, whether relapse was a transient response to a changed environment, or would be established as chronic sleep problems, was determined by the parents’ response to its development. They suggested that parents should go through the behavioral intervention again. My informants said that it was discouraging to relive the experience of the intervention. Despite information provided in the
teaching session that suggested there would be such relapses, parents were still dejected by its development. This finding suggested that more parental education and support may be needed concerning relapses.

Parents expressed fears about excessive crying causing harm to their babies. Those fears have been mentioned in previous research (France, 1994; Owens et al., 1999; Rickert & Johnson, 1988). This finding supported the existing body of knowledge about parents' concerns about negative side-effects of interventions. Although it has been demonstrated that extinction, which included ignoring infants' cries, had not led to any deterioration in infant security nor has it caused negative behaviour characteristics in infants (France, 1992), parents in this study viewed those possibilities as a concern. The parents might be influenced by contradictory information from different sources such as books, magazines, television programs, friends, and relatives. Some writers for parenting journals and magazines have claimed that leaving babies crying could result in harmful consequences such as failing to develop a sense of trust, feelings of powerless, low self-esteem, and chronic anxiety later in life (Solter, 2004). Although these claims have not been clinically tested, parents were uncertain about the possible adverse result of crying and responded to what they had read in the lay literature.

Needs for Support

Parents' need for psychological support during the implementation of interventions has been documented (Minde et al., 1994; Skuladottir & Thome, 2003; St. James-Roberts et al., 2001). Those study results were supported and extended by the findings from this study. Some informants stated that they felt emotionally isolated. They were unable to talk about their infants' sleep problems, with casual friends, because they feared that they might be misunderstood. Close friends and relatives were not always available for them. In several cases, parents relied entirely
on research staff for support. Some parents regarded the relationship between research staff and themselves as on-going, they had unrealistic expectations for the staff. For example, they would get angry when the project coordinator did not return phone calls in a short period of time. These data enriched our understanding about parents’ need for support and about the importance of parental support for the success of study interventions. This finding has been discussed in the literature in suggesting that researchers treating sleep problems must monitor parental compliance to the treatment and offer support throughout the process (Reid et al., 1999). In Reid and colleagues’ study, in addition to the average of three therapist contact hours per family, their research assistants called each family every day to collect data. They considered these calls might have contributed significantly to the treatment gains in their study. The telephone contacts in the pilot study, which provided opportunity for research staff to reassure parents and discuss an individualized approach to the intervention for these parents, were valued highly by parents.

An interesting finding in this study was that there was a wide variation in parents’ needs for support. Some parents said that they did not need support at all, while others expressed dismay for the lack of support available for them. Researchers have suggested that parents would be more consistent in implementing study interventions when support was provided (St. James-Roberts et al., 2001). My finding suggested that different parents need different degrees and types of support during the study process.

*Unanticipated Benefits*

As was mentioned earlier, changes in parenting style were not expected by parents when they entered the pilot study. Gaining knowledge from the teaching session and witnessing the initial positive results from study intervention helped some parents gradually switch from a more child-directed to a more structured parenting style. Some parents were aware of the change and
thought that it was necessary. When they saw the positive effects of more structured styles on their infants, they commented that routines benefited their infants and believed that their infants needed routines. Although structured daytime routines as an intervention for tackling infants’ sleep problems has been documented (Blum & Carey, 1996; Kerr et al., 1997; Scott & Richards, 1990; Seymour et al., 1983), parenting styles associated with the presence or absence of routines have not been documented, and changes in parenting styles as a result of sleep intervention have not been previously discussed. As I have mentioned earlier that change in parents’ responses to their infant’s crying resulted in modification of their infant’s sleep behavior, change in parenting styles may have an effect on study outcomes.

Some parents in this study were conscious about their self-image. They indicated that they were afraid of being judged by other parents and did not want to be seen as incompetent parents. These participants would not talk about their participation in a sleep study with friends, fearing that they might fail at the intervention. Parents’ self-image and their relation to treatment outcomes have not been studied before; however, my study results suggested that parents’ self-image could have an effect on their efforts around seeking social support.

It is likely that parents’ self-image is related to parental confidence. My respondents indicated that they regained confidence as parents when they successfully handled their infants’ sleep problems, after following through with the study intervention. This was an unanticipated benefit of the pilot study to its participants. One study has shown that infants’ sleep problems are associated with parental stress, in particular, feelings of incompetence and restriction of the parental role (Thunström, 1999b). It is not clear from previous work whether the positive intervention results help parents overcome their feeling of incompetence. The claim that participants regained confidence as parents after experiencing positive results from the study
intervention seems self-evident, but there is no documentation in the literature about this issue. It has been reported that maternal depression is the result of infant sleep problems (Lam et al., 2003) and resolved infant sleep problems alleviate maternal depression (Hiscock & Wake, 2002; Kerr et al., 1996) and restore family harmony (Mindell, 1993). There is no research about the effect of intervention results on parental confidence or feelings of competence.

Participants in the pilot study experienced inadvertent benefits because they felt that their participation in the study increased their commitment to follow through the intervention. Some of them said that, because they were taking part in a scientific study, they felt that they were accountable for their actions and needed to try harder. That feeling helped them to be more persistent than they might otherwise be. This phenomenon can be explained by the well-known Hawthorne effect, where the subjects' behaviour and/or study outcomes are altered as a result of the subjects' awareness of being observed and measured (Mangione-Smith, Elliott, McDonald, & McGlynn, 2002). It is interesting to note that some parents had tried similar interventions before but had failed. They said they succeeded in the pilot study because they were committed to the study and, therefore, they tried harder and followed through with the intervention more diligently. This finding extended our understanding of the effects of participating in a study on parents' efforts to resolve infants' sleep problems.

Families of children with sleep problems are generally functioning well (Lam et al., 2003), nonetheless, increased understanding between partners on parenting issues was an inadvertent benefit that parents in this study experienced. It indicated some enrichment of the quality of the relationship between parents. This benefit was the result of taking part, in the study in addition to participating in the intervention, but was not an intended outcome. This study supported the reports of other intervention studies that enhanced family harmony and improved
marital satisfaction were positive side effects of sleep interventions (Adams & Rickert, 1989; Mindell, 1993). In this study, participants indicated that taking part in the study and going through the strategies and questionnaires provided them with the opportunity to discuss child rearing issues. Those discussions lead to enhanced understanding between partners. Enhanced parents’ relationship may be an effect on their infant’s sleep problems. Further research is needed to explore this area.

*Parents’ Expectations of the Study*

Most of the interviewees felt that the study process was acceptable and the amount of time required by the study was reasonable. A few parents found data recording in the middle of the night troublesome, because they were too tired. Despite feeling it was troublesome to log nighttime activities, parents complied with the study requirement about recording the night awakenings and feedings of their babies. This data were consistent with Reid and colleagues’ (1999) findings which indicated high compliance with procedures during the nighttime. A small number of parents possessed unrealistic expectations which exceeded the study protocol. To design better interventions, further study is needed to identify participants’ expectations and to evaluate their satisfaction.

**Summary of Discussion**

The findings of this study are categorised into 9 major themes. While some supported current beliefs, others help expanded existing knowledge about parents’ perceptions of sleep interventions and study burden. I summarise the discussion below:

1. In my study, parents’ knowledge about infants’ sleep and infants sleep problems were inadequate, and the lack of knowledge might lead to inappropriate use of methods to deal with their infants’ sleep behaviour. The pilot study provided parents with insight of their
infants' sleep problems. Several factors helped alter parents' beliefs and thoughts about infants’ sleep, daytime routines, and bedtime routines; and ultimately, changed parents’ behaviour in responding to their infants’ crying. These factors included the teaching sessions provided by the pilot study, the positive outcomes experienced by parents, and the support from research staff. Parents' change in responses to their infants’ crying led to the modification of sleep behaviour of their infant.

2. It is important to provide parents with a well-structured framework with step-to-step guidelines to follow, such as the one in the pilot study. Follow-up telephone calls offered reassurance, opportunities for problem-solving, and suggestions of strategies they should use and strategies they should avoid. Some parents had tried similar intervention before but had failed because they did not have a framework to work with, and they did not have an experienced person from who they could seek advice.

3. There were many factors that could affect my respondents' ability to carry out the study intervention. In order to fit the intervention into their realities, they either modified some strategies or hand-picked some components of the intervention. These findings suggested that parents were not non-compliant to study protocol. On the contrary, parents in my study sought a middle ground that they could perform the intervention while still maintain the balance of taking other roles in their lives.

4. Relapse has been a factor interfering with successful interventions. The findings from this study expanded our scope of knowledge to when and why the baby had relapse, and parents’ feelings about going through the relapse. This finding suggested that more parental education and support may be needed concerning relapses.
5. Consistent with other research findings, parents’ fear that excessive crying may cause harm to their infants emerged in this study. It appeared that parents were influenced by contradictory information from other sources such as lay literatures, television programs, or friends.

6. Parents’ need for psychological support varied widely across the sample. Parents’ self-image might be an obstacle for them to seek social support from friends. That may lead some parents to rely heavily on research staff for support, and some of them had unrealistic expectation from research personnel.

7. Inadvertent benefits from participating in the study included a change in parenting style, Hawthorne effects with the participants, and increased understanding between partners. My informants found that the study process was acceptable and the amount of time required by the study was reasonable. These findings have not been discussed in other sleep literature and may be an area that impacts the study outcomes but has been under-researched.

Implications for Nursing

The findings of this study suggest a variety of implications for nursing in three areas: nursing practice, nursing education, and nursing research.

Implications for Nursing Practice

The findings from this study are important for health care providers who work with expectant and new parents. Studies have suggested that behavioural interventions can help prevent infants from developing sleep problems as young as 12 weeks of age (Nikolopoulou & St. James-Roberts, 2003). Nurses, midwives, and childbirth educators who teach prenatal classes have the opportunity to discuss parenting in the early postnatal period. Although prenatal classes
are designed for topics like managing labour and delivery, and preparation for lactation, we can incorporate information about normal infant sleep behaviour, and normal infant sleep cycles. This information helps new parents recognise problematic sleep behaviour and, possibly, prevent it from developing. When nurses talk about promoting maternal rest, they can also talk about how to get a day organized by having daily routines, which may help prevent infants' sleep problems in later months.

To enhance shared understandings, nurses should encourage new parents to discuss child-rearing issues between partners. Issues about setting daytime and bedtime routines are important topics that require both partners' agreement. We should teach new parents that children benefit from having routines, and that good sleep leads to healthier and happier babies. Including bedtime routines in the teaching materials in the prenatal classes can help encourage fathers to participate in putting the newborns to bed. Nurses who teach in breastfeeding classes could stress the importance of avoiding feeding the baby to sleep because the baby might associate feeding with sleeping. If we incorporated the above information into prenatal and breastfeeding classes, we could help parents prevent infants sleep problems from developing. Kerr and colleagues (1996) commented that health care providers, who would have repeated contacts with parents, were well placed in a position to give preventive advice to parents, because they would be able to consolidate advices originally given in the early weeks. Community health nurses are in good position to provide this type of care to new parents.

In the interviews, some informants indicated that they maintained contact with other parents in their prenatal classes thanks to the networking facilitated by the nurses who organized the classes. These parents would talk about their babies' sleep problems and daytime activities with parents who they knew from the prenatal classes. In light of this information, it is important
to encourage expectant parents to attend prenatal classes and maintain contact with other parents. In this way, parents of babies with sleep problems may get some of the support they need.

Nurses, who work in the community and with tele-health agencies such as the Newborn Hotline, have ample opportunities to help parents of infants with sleep problems. The findings of this study indicated that parents need step-by-step guidelines to follow when dealing with their infants' night time tantrums and night waking. Through their responses, community health nurses can provide a framework of interventions to help parents deal with their infants' sleep problems. Nurses and other health care professionals could use the findings of this study as a basis for questioning parents about the specific concerns they are experiencing and the strategies that the parents have tried with and without success. They should also consider factors that present challenges for parents, such as visits from extended family members, and individual home situations such as neighbours and babies' siblings. Based on parents' information, interventions could be tailored to be most feasible for individual families.

Findings from this study illustrated that parents of infants with sleep problems were conscious about their self-image and were vulnerable to losing confidence. Community health nurses can use this finding as a basis for their educational material for parents. When they visit new parents at home, they can tell parents that infants' sleep problems are common and amendable, and that parents do not cause these problems. Similar to prenatal classes, community nurses can incorporate interventions such as controlled comforting, daytime and bedtime routines, and healthy sleep cycles into their teaching material. In this way, parents will be receiving consistent information about sleep, which may help them feel more comfortable in carrying out the strategies. Since parents in this study commented that progress charts were helpful, nurses and other health care professionals can encourage parents to keep sleep diaries
and progress notes of their babies’ daily activities so that they can see any improvement, or lack of improvement. The community health nurses can use the sleep diaries and progress notes to assess the effectiveness of interventions in their follow-up visits.

Findings from this study showed that this population of parents needed reassurance and support from time to time. Parents support groups on sleep and sleep problems were recommended by the informants in this study. Community health nurses who work with parents of infants with sleep problems could, with the consent from parents, organize support groups. This kind of support group enables parents to exchange information and experiences, and provides recognition of their shared concerns. Parents, who participate in support groups, need an opportunity to meet without the presence of other parents who are going to be critical of them, because they have had no experience with infant sleep problems. More importantly, support groups provide these parents with opportunities to reassure one another that they are not alone and they are not parenting incorrectly. That support network may facilitate higher success rate in implementing the sleep interventions.

**Implications for Nursing Education**

Traditionally, the topic of children’s sleep problems and their management features very little in the teaching and training of doctors, nurses, and other health care professionals (Stores & Wiggs, 1998). In order to help parents deal with infants sleep problems, there is a need for an increased interest in and competence about infants sleep problems among doctors, nurses, and other health care professionals. Nurses do not work in isolation and effective health care delivery relies on collaboration among members of different disciplines. Therefore, information about infants sleep problems, their interventions, and their relationship with family dynamics should be
incorporated into the curriculum of continuing nursing education and that of other health care professionals. Interdisciplinary courses may be the best approach.

Implications for Nursing Research

The themes developed from this study were limited to the sample of the pilot study or similar groups. However, the findings from this study shed light on issues like program design, delivery, and evaluation for future studies. For example, a research study that emphasizes parental support, and direct contact between participants and researchers would more likely gain cooperation from its participants, and its participants would likely have higher satisfaction (Reid et al., 1999). Parents in my study indicated that psychological support and ongoing guidance are conducive to compliance from participants. My findings showed that individual parents have their unique needs for support and that parents’ needs for support varied widely across the sample. It may be helpful if, in the future studies, researchers assess participants’ needs for support and record baseline information about available support for them; then they can provide the appropriate support for parents in need during the course of intervention.

Parents indicated that they were afraid they would fail at the intervention and were conscious about their self-image, and feared of being judged as incompetent parents. More research is needed to determine how this factor affects parents’ fidelity to a study intervention and study outcomes. We need to understand how parents’ perceptions of their self-images influence their ways of seeking social support. When it comes to evaluating study outcomes, researchers can include adaptations as acceptable variations, when participants do not follow the intervention exactly the same way as prescribed. Therefore, they are less likely to label parents as non-compliant. Findings from this study also raise other research questions:
1. What are the burdens and perceptions of single parents whose infants are having sleep problems? All the families recruited in this study, were two-parent families in stable relationships. Their babies' well-being and healthy sleep behaviours were the primary concerns of the participants of this study. Single parents may have different concerns and different priorities in their lives. They may have different coping strategies for infant sleep problems. They may need different type of supports in carrying out sleep interventions. In British Columbia, lone-parent families took up 15.5% of all families in 2001 census (Statistics Canada, 2001). This size of population is significant and their perceptions and concerns are worth exploring.

2. Are the perceptions different for parents from other ethnic groups? Three quarters of participants in this study were from western societies with English as a first language. Other studies showed that children who experienced sleep problems were more likely to come from ethnic groups (Nikolopoulou & St. James-Roberts, 2003; Thunström, 1999b). Parents who do not speak English are at a disadvantage when it comes to resources and available literature. What kind of supports might they need and which supports are available for them? In those ethnic groups that favour co-habitation with extended family, what are the difficulties the parents may encounter in implementing the sleep interventions when other family members believe that parent-child co-sleeping is their normal child-rearing method?

3. Will parents from other socioeconomic groups have different perceptions about sleep interventions? The demographic characteristic of the sample in this study indicated a majority of participants were middle class with relatively high levels of education. The majority of them had university degrees or post graduate degrees. Parents who are
economically disadvantaged or those with less education may have different priorities in their lives and may not identify concerns and difficulties similar to those in this study.

Conclusions

Infants' sleep problems are common problems for parents of newborns. There are studies on the efficacy of different interventions and treatments. Research on parents' perceptions, concerns, and difficulties associated with implementing study interventions, has not been undertaken. This thesis presented new data about issues related to parents' perceptions of a study intervention for infants with sleep problems. The findings of this study supported some claims made in previous studies, expanded current understanding, corrected some misunderstanding from other studies, and added information to areas that have not been fully explored.

Individualized interventions and appropriate recommendations to families in need require an understanding of parental expectations and obstacles to successful interventions. Parents' concerns and perceptions about sleep interventions have been poorly understood and, sometimes, misunderstood. This study presented perceptions of parents about helpful and unhelpful aspects of sleep interventions and study participation, and served to fill this knowledge gap.

The study findings will contribute to the design and development of social programs about parenting, so that the sleep interventions of these programs will work not only for the babies but also for their parents. The findings offer a basis for health care providers, who work with expectant and new parents, to provide appropriate advice and support to parents in need. The findings also provided implications for other nursing practice situations and nursing education, and suggested new areas for future research.
References


http://www.statcan.ca/english/freepub/82-221-XIE/00604/tables/html/49_01.htm


We consent/ We do not consent (circle one) to our child’s participation in this study

Parents or Guardian Signatures   Date

Signature of a witness   Date
Appendix C

Parents' Perceptions of Interventions for infants with Behavioral sleep problems

Semi-structured interview guide

For controlled comforting, positive bedtime routines, and organizing sleep and feeding routines during the day, repeat each question for each component:

1. What information was helpful for carrying out the intervention?
2. What information was unhelpful for carrying out the intervention?
3. Were there any parts of ________ that were difficult to carry out, and if so, what and why?
4. Were there any people or situations that interfered with your ability to carry out ________?
5. What were your feelings about using ________?
6. How quickly did you feel your child responded to ________?
7. Did your child’s response change the way that you used ________?
8. How consistently did your child respond to ________?
9. How consistently were you able to use ________ with your child?
10. Did you feel confident carrying out ________ and if not, what would have helped you increase your confidence in the use of ________?
11. Did ________ become easier to use over time, and if yes or no, why was that the case?
12. Why do you think ________ worked or did not work?
13. What was helpful and what was unhelpful about how the research staff supported you while you used ________?
14. What other supports did you have while you implemented ________?
15. Were they more, less, or equally effective in supporting you while you implemented ________ and why was that the case?
16. Did you have any pre-existing thoughts about how well this intervention might work?
17. How could the intervention session be improved in terms of the techniques that you used or information that you felt you needed?

For infant development and sleep:

1. How did you use the information that we gave you about infant development and sleep?
2. Did you change any of your actions on the basis of that information and, if so, how and why?
3. Was there anything else you needed to know about your child?
4. Could the information have been presented to you in a better way?
5. How would you change the way the information about ________ is presented?

For assessment and follow-up:

1. Which aspects of the assessment and follow-up were useful or helpful for you?
2. If so, why was that the case?
3. Which aspects of the assessment and follow-up were difficult or troublesome for you?
4. If so, why was that the case?
5. Which aspects of the assessment and follow-up were useful or helpful for your child?
6. If so, why was that the case?
7. Which aspects of the assessment and follow-up were difficult or troublesome for your child?
8. If so, why was that the case?
9. Were there any aspects of the assessment and follow-up that worsened your child’s sleep problem?
10. If so, why was that the case?
11. Were there any aspects of the assessment and follow-up that enhanced your family interactions?
12. If so, why was that the case?
13. Were there any aspects of the assessment and follow-up that interfered with your family interactions?
14. If so, why was that the case?
15. Would you change the way the assessments were carried out and, if so, how would you change it?
16. What did you think of the group session? Did it help you in any way, and, if so, how? Did it create any problems for you, and, if so, how?
17. Did you find the overall amount of time required by the study to be excessive or reasonable?
18. Why was that the case? What elements contributed to those feelings?