Published in final edited form as:

Res Nurs Health. 2018 February ; 41(1): 19–29. doi:10.1002/nur.21840.

Community Partnership for Healthy Sleep: Research Protocol

Nancy S. Redeker,

Beatrice Renfield Term Professor of Nursing, Yale School of Nursing and Department of Medicine, Yale School of Medicine, 400 West Campus Drive, West Haven CT 065536

Monica Roosa Ordway,

Assistant Professor, Yale School of Nursing

Nancy Banasiak,

Associate Professor, Yale School of Nursing

Barbara Caldwell,

Rutgers University School of Nursing

Craig Canapari,

Assistant Professor, Division of Pediatric Respiratory Medicine, Yale School of Medicine, Director, Pediatric Sleep Center, Yale New-Haven Hospital

Angela Crowley,

Professor Emerita, Yale School of Nursing

Ada Fenick,

Associate Professor, Department of Pediatrics, Yale School of Medicine

Sangchoon Jeon,

Research Scientist, Yale School of Nursing

Meghan O'Connell,

Program Manager, Yale School of Nursing

Leslie Sud, and

Assistant Clinical Professor, Yale School of Nursing

Lois S. Sadler

Professor, Yale School of Nursing and Yale Child Study Center

Abstract

Beginning early in life, sleep health, including adequate quality, quantity, and consistent sleep routines, is critical to growth and development, behavior, and mental and physical health. Children who live in economically stressed urban environments are at particular risk for sleep deficiency and its negative consequences. Although efficacious sleep health interventions are available, few address the context of economically stressed urban environments. The purpose of this paper is to describe a two-phase protocol for an ongoing NIH/NINR-funded community-engaged study designed to understand the perspectives of parents, community child care and pediatric health care providers about sleep habits, factors that contribute to sleep and sleep habits, sleep difficulty, and potentially useful sleep promotion strategies among children living in economically stressed urban environments. The social-ecological model guides this study. Phase I employs a convergent mixed-

methods design, in which we are conducting semi-structured interviews with parents, childcare providers, and primary health care providers. We are collecting nine days of objective sleep data (wrist actigraphy) from children who are 6–18 months ($n = 15$) and 19–36 months of age ($n = 15$) and parent reports of sleep and sleep-related factors using standard questionnaires. In Phase I, we will use a qualitative descriptive approach to analyze the interview data, and descriptive statistics to analyze the survey and actigraph data. In Phase II, we will use the information to develop a contextually relevant program to promote sleep health. Our long-term goal is to improve sleep health and sleep-related outcomes in these children.

Introduction

Sleep is critical to children's health and development (Galland, Taylor, Elder, & Herbison, 2012), but sleep deficiency is common and contributes to poor health and behavioral outcomes. Children who live in economically stressed urban environments are particularly vulnerable to sleep deficiency (short or fragmented sleep or irregular sleep patterns). The stressful contexts in which many of these children live, families' lack of awareness or misconceptions, competing priorities, health care providers' insufficient attention to sleep, and failure of sleep promotion programs to address contextual factors that influence sleep health are barriers to sleep health.

Efficacious strategies to promote sleep health are available (Mindell et al., 2006; Morgenthaler et al., 2006), but researchers and clinicians know little about the contextual factors, feasibility, or best methods to deliver them to children living in economically stressed urban environments who are at risk for poor sleep-related outcomes. The purpose of this paper is to describe the protocol for an NIH/National Institute of Nursing Research-funded study (clinical trials.gov - NCT03045874) designed to provide foundational information to improve understanding of the perspectives of parents and community pediatric health care and child care providers about sleep health in young children. The social-ecological model (SEM) guides this convergent mixed methods study. We will use the results to support the development and future evaluation of the feasibility, acceptability, short- and long-term effects of a community-engaged, family-focused sleep promotion program for children between 6 and 36 months of age who live with economic adversity.

Influences on Sleep in Young Children

Older infants, toddlers, and preschool children need 11–16 hours of sleep daily (Paruthi et al., 2016). By about 6 months of age, infants are physiologically able to sleep through the night and begin to consolidate sleep (Henderson, France, & Blampied, 2011; Henderson, France, Owens, & Blampied, 2010). Toddlers and preschoolers gradually decrease napping, lengthen nocturnal sleep, and can establish earlier/regular bedtimes and bedtime rituals. Sleep deficiency (difficulty initiating sleep, irregular bedtimes, bedtime resistance, and nighttime awakenings) begins early in life and may persist across the lifespan. Sleep deficiency leads to irritability (Magee, Gordon, & Caputi, 2014), externalizing behavior and poor mental health (Keller & El-Sheikh, 2011; Reid, Hong, & Wade, 2009), obesity (Spruyt & Gozal, 2012), injury (Owens, Fernando, & Mc Guinn, 2005), poor school performance,

and stress (Nevarez, Rifas-Shiman, Kleinman, Gillman, & Taveras, 2010). Racial and ethnic minority children and those living in economic adversity are at especially high risk for sleep deficiency and its negative consequences (Nevarez et al., 2010; Sheares et al., 2013; Spruyt, Alaribe, & Nwabara, 2015).

In the social-ecological model (SEM), the individual (child) is surrounded by proximal (family, local community) and distal factors (broader society and culture) that influence the individual, (Bronfenbrenner & Ceci, 1994; Centers for Disease Control, 2007; Rosa & Tudge, 2013). The SEM serves as an organizing framework to characterize factors that influence the sleep habits, sleep patterns, and sleep deficiency of young children (Sadeh, Tikotzky, & Scher, 2010).

Parents' (especially mothers') and children's sleep (Caldwell & Redeker, 2015; Sadeh et al., 2010) are closely interrelated. For example, daytime sleepiness is common in mothers of children who have sleep difficulty (Boergers, Hart, Owens, Streisand, & Spirito, 2007). Conversely, mothers' sleep, mental health concerns, and marital conflict influence children's sleep difficulty (Caldwell & Redeker, 2015; Kelly & El-Sheikh, 2011, 2013). The parent-child relationship influences bedtime rituals and routines that contribute to sleep quality in young children (Sadeh et al., 2010; Vaughn et al., 2011).

Community and environmental factors such as economic adversity, racial/ethnic minority status, security concerns, crowded or unstable housing, contribute to dysfunctional sleep habits (e.g., lack of bedroom space, noise) that lead to sleep deficiency (El-Sheikh et al., 2013; Nevarez et al., 2010; Wilson, Miller, Lumeng, & Chervin, 2014). Excessive lighting (Wilson, Miller, Lumeng, et al., 2014), TV in the bedroom (Taveras, Hohman, Price, Gortmaker, & Sonnevile, 2009), and irregular parent work schedules contribute to variable bedtimes and wake-up times and short sleep duration (El-Sheikh et al., 2013; Hale, Berger, LeBourgeois, & Brooks-Gunn, 2009; Spruyt et al., 2015), risk factors for health problems. Cultural and religious beliefs and behaviors also contribute to sleep habits and expectations (Jenni & O'Connor, 2005). These may include rituals and activities, such as eating specific foods, praying, singing, and other behaviors to promote sleep.

Interventions to Promote Child Sleep

Parent education (Eckerberg, 2002), positive bedtime routines (e.g., reading, bathing) (Hale, Berger, LeBourgeois, & Brooks-Gunn, 2011; Meltzer & Mindell, 2014), and extinction techniques for bedtime resistance and nocturnal awakenings (Morgenthaler et al., 2006) are efficacious in some groups from late infancy into the preschool years (See Table 1). For example, an internet sleep program (tailored approach to sleep problems and tailored approach + a bedtime routine) improved sleep latency and nighttime awakenings in infants and toddlers up to 36 months of age (Mindell et al., 2011a), with sustained effects at 1 year (Mindell et al., 2011b). However, the sample included mostly well-educated parents who had home computers, and the relevance and feasibility for ethnically diverse families in adverse economic circumstances are not known.

Educational programs may address parents' misconceptions or lack of information on effective sleep habits (Owens & Jones, 2011; Owens, Jones, & Nash, 2011). Although a 45-minute sleep education program provided through Head Start improved preschoolers' sleep over the short term, parent knowledge and self-efficacy, improvements were not sustained at 1 month, and beliefs about sleep did not change (Wilson, Miller, Bonuck, Lumeng, & Chervin, 2014). Reasons for the lack of sustained effects are not known, but the intervention may not have been tailored to the contexts and needs of the families, who may have competing priorities or live in environments that were not conducive to the sleep habits that were the focus of the program.

Although some teams have assessed barriers or facilitators to sleep health in young children using quantitative methods, researchers and clinicians know little about the perceptions of parents, health care providers, or others in the community regarding these factors. Parents and health care providers need strategies that are practical, acceptable, sustainable, and responsive to community needs to improve sleep habits and promote healthy sleep in the community. We believe that a community-engaged approach (Sadler et al., 2012) that directly involves community families and community clinicians is the best way to address this goal.

Purpose and Aims

The purpose of this community-engaged study is to improve understanding of the perspectives of parents and community child care and pediatric health care providers about sleep habits, factors that contribute to sleep and sleep habits, sleep difficulty, and potentially useful sleep promotion strategies among children living in economically stressed urban environments. We are addressing the following specific aims:

1. Examine parents' knowledge and perceptions about their 6-36-month-old children's sleep and the objective characteristics of their children's sleep, including (1a) self-reported and actigraph-recorded characteristics of sleep, sleep habits, and difficulty; (1b) the contributions of sleep habits and individual, family, community, cultural/social, and health-related factors to sleep characteristics and sleep difficulty; (1c) consequences of sleep difficulty; (1d) successful and unsuccessful strategies used to promote children's sleep and sleep habits; (1e) preferences regarding sleep promotion interventions for their children; and perceptions of the optimal timing to begin sleep promotion intervention;
2. Examine pediatric primary care and child care providers' perceptions about: (2a) the importance of sleep and sleep habits for 6-36 month old children; (2b) factors that contribute to sleep habits and sleep difficulty; (2c) successful and unsuccessful approaches to promote healthy sleep habits, adequate duration and good quality sleep and assessment and management of sleep difficulty in young children within the context of their families; and (2c) barriers, facilitators, and preferences regarding sleep-promoting interventions for families with young children;

3. Collaborate with families and providers to use the information obtained in Aims 1 and 2 to develop and refine a feasible, relevant, and acceptable sleep promotion program, including procedures, protocols, patient materials, intervention fidelity plans, and delivery methods.

Methods

Design

This two-phase study employs a community-engaged approach (Sadler et al., 2012) in which informants and clinical and community stakeholders are integral to the research process. The SEM, which emphasizes the role of the family, community, and environment, guides the study and the selection of key informants and health and community stakeholders (Centers for Disease Control, 2007; McCloskey et al., 2011). This approach represents the critical intersection between SEM components and health promotion behavior (i.e., healthy sleep habits; Stokols, 1996).

Phase I employs a convergent mixed methods approach (Creswell & Clark, 2011; Sandelowski, 2000a). We are collecting quantitative data (questionnaires and actigraphy) on children's sleep and qualitative interview data (semi-structured interviews; Sandelowski, 2000b) on parents' perceptions of children's sleep, sleep habits, sleep difficulty, and sleep-promoting interventions to address Aim 1. The semi-structured interviews also will be used to identify perceptions about the importance of sleep, healthy sleep habits, sleep assessment, sleep difficulties, and barriers and facilitators to sleep promotion, assessment, and intervention from pediatric primary care and community child care providers, to address study Aim 2.

In Phase II, to achieve Aim 3, we will collaborate with our community advisory board to draft a sleep promotion program that builds on phase I results and the literature. The products of this will include objectives, content, procedure and protocol manuals, participant materials, procedures for intervention fidelity, and delivery methods, including a possible prototype of a mobile health/electronic application. We will use an iterative method to assess the feasibility, cultural relevance, acceptability, and potential sustainability of the intervention.

Setting

We are conducting the study in New Haven, CT, a city of 129,000 residents, of whom 48.4% are white, 37.6% are Black, 5.3% are Asian, and 14.4% report other races, while 27.4% are Latino or Hispanic. A single female parent heads 39.4% of families with children under age 5, and 20.5% have incomes below the poverty line (US Census Bureau, 2015).

The Yale New Haven Hospital Pediatric Primary Care Center (PCC), a comprehensive medical facility serving more than 5,000 families in the greater New Haven area (40% Latino, 50% Black, 5% Asian, and 5% other race/ethnicities), is the focal point for recruitment. The PCC offers a full range of preventative, urgent and comprehensive primary care services to newborns, children, and adolescents. All families have Medicaid insurance.

We are engaging families and providers from both the New Haven community and the PCC through a “snowball” method, in which we invite providers and families to refer colleagues and peers from other community sites. We are also engaging the churches and Junta New Haven, a community advocacy group for Hispanic residents, through the Cultural Ambassadors of the Yale Center for Clinical Investigation (YCCI, Yale University’s clinical and translational research institute) who expressed interest in this study and will collaborate in identifying families and providers for participation in the study.

Sample

The sample will include (1) parents in families with one or more children between 6 and 36 months of age (2) pediatric primary health care providers in the community, and (3) child care providers in the community. Parent participants will reside with their child (ren) in New Haven, obtain pediatric health care in a New Haven community practice, and be eligible for the Special Supplemental Nutrition Program for Women, Infants and Children Program (WIC), based on income and family size (Health, 2015). Given the large proportion of single-parent (maternal- headed) households, we expect that most parent participants will be mothers. We will not exclude fathers, but only one parent will represent each family. If a family has more than one eligible child, we ask the parent to complete sleep questionnaires and actigraphy for each child. We are including parents who speak either English or Spanish and exclude those whose children have serious illnesses or significant developmental delays (per parent report). We do not include children in the custody of the CT Department of Children and Family Services because many do not reside with their parents and suffer from additional stressors that contribute to poor sleep.

Pediatric primary care providers who have experience with the care of community children will include physicians, staff nurse registered nurses, and nurse practitioners (NPs) who provide primary care in the greater New Haven area and speak English. Child care providers will include teachers and directors who provide infant-toddler child care, either in center-based or licensed family-based child care programs.

Sample size—We will recruit at least 30 parent-child dyads to address aim 1. Given that some parents may have more than one child, there may be more children than parents. We will use stratified purposive sampling to assure representation proportional to the minority representation in the community. The sample will include equal subsamples (15 families each) of families with children 6-18 months and 19-36 months of age. Efficacious strategies to promote sleep habits are identical across this age span (Morgenthaler et al., 2006), but there may be differences in development, sleep habits, sources of sleep difficulty, and preferences for intervention timing. We will compare parents’ perceptions between the age groups.

To address aim 2, we will purposively recruit 30 pediatric primary care and child care providers to assure proportional representation of physicians, staff nurses, nurse practitioners and child care providers. These sample sizes should be large enough to attain saturation of the data for qualitative analyses, but we will recruit more participants if we do not obtain saturation with the planned sample.

Procedures

Community engagement—We began the community engagement process before submission of the grant application by engaging with the Community Ambassadors, a group that represents the local African American and Hispanic communities and convened by the YCCI. We presented the idea for the project and elicited the group's input. Representatives provided letters of support for the grant application.

After grant funding, we met again with the Ambassadors and elicited additional feedback regarding potential members for a community advisory board and ideas for this project. They suggested that we include community child care providers because of their influence and observations regarding children's behavior, and the importance of daytime napping. The Ambassadors also suggested that we include Spanish-speaking families to assure representation of those of Hispanic/Latino background in the study. We concurred with these recommendations and modified the study to address them.

Using recommendations from the Ambassadors and other contacts in the community, we invited representatives to the community advisory board, a group designed to inform the directions of the project in a manner that responds to community needs. The members assist with oversight, and share decision-making about methods, interpretation of findings, and intervention development, implementation, evaluation, and dissemination. The board has nine members, including clergy members, child care providers, pediatric clinical providers, community agency representatives, and parents of young children. As full partners, committee members have the opportunity to co-author reports emerging from this project and to collaborate on disseminating information to the community. They also will have the opportunity to guide future studies and intervention projects. We compensate the members for their time. We reimburse parent members for carfare and childcare as needed. We provide meals or refreshments at the meetings. We schedule the community advisory board to meet face to face quarterly or to receive an emailed update of study progress if there was not a need for decision-making.

Human subjects, recruitment, and data collection—We obtained approval from the university human subjects committee and the research committee in the clinical setting. Providers identify families and clinicians who may be eligible and interested in participation and obtain consent for contact. Using the snowball method, parents and providers refer peers and colleagues. We will compensate participants for their time.

Parent/child dyads—We trained the research assistants (RA), who are all graduate-level nursing students, in community-engaged research methods, interviewing, and specific study procedures. The RAs contact parent/child dyad participants referred to us and those who self-refer, explain the study, confirm eligibility, obtain informed consent, and conduct the interviews. They assist parents to complete the questionnaires and instruct them on the use of the actigraphs and accompanying diaries. These instructions include placing the device on the children's ankles, wearing them continuously while removing only for bathing, and depressing the event markers at bedtimes and nap times. We provide illustrated printed information to guide the use of the actigraph. The RAs program the actigraphs and retrieve

them and the questionnaires at the conclusion of the sleep monitoring. We pay the parents \$25 for the baseline data collection/interview and an additional \$25 upon completion of the questionnaires and actigraphy (total \$50).

The RAs conduct the interviews in a private space in a convenient location or participants' homes if they prefer. We use a semi-structured guide developed through an iterative process with our team members and the community advisory board and organized by the constructs of interest (e.g., sleep characteristics, the importance of sleep, sleep habits, and contributing factors in family, community, society, and culture, based on the Social Ecological Model). (See Table 1). The RA uses open-ended prompts throughout the interviews. If more than one child in a family meets study criteria, the interviewer asks separately about each child. We audio-record the interviews, and a professional transcriptionist digitally transcribes them. The interviewer takes field notes on the meeting context and observations not reflected in the recording. The data collection takes no longer than 1 hour/participant. We translated all of the study materials, and a bilingual RA conducts study visits and interviews with Spanish speaking families.

Child care and healthcare providers—Members of our research team trained in qualitative interviewing are conducting the interviews in a convenient location and audio-recording them. Interviews take approximately 1 hour. These semi-structured interviews elicit perceptions of the importance of sleep/sleep difficulty; family, community, societal/cultural factors that influence sleep; successful and unsuccessful approaches to healthy sleep habits, knowledge and practices regarding assessing/managing sleep disorders; resources needed to support assessment and management; and barriers, facilitators, and preferences for sleep-promoting interventions. See Table 2 for the interview schedule.

Instruments in Phase I

Quantitative data: Parents/children—We are collecting demographic, social and health information on parents and children (age, gender, race, educational level, employment status, occupation, shift-work, partnered status, the number of people in the household, type of dwelling), and insurance by self-report. We elicit children's height and weight, medical, sleep, and psychiatric history, medications, development, and child care arrangements.

We use the expanded Brief Infant Questionnaire (BISQ; Sadeh, 2004) to elicit parent reports of child sleep patterns (daytime/nocturnal sleep duration, frequency of awakening, sleep latency), sleep habits (sleeping arrangements, parent-child interactions about sleep including bedtime behaviors and behaviors related to nocturnal awakenings, and sleep difficulty (bedtime resistance, nocturnal awakenings, and snoring, a risk factor for sleep apnea). The BISQ is valid compared with sleep diaries.

We measure objective sleep characteristics (sleep duration, efficiency, nap duration) with the Responics Minimitter Actiwatch (AW2). Actigraph data obtained from 12-24-month-old children is reliable (Acebo et al., 1999). For safety reasons and consistency with standards published in the scientific literature, children wear the actigraph on their ankles (Bélanger, Bernier, Paquet, Simard, & Carrier, 2013). To make the device child-friendly, we decorated it with colorful tape. Parents depress the event markers at lights out/bedtime, lights on, and

nap time, and record the times in the diary. We phone parents every 2 days to address questions and remind them to continue, to facilitate completeness of the data. We request 9 days and nights of data to obtain at least 7 nights (Acebo et al., 1999), a period that will enable us to determine daily variability and conduct analysis of standard sleep measures (e.g., duration, efficiency). Diary data will only be used to support actigraph interpretation.

We are also obtaining information from the parents about their health and stress levels because life stress was related to child sleep in our previous work (Caldwell & Redeker, 2015). We administer the Brief Symptom Inventory (BSI) (Derogatis, 1993) and Parenting Stress Index (PSI)-Short Form (Abdin, 1995a, 1995b). The 18-item BSI contains a Global Severity Index (GSI) that reflects symptomatology across multiple domains during the preceding 2 weeks and has four subscales (depression, somatization, and anxiety symptoms). The BSI is reliable and valid (GSI $\alpha = .90$), requires a 6th-grade reading level, and we have used it in studies with adolescent and young parents (Sadler et al., 2013).

The 36-item PSI-short form (Abdin, 1995b) measures the relative magnitude of stress in the parent-child system. Each item is rated on a 5-point scale. The measure has five subscales: Parent Distress, Parent-Child Difficulty, Difficult Child, Defensive Responding, and Total Stress. The PSI subscales have concurrent validity with the full PSI. Alpha coefficients ranged from .88 to .95 across the five subscales in similar samples (Reitman, Currier, & Stickle, 2002).

Quantitative data: Healthcare and childcare providers—To address Aim 2, we collect from the child care teachers and pediatric primary care providers their demographic data (age, race, gender, educational level/years of training), professional discipline and subspecialty, and time in practice.

Data Analyses

Quantitative—To address Aim 1, we will download actigraph data into the computer. After visual review for missing data, variables will be computed with Actiware v5 (Phillips Respironics Minimitter Inc.) using standard methods (e.g., daytime and nocturnal sleep duration, nocturnal sleep efficiency, time of sleep onset and offset). We will enter the actigraph data, demographic, clinical, and questionnaire data into a database and upload it into SAS for analysis. We will review the data and correct errors, missing data, outliers, and skewness, and calculate the scale scores for the questionnaires. We will compute descriptive statistics and use parametric and non-parametric statistics to examine associations between clinical and demographic characteristics, parent knowledge about sleep, parent distress/stress, actigraph and parent-reported sleep patterns, sleep habits, and sleep difficulty. We will compare objective and self-reported sleep characteristics between the two age groups using independent *t*-tests and non-parametric tests for categorical variables, and compare parent narrative reports between the two age groups.

Interview data (Aims 1-2) will be digitally transcribed and uploaded into ATLAS.ti software. A certified transcriptionist will transcribe the recordings. A transcriptionist who is fluent in Spanish will transcribe the interviews from Spanish-speaking participants, and we will translate the Spanish transcripts into English for qualitative coding and analysis.

We use a qualitative descriptive approach (Sandelowski, 2000a) and a constant comparative method (Fram, 2013) in which we simultaneously collect data collection and analyze it. This method enables a flexible and emergent design and the ability to modify the interview schedule and probes when new patterns or directions emerge from the data (Miles, Huberman, & Saldana, 2014; Patton, 2015). Six team members experienced in qualitative research work in pairs to review transcripts and analyze interviews. We read all transcripts in entirety, code a sub-sample of transcripts, and use inductive or open coding (Miles et al., 2014) using a starting list of codes derived from the interviews, literature, and the aims. The team initially coded a sub-sample of transcripts independently, compared them for agreement, and used an agreed-upon final list of codes for the remaining interviews. Categorization of patterns and themes will provide a framework for comparison with original transcript data and reporting findings. We will examine themes and patterns within and across informants (parents and clinicians; Ayres, Kavanaugh, & Knafl, 2003).

We will address validity, rigor, and trustworthiness of the qualitative findings according to guidelines (Sandelowski, 1993). Throughout data collection and analysis, reflexive journaling and research memos will be recorded and will include methodological, theoretical, and clinical memos that will inform the interpretation of findings and contribute to the audit trail. Several aspects of this study will enhance the trustworthiness of the data. These include the diversity of sampling strategies, inclusion of clinician and family perspectives, a multi-member qualitative research team, comparison of findings with quantitative findings (Creswell & Clark, 2011), the use of member checking, and a detailed audit trail throughout the study (Sandelowski, 1993).

To address aim 1, we will use a convergent mixed methods approach to compare parent-reported sleep and actigraph-recorded sleep data with the qualitative data and synthesize the qualitative and quantitative data to obtain a comprehensive perspective. We will review interview findings and quantitative data iteratively to clarify and understand the sleep education needs, concerns, and preferred program components and delivery methods described by our two communities.

To address aim 2, we will use methods identical to those in aim 1 to analyze the interview data obtained from the health care providers and the child care providers. We will use grids and mapping to conduct within- and across-case analyses to compare the prominent and over-arching themes from parent interviews with provider interviews (Creswell & Clark, 2011; Knafl & Webster, 1988; Miles et al., 2014; Saldaña, 2016).

Procedures for Aim 3

After we analyze the data, we will collaborate with the community advisory board to develop and refine a sleep promotion program. We will draft the protocol manual and procedures, objectives, content, time frames, intervention fidelity criteria, patient materials, and delivery modalities. The program will employ an educational approach tailored to the family, environmental, cultural and social conditions, preferences, and needs identified by study participants, consistent with the social-ecological model (Table 3). The intervention will also be based on American Academy of Sleep Medicine practice parameters (Morgenthaler et al., 2006), evidence-based guidelines, and a recent clinical trial (Hale et al.,

2011). Delivery methods may include face-face one on one or group meetings or electronic methods. If participants prefer an electronic/mobile health approach using an “app” or smartphone, we will use a structured approach to develop a description/outline of the health app as part of the protocol.

Although interventions tested in previous studies did not have sustained effects on sleep duration in young children, we expect that our community-engaged approach will lead to a sustainable intervention that is efficacious and will have the potential for widespread reach, adoption, implementation, and maintenance (Glasgow, Vogt, & Boles, 1999). We cannot be certain of the precise content and format of the intervention at this time, but our experience and emerging data suggest possible directions. For example, bedtime rituals are important for sleep health in young children. Information obtained about cultural differences in preferred bedtime rituals (e.g., singing, prayer, massage) will guide our ability to provide culturally appropriate suggestions to members of specific groups, within the overall concept of a bedtime ritual. Manipulating the sleeping environment (quiet, dark room, having one’s bed, regular bedtimes) is also a component of promotion of sleep health.

However, these strategies may be challenging, depending on conditions in the home environment, such as crowding, bed sharing and other contextual concerns that seem to be emerging in our interviews. Our intervention may also focus on improving sleep by strengthening parenting approaches, given our impressions that parenting behavior is closely tied to the sleep of young children. Decisions about these innovations will rely on data that are still accruing that may produce practical suggestions for modifying these standard components of sleep interventions and on feedback from our community advisory group.

Although promotion of sleep health is a component of well-child care, time is often limited in clinical encounters with primary care providers. Therefore, a practical intervention may include a family group format, supplementation with electronic devices or apps, or a sleep health promotion program offered in accessible community settings (e.g., child care centers or churches). Recommendations about contextually relevant approaches will emerge from this study.

Discussion

We expect that the results of this study will lead to the development of a community-engaged and culturally relevant sleep promotion program for infants and toddlers in families who live in economically stressed urban environments. Purposeful inclusion of Latino and African American families and a range of child ages will help the community and research partners to tailor healthy sleep interventions to the needs and preferences of community families, guided by the social-ecological model. At the time of preparation of this manuscript, data collection is underway.

The community-engaged approach has already strengthened this project. The first step in our research project after obtaining funding was a meeting with the community advisory board, and we made changes in response to their feedback. Although we did not plan to include people who spoke only Spanish in the study due to the cost and complexity of Spanish

translation, we obtained internal funds to revise the protocol to translate the materials and conduct the interviews in Spanish. The community advisory board recommended this innovation, and YCCI facilitated the translation services. We also hired a Spanish-speaking student research assistant. We have conducted several interviews in Spanish and are currently in the process of translating them.

We incorporated the input of our community partners into the development of the structured interviews for the parents, pediatric health care providers, and child care providers. This advice included shortening the questions to avoid redundancy and adapting them to reflect the specific characteristics of the childcare settings. We will continue to elicit and incorporate suggestions of these team members and informants as we progress to intervention development and testing. In Phase II of this project, using an iterative format, we will draft the components with input and seek repeated feedback and revisions until we reach consensus.

The advisory board members suggested that we interview childcare providers about their perspectives on child sleep, and we have included them in this project. Given that the childcare providers have sustained daily contacts with the children, this has been an excellent source of information about the effects of nocturnal sleep on the children's daytime behavior and the role of napping, and the childcare providers have enthusiastically responded to our invitations.

The primary challenge in our study is the recruitment of the families in the busy primary care clinic where space and time are limited for interactions with participants, scheduling interviews, and obtaining complete actigraph data on the children. Our flexibility in location and timing of the interviews facilitates our ability to complete them. We also learned that careful instruction using graphical handouts developed by our team members, frequent text message and telephone reminders, and providing payments upon completion of data collection facilitate the acquisition of complete actigraph data. We have relied extensively on our experience in an ongoing study conducted by our team to guide the data collection with actigraph measures of sleep (Ordway, Sadler, Canapari, Jeon, & Redeker, 2017).

Our work, guided by the emerging sleep literature, is an example of interdisciplinary team science. Our team includes nurse and physician experts in sleep (Canapari, Redeker), pediatric primary care (Banasiak, Crowley, Fenick, Ordway, Sadler, Sude), parenting (Ordway, Sadler), community health (O'Connell), community engagement with low-income residents (Sadler), child care services (Crowley, O'Connell), mixed methods research (Sadler), maternal child mental health (Caldwell); and the community advisory board that includes parents, daycare providers, pediatric health care providers, and community thought leaders. This approach is likely to lead to the development of a sleep intervention that is multi-dimensional and acceptable to relevant stakeholders.

This project is a synergistic component of our team's research program. It builds on our past research (Caldwell & Redeker, 2009, 2015), an ongoing mixed methods study of sleep in young families in Newark, NJ, and research with parenting in young families (Sadler et al., 2013; Ordway et al., 2013; Sadler et al., 2016). Dr. Canapari is developing a cell phone app

to guide young families about sleep that may become a component of a future intervention. Given the associations between health and significant behavioral, psychological, metabolic (e.g., obesity, diabetes) and cardiovascular outcomes (e.g., hypertension) relevant to the community, an additional goal is to test the effects of the sleep intervention on biological outcomes. Dr. Ordway is investigating the contributions of sleep to biomarkers of stress among young children (Ordway et al., 2017). We hope this study will lead guide selection of future biological targets for intervention.

This effort focuses on addressing the Healthy People 2020 focus on sleep and growing recognition of sleep deficiency in the population. We expect that the product of this study will be a contextually relevant community-based sleep health intervention for young families. We will conduct additional studies to test the effects of the intervention on sleep and biological and behavioral health outcomes.

Acknowledgments

This study was funded by R21NR01690 (Redeker and Sadler, PI), P20NR014126 (Redeker, PI), K23NR016277 (Ordway, PI), and UL1 TR000142 (K12 to Ordway, Sherwin, PI).

References

- Abdin, RR. Parenting Stress Index. 3d. Lutz, FL: Psychological Assessment Resources; 1995a.
- Abdin, RR. The Parenting Stress Index: Short Form. Charlottesville, VA: Pediatric Psychology Press; 1995b.
- Acebo C, Sadeh A, Seifer R, Tzischinsky O, Wolfson AR, Hafer A, Carskadon MA. Estimating sleep patterns with activity monitoring in children and adolescents: How many nights are necessary for reliable measures? *Sleep*. 1999; 22:95–103. [PubMed: 9989370]
- Ayres L, Kavanaugh K, Knafl KA. Within-case and across-case approaches to qualitative data analysis. *Qualitative Health Research*. 2003; 13:871–883. DOI: 10.1177/1049732303013006008 [PubMed: 12891720]
- Bélanger MÈ, Bernier A, Paquet J, Simard V, Carrier J. Validating actigraphy as a measure of sleep for preschool children. *Journal of Clinical Sleep Medicine*. 2013; 9:701–706. DOI: 10.5664/jcsm.2844 [PubMed: 23853565]
- Boergers J, Hart C, Owens JA, Streisand R, Spirito A. Child sleep disorders: Associations with parental sleep duration and daytime sleepiness. *Journal of Family Psychology*. 2007; 21:88–94. DOI: 10.1037/0893-3200.21.1.88 [PubMed: 17371113]
- Bronfenbrenner U, Ceci SJ. Nature-nurture reconceptualized in developmental perspective: A bioecological model. *Psychological Review*. 1994; 101:568–586. [PubMed: 7984707]
- Caldwell BA, Redeker NS. Sleep patterns and psychological distress in women living in an inner city. *Research in Nursing & Health*. 2009; 32:177–190. DOI: 10.1002/nur.20308 [PubMed: 19086035]
- Caldwell BA, Redeker NS. Maternal stress and psychological status and sleep in minority preschool children. *Public Health Nursing*. 2015; 32:101–111. DOI: 10.1111/phn.12104 [PubMed: 24386915]
- Centers for Disease Control. The Social Ecological Model: A framework for prevention. 2007. Retrieved from <http://www.cdc.gov/violenceprevention/overview/social-ecologicalmodel.html>
- Creswell, JW., Clark, VL. Designing and conducting mixed methods research. 2nd. Thousand Oaks, CA: Sage; 2011.
- Derogatis, LR. The Brief Symptom Inventory. Minneapolis, MN: National Computer Symptoms; 1993.
- Eckerberg B. Treatment of sleep problems in families with small children: Is written information enough? *Acta Paediatrica*. 2002; 91:952–959. 10.1111/j.1651-2227.2004.tb00686.x. [PubMed: 12222721]

- El-Sheikh M, Bagley EJ, Keiley M, Elmore-Staton L, Chen E, Buckhalt JA. Economic adversity and children's sleep problems: Multiple indicators and moderation of effects. *Health Psychology*. 2013; 32:849–859. DOI: 10.1037/a0030413 [PubMed: 23148451]
- Fram SM. The constant comparative analysis method outside of grounded theory. *The Qualitative Report*. 2013; 18:1–25.
- Galland BC, Taylor BJ, Elder DE, Herbison P. Normal sleep patterns in infants and children: A systematic review of observational studies. *Sleep Medicine Reviews*. 2012; 16:213–222. <https://doi.org/10.1016/j.smrv.2011.06.001>. [PubMed: 21784676]
- Glasgow RE, Vogt TM, Boles SM. Evaluating the public health impact of health promotion interventions: The RE-AIM framework. *American Journal of Public Health*. 1999; 89:1322–1327. [PubMed: 10474547]
- Hale L, Berger LM, LeBourgeois MK, Brooks-Gunn J. Social and demographic predictors of preschoolers' bedtime routines. *Journal of Developmental and Behavioral Pediatrics*. 2009; 30:394–402. DOI: 10.1097/DBP.0b013e3181ba0e64 [PubMed: 19745760]
- Hale L, Berger LM, LeBourgeois MK, Brooks-Gunn J. A longitudinal study of preschoolers' language-based bedtime routines, sleep duration, and well-being. *Journal of Family Psychology*. 2011; 25:423–433. DOI: 10.1037/a0023564 [PubMed: 21517173]
- Connecticut Department of Public Health. WIC Program FAQs. 2015. Retrieved from <http://www.ct.gov/dph/cwp/view.asp?a=3137&Q=387768&PM=1-Income>
- Henderson JM, France KG, Blampied NM. The consolidation of infants' nocturnal sleep across the first year of life. *Sleep Medicine Reviews*. 2011; 15:211–220. DOI: 10.1016/j.smrv.2010.08.003 [PubMed: 21051245]
- Henderson JM, France KG, Owens JL, Blampied NM. Sleeping through the night: The consolidation of self-regulated sleep across the first year of life. *Pediatrics*. 2010; 126:e1081–1087. DOI: 10.1542/peds.2010-0976 [PubMed: 20974775]
- Jenni OG, O'Connor BB. Children's sleep: An interplay between culture and biology. *Pediatrics*. 2005; 115(1 Suppl):204–216. DOI: 10.1542/peds.2004-0815B [PubMed: 15866854]
- Keller P, El-Sheikh M. Children's emotional security and sleep: longitudinal relations and directions of effects. *Journal of Child Psychology and Psychiatry*. 2011; 52:64–71. DOI: 10.1111/j.1469-7610.2010.02263.x [PubMed: 20500540]
- Kelly RJ, El-Sheikh M. Marital conflict and children's sleep: Reciprocal relations and socioeconomic effects. *Journal of Family Psychology*. 2011; 25:412–422. DOI: 10.1037/a0023789 [PubMed: 21553963]
- Kelly RJ, El-Sheikh M. Longitudinal relations between marital aggression and children's sleep: The role of emotional insecurity. *Journal of Family Psychology*. 2013; 27:282–292. DOI: 10.1037/a0031896 [PubMed: 23458697]
- Knafel KA, Webster DC. Managing and analyzing qualitative data. A description of tasks, techniques, and materials. *Western Journal of Nursing Research*. 1988; 10:195–218. DOI: 10.1177/019394598801000207 [PubMed: 3394320]
- Magee CA, Gordon R, Caputi P. Distinct developmental trends in sleep duration during early childhood. *Pediatrics*. 2014; 133:e1561–1567. DOI: 10.1542/peds.2013-3806 [PubMed: 24843067]
- McCloskey, DJ., McDonald, M., Cook, J., Hertin-Roberts, S., Updegrave, S., Sampson, D., Gutter, S., M, E. Community engagement: definitions and organizing concepts from the literature. In: C T S A Consortium. , editor. *Principles and practice of community engagement*. 2nd. Washington, DC: US Department of Health and Human Services; 2011.
- Meltzer LJ, Mindell JA. Systematic review and meta-analysis of behavioral interventions for pediatric insomnia. *Journal of Pediatric Psychology*. 2014; 39:932–948. DOI: 10.1002/oby.21459 [PubMed: 24947271]
- Miles, MB., Huberman, AM., Saldana, J. *Qualitative analysis: A methods sourcebook*. 3rd. Los Angeles: Sage; 2014.
- Mindell JA, Du Mond CE, Sadeh A, Telofski LS, Kulkarni N, Gunn E. Efficacy of an internet-based intervention for infant and toddler sleep disturbances. *Sleep*. 2011a; 34:451–458. [PubMed: 21461323]

- Mindell JA, Du Mond CE, Sadeh A, Telofski LS, Kulkarni N, Gunn E. Long-term efficacy of an internet-based intervention for infant and toddler sleep disturbances: One-year follow-up. *Journal of Clinical Sleep Medicine*. 2011b; 7:507–511. DOI: 10.5664/JCSM.1320 [PubMed: 22003347]
- Mindell JA, Kuhn B, Lewin DS, Meltzer LJ, Sadeh A, American Academy of Sleep Medicine. Behavioral treatment of bedtime problems and night wakings in infants and young children. *Sleep*. 2006; 29:1263–1276. [PubMed: 17068979]
- Morgenthaler TI, Owens J, Alessi C, Boehlecke B, Brown TM, Coleman J Jr, American Academy of Sleep Medicine. Practice parameters for behavioral treatment of bedtime problems and night wakings in infants and young children. *Sleep*. 2006; 29:1277–1281. [PubMed: 17068980]
- Nevarez MD, Rifas-Shiman SL, Kleinman KP, Gillman MW, Taveras EM. Associations of early life risk factors with infant sleep duration. *Academic Pediatrics*. 2010; 10:187–193. DOI: 10.1016/j.acap.2010.01.007 [PubMed: 20347414]
- Ordway MR, Sadler LS, Canapari C, Jeon S, Redeker NS. Sleep, biological stress, and health among toddlers living in socioeconomically disadvantaged homes: A research protocol. *Research in Nursing & Health*. 2017; Advance online publication. doi: 10.1002/nur.21832
- Owens JA, Fernando S, Mc Guinn M. Sleep disturbance and injury risk in young children. *Behavioral Sleep Medicine*. 2005; 3:18–31. DOI: 10.1207/s15402010bsm0301_4 [PubMed: 15639755]
- Owens JA, Jones C. Parental knowledge of healthy sleep in young children: Results of a primary care clinic survey. *Journal of Developmental and Behavioral Pediatrics*. 2011; 32:447–453. DOI: 10.1097/DBP.0b013e31821bd20b [PubMed: 21546852]
- Owens JA, Jones C, Nash R. Caregivers' knowledge, behavior, and attitudes regarding healthy sleep in young children. *Journal of Clinical Sleep Medicine*. 2011; 7:345–350. DOI: 10.5664/JCSM.1186 [PubMed: 21897770]
- Paruthi S, Brooks LJ, D'Ambrosio C, Hall WA, Kotagal S, Lloyd RM, ... Wise MS. Consensus statement of the American Academy of Sleep Medicine on the recommended amount of sleep for healthy children: Methodology and discussion. *Journal of Clinical Sleep Medicine*. 2016; 12:1549–1561. DOI: 10.5664/jcsm.6288 [PubMed: 27707447]
- Patton, MQ. Qualitative research and evaluation tools. 4th. Los Angeles: Sage; 2015.
- Reid GJ, Hong RY, Wade TJ. The relation between common sleep problems and emotional and behavioral problems among 2- and 3-year-olds in the context of known risk factors for psychopathology. *Journal of Sleep Research*. 2009; 18:49–59. DOI: 10.1111/j.1365-2869.2008.00692.x [PubMed: 19250175]
- Reitman D, Currier RO, Stickle TR. A critical evaluation of the Parenting Stress Index-Short Form (PSI-SF) in a Head Start population. *Journal of Clinical Child and Adolescent Psychology*. 2002; 31:384–392. DOI: 10.1207/S15374424JCCP3103_10 [PubMed: 12149976]
- Rosa EM, Tudge J. Urie Bronfenbrenner's theory of human development: Its evolution from ecology to bioecology. *Journal of Family Theory & Review*. 2013; 5:243–258. DOI: 10.1111/jftr.12022
- Sadeh A. A brief screening questionnaire for infant sleep problems: Validation and findings for an Internet sample. *Pediatrics*. 2004; 113:e570–577. DOI: 10.1542/peds.113.6.e570 [PubMed: 15173539]
- Sadeh A, Tikotzky L, Scher A. Parenting and infant sleep. *Sleep Medicine Reviews*. 2010; 14:89–96. DOI: 10.1016/j.smr.2009.05.003 [PubMed: 19631566]
- Sadler LS, Larson J, Bouregy S, Lapaglia D, Bridger L, McCaslin C, Rockwell S. Community-university partnerships in community-based research. *Progress in Community Health Partnerships*. 2012; 6:463–469. DOI: 10.1353/cpr.2012.0053 [PubMed: 23221292]
- Sadler LS, Slade A, Close N, Webb DL, Simpson T, Fennie K, Mayes LC. Minding the Baby: Enhancing reflectiveness to improve early health and relationship outcomes in an interdisciplinary home visiting program. *Infant Mental Health Journal*. 2013; 34:391–405. DOI: 10.1002/imhj.21406 [PubMed: 24049219]
- Saldaña, J. The coding manual for qualitative researchers. 3d. Los Angeles & London: Sage; 2016.
- Sandelowski M. Rigor or rigor mortis: The problem of rigor in qualitative research revisited. *Advances in Nursing Science*. 1993; 16(2):1–8.

- Sandelowski M. Combining qualitative and quantitative sampling, data collection, and analysis techniques in mixed-method studies. *Research in Nursing & Health*. 2000a; 23:246–255. DOI: 10.1002/1098-240X(200006)23:3<246::AID-NUR9>3.0.CO;2-H [PubMed: 10871540]
- Sandelowski M. Whatever happened to qualitative description? *Research in Nursing & Health*. 2000b; 23:334–340. DOI: 10.1002/1098-240X(200008)23:4<334::AID-NUR9>3.0.CO;2-G [PubMed: 10940958]
- Sheares BJ, Kattan M, Leu CS, Lamm CI, Dorsey KB, Evans D. Sleep problems in urban, minority, early-school-aged children more prevalent than previously recognized. *Clinical Pediatrics*. 2013; 52:302–309. <https://doi.org/10.1177/0009922813476573>. [PubMed: 23426232]
- Spruyt K, Alaribe CU, Nwabara OU. To sleep or not to sleep: A repeated daily challenge for African American children. *CNS Neuroscience & Therapeutics*. 2015; 21:23–31. DOI: 10.1111/cns.12319 [PubMed: 25180811]
- Spruyt K, Gozal D. The underlying interactome of childhood obesity: The potential role of sleep. *Child Obesity*. 2012; 8:38–42. DOI: 10.1089/chi.2011.0105
- Stokols D. Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion*. 1996; 10:282–298. [PubMed: 10159709]
- Taveras EM, Hohman KH, Price S, Gortmaker SL, Sonnevile K. Televisions in the bedrooms of racial/ethnic minority children: How did they get there and how do we get them out? *Clinical Pediatrics*. 2009; 48:715–719. DOI: 10.1177/0009922809335667 [PubMed: 19420181]
- US Census Bureau. US Census quick facts. 2015. Retrieved from <http://quickfacts.census.gov/qfd/states/09/0952000lk.html>
- Vaughn BE, El-Sheikh M, Shin N, Elmore-Staton L, Krzysik L, Monteiro L. Attachment representations, sleep quality and adaptive functioning in preschool-age children. *Attachment and Human Development*. 2011; 13:525–540. DOI: 10.1080/14616734.2011.608984 [PubMed: 22011098]
- Wilson KE, Miller AL, Bonuck K, Lumeng JC, Chervin RD. Evaluation of a sleep education program for low-income preschool children and their families. *Sleep*. 2014; 37:1117–1125. DOI: 10.5665/sleep.3774 [PubMed: 24882907]
- Wilson KE, Miller AL, Lumeng JC, Chervin RD. Sleep environments and sleep durations in a sample of low-income preschool children. *Journal of Clinical Sleep Medicine*. 2014; 10:299–305. DOI: 10.5664/jcsm.3534 [PubMed: 24634628]

Table 1

Semi-structured Qualitative Interview Schedule for Parents

Topic	Probes
General Perception and Importance of Sleep	<p>For you, what is a good night's sleep?</p> <p>How important do you think sleep is in your life? OR In what ways do you think sleep might affect (influence) your daily life?</p> <p>What are the things that you think affect your sleep?</p> <p>What are the things you do to help yourself have good sleep?</p> <p>Where did you learn to do the things that you use to help you sleep?</p> <p>What sleep "traditions" or "rituals," if any, were practiced in your family when you were growing up?</p>
Perception and importance of sleep for child	<p>How does sleep affect your child's life?</p> <p>What is a good night sleep for your child?</p> <p>How do you know if your child has had a good night sleep?</p> <p>How much sleep does your child need each night to wake up having a good day? How often does he get that much sleep?</p> <p>If you were concerned about your child's sleep who would you talk to?</p> <p>Have you ever talked to someone about your child's sleep? Who? Please explain.</p> <p>What are the things that you think influence your child's sleep?</p> <p>What helps your child get a good sleep? Are there things you do? What works?</p> <p>What do you do if your child has not had a good night's sleep? How often does this happen?</p>
Barriers to sleep	<p>What makes it hard for your child to get a good sleep?</p> <p>Tell me about any problems with your child's sleep.</p> <p>What makes your child's difficulties with sleep worse?</p>
Facilitators to sleep	<p>What kind of suggestions or advice could you offer other parents who would like help with their child's sleep?</p>
Would you like help with your child's sleep?	
Are there any questions that you wanted me to ask, that I did not? Is there anything else you would like to add?	
Thank you very much for all your help.	

Table 2**Semi-Structured Qualitative Interview Schedule for Clinicians**

Topic	Probes
Sleep and sleep habits	<p>Tell me what you think about sleep and sleep habits for the infants and young children you care for in your primary care practice [or child care setting]?</p> <p>Infants 6 - 12 months?</p> <p>Toddlers 12-36 months?</p> <p>How would you describe a good night's sleep for a 6-12 month-old child?</p> <p>A 12-36 month-old child?</p> <p>What are the factors that you think contribute to children's sleep or lack of sleep?</p> <p>What individuals or groups can positively or negatively influence young children's sleep? What roles may they play?</p> <p>How do you think families view sleep and healthy sleep habits for their young children?</p>
Assessment and Management of Sleep	<p>How do you think about sleep promotion among families from various backgrounds?</p> <p>For clinicians:</p> <p>Do you do a sleep assessment?</p> <p>If yes: Please describe how you assess sleep and sleep habits in the children in your primary care practice</p> <p>How do you talk with families about factors that may affect their children's sleep?</p> <p>When do you perform sleep assessments?</p> <p>For childcare providers:</p> <p>How do you know if children are sleeping well or not?</p> <p>Do you talk with families about factors that may affect their children's sleep? If yes: what do you say?</p> <p>Both:</p> <p>How does this vary by the child's age? Infants? Toddlers</p> <p>For clinicians and child care providers IF they talk to families about sleep:</p> <p>What are some of the approaches you use with parents for promoting healthy sleep?</p> <p>Infants 6 - 12 months?</p> <p>Toddlers 12 - 36 months?</p> <p>Which of these approaches would you consider successful? Please explain.</p> <p>Which of these approaches would you consider unsuccessful? Please explain.</p> <p>Where did you learn about managing sleep in young children?</p>
Assessment and management of sleep difficulty (including short sleep, irregular bedtimes and sleep duration, nocturnal awakenings, and bedtime problems)	<p>What kinds of sleep difficulties are you seeing in your practice/ child care setting?</p> <p>For clinicians:</p> <p>What are the possible contributing factors that you might need to assess and address to address sleep difficulty?</p> <p>For child care providers:</p> <p>What do you think contributes to these sleep problems?</p> <p>Do you currently address sleep difficulties in young children in your practice/child care setting? If yes: How?</p> <p>What interventions do you provide? Referrals?</p> <p>What kinds of tools and resources, if any, do you use to support sleep in young families? What kinds do you need?</p>
Preferences regarding sleep-promoting interventions for families with young children	<p>What do you think would aid or facilitate sleep promoting interventions with families?</p> <p>What barriers might there be in working with families to assess sleep and implement sleep- promoting interventions with families with young children?</p> <p>In your setting?</p> <p>For families in their home environments?</p> <p>What would the ideal program/intervention to promote sleep in young children look like?</p>
Are there any questions that you wanted me to ask, that I did not? Is there anything else you would like to add?	
Thank you very much for all your help.	

Table 3

Potential Treatment Components Based on the Literature

Technique	Description
Unmodified extinction	Put child to bed at designated bedtime; ignore until morning while maintaining safety (goal: eliminate undesired behaviors, self-soothing, fall asleep alone)
Graduated extinction	Gradual progressive method similar to above
Positive routines	Set bedtime routine; enjoyable quiet activities; temporarily delay bedtime to coincide with natural sleep onset
Faded bedtime w/response cost	and gradually make it earlier; take child out of bed for brief intervals if does not fall asleep
Scheduled awakenings	Provide pre-emptive awakenings prior to a typical spontaneous awakening and provide soothing responses.
Parent education/prevention	Parental education on preventing negative sleep behaviors