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Parental Educational and Engagement Through Positioning and Play

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PEEP CLASS

(PARENTAL EDUCATIONAL AND ENGAGEMENT THROUGH POSITIONING AND PLAY)

Presented in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Occupational Therapy

Eastern Kentucky University
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Department of Occupational Science and Occupational Therapy

Gaile Ebony Seay, MS, OTR/L
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EASTERN KENTUCKY UNIVERSITY
COLLEGE OF HEALTH SCIENCES
DEPARTMENT OF OCCUPATIONAL SCIENCE AND OCCUPATIONAL THERAPY

This project, written by Gaile Ebony Seay, under direction of Dr. Leslie Hardman, Faculty Mentor, and approved by members of the project committee, has been presented and accepted in partial fulfillment of requirements for the degree of

DOCTOR OF OCCUPATIONAL THERAPY

CAPSTONE COMMITTEE

____11-29-2021_

Faculty Mentor Date

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EASTERN KENTUCKY UNIVERSITY

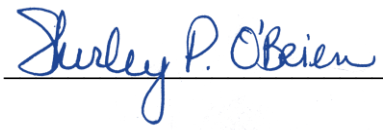
COLLEGE OF HEALTH SCIENCES

DEPARTMENT OF OCCUPATIONAL SCIENCE AND OCCUPATIONAL THERAPY

Certification

We hereby certify that this Capstone project, submitted by, conforms to acceptable standards and is fully adequate in scope and quality to fulfill the project requirement for the Doctor of Occupational Therapy degree.

Approved:



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Executive Summary

Background: This project is to increase the confidence of parents/caregivers via education about their infants that may not otherwise be provided by other health care professionals. This project also provides early intervention to the infants in efforts to facilitate their maximum development through proper positioning for sleeping and play.

Purpose: The purpose of this project was a parental education class for parents/primary caregivers of babies ages 0-6 months. They were educated about their child's development, and how to engage their baby through play and positioning for optimal cognitive, communication, and social-emotional development. This class and project sought to enhance parents' level of responsiveness to their babies which facilitates development. The research question is how can occupational therapy address the developmental needs of infants related to positioning for sleeping and tummy time for playing?

Theoretical Framework: This research project was guided by the developmental and Model of Human Occupation (MOHO) theoretical frameworks.

Methods: The Capital Area Healthy Start Coalition is the agency through which participants were obtained for this descriptive study. A pre-class and a post-class survey were used to determine what the mothers learned in the class.

Results: Thematic analysis was used to determine themes, and if the mothers felt the class overall was helpful.

Conclusion: Occupational therapy can address the developmental needs of infants related to positioning for sleeping and tummy time for playing through parental education. In addition to

positively answering the research question, it was determined this class would be added to the programming of Healthy Start however, it is still in the planning phase.

Acknowledgements

I would like to thank all my professors that nurtured me to this point and have rooted for me since day one. Thank you for your patience. I would like to thank my family and friends that supported me no matter what. Lastly, thank you to my parents who pushed me, supported through the rough times, and celebrated with me every little victory up to this point. I could not have done any of this without you and I would not be the person and therapist I am today. Thank you!

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CERTIFICATION OF AUTHORSHIP

Submitted to Leslie J. Hardman

Student's Name: Gaile Ebony Seay

Title of Submission: Parental Education and Engagement Through Positioning and Play Class

Certification of Authorship: I hereby certify that I am the author of this document and that any assistance I received in its preparation is fully acknowledged and disclosed in the document. I have also cited all sources from which I obtained data, ideas, or words that are copied directly or paraphrased in the document. Sources are properly credited according to accepted standards for professional publications. I also certify that this paper was prepared by me for this purpose.

Student's Signature: Gaile E. Seay

Date of Submission: 11/29/2021

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Section 1- Introduction

Nature of the Problem/Problem Identification

In 1994 The American Academy of Pediatrics (AAP) initiated the "Back to Sleep" campaign in efforts to reduce the alarming number of incidences of Sudden Infant Death Syndrome (SIDS) (American Academy of Pediatrics, 2020; Zachary & Kitzmann, 2011). In 1993 nearly 4,700 infants between the ages of 1 month and 1 year died from SIDS (AAP, 2020). As a direct result of this campaign, there was an overall decrease in the use of the prone position in infants whether sleeping or awake causing changes in the developmental progress of the baby as found by Pin, Eldridge and Gales (2007). They reviewed the effects of sleep and play positions, combined with use of equipment (items specifically designed to assist babies in maintaining certain positions) on motor development in infants. They were able to determine that infants born full term who spent more time in the prone position when awake, met their developmental milestones significantly earlier than those that did not or spent limited time in the prone position when awake in the first six months. This sparked a realization in the researcher that parents are not receiving the proper education about their infants and/or correct positioning, especially during sleep and play. This realization was also in conjunction with the researcher's experience as an occupational therapist in early intervention and working with parents/caregivers whose knowledge of safe developmental positioning for their infant was extremely limited, if at all. Healthcare professionals do not always educate patients as they should due to various reasons; one of them being personal reservations about safe sleep practices and discussing the topic with families. (Moon et al., 2008; Moon & Oden, 2003). Unfortunately, this results in a void at the cost of infant development, thus the need for parental (and professional) education on this topic. In an article by Moon, Hauck, and Colson in 2016, they cite a model by Grol and

colleagues outlining barriers and incentives to consider when a change in behavior(s) is desired. The considerations when presenting an intervention or education are as follows: innovation, individual professional (healthcare provider), breaking down barriers (parent/caregiver), culture and tradition (social context), and legislation/regulation (Moon et al., 2016). To be more specific, these categories are broken down to essentially mean how accessible or feasible is the innovation, the attitudes, knowledge and awareness of the healthcare provider, and the knowledge and compliance of the parent/caregiver. The cultural norms of the parent/caregiver as well as their consideration of family members'/colleagues' opinions along with the economic and political contexts that effect resources and policies are also basic meanings of the earlier considerations. This project has attempted to address feasibility and breaking down barriers, two aspects of changing parents' behavior through simply educating and facilitating healthier parent-infant co-occupations of sleep and play. For the purpose of this project, co-occupations are defined by Pierce as the exchange between the occupations of one individual and another that sequentially shapes the occupations of both persons (Pierce, 2009). So, the parent/mother can not develop as a mother without an infant to implement the necessary skills and the infant does not develop to their maximum potential without the assistance of the parent/mother.

In 2018 nationwide, there were approximately 1,300 deaths due to SIDS, approximately 1,300 deaths due to unknown causes, and approximately 800 deaths due to accidental suffocation and strangulation in bed (Center for Disease Control, 2020). This highlighted the need for education on positioning, especially during sleep. Although this is a decrease from the approximately 4,700 (116.7 per 100,000 live births) in 1993 which led to the "Back to Sleep" campaign by the AAP, these statistics indicated there was a need for continued concern for SIDS

because it still exists (Centers for Disease Control Morbidity and Mortality Weekly Report, 1996).

Problem Statement

Parents/caregivers are unaware of how to properly position their infant to sleep and to play (tummy time), resulting in potential delays in developmental progress of infants.

Research Question

How can occupational therapy address the developmental needs of infants related to positioning for sleeping and tummy time for playing?

Theoretical Frameworks

The theoretical frames of reference used to direct this project were developmental and the Model of Human Occupation (MOHO). The developmental framework is most often used with the pediatric population (Kramer & Hinojosa, 2018). Developmental theories focus on explaining the process by which an infant matures and gains the skills to become a fully functioning adult (Case-Smith, Law, Missiuna, Pollock & Stewart, 2010). Development occurs in stages with the first year of life being primarily a period of sensorimotor exploration (Case-Smith et al., 2010). The sensorimotor aspect of the project was emphasized through the importance of tummy time and its frequent use to enhance the infant's development. The infant then learns to incorporate the feedback from their environment gathered via their exploration and then finally skill achievement (Case-Smith et al., 2010). Skill achievement for this population would be ideal however due to the brief timeframe of this project skill achievement and milestones met would be highly difficult to measure. If skill achievement were possible to measure it would ideally be demonstrated in the form of parents/caregivers having a better understanding of proper play positioning for their infant as well as parents/caregivers being able

to demonstrate the skills/techniques that were taught during this project. It was the hope of the researcher that this project would increase the possibility of infants' maximum development facilitated via proper positioning and engagement from parents/caregivers.

The MOHO framework also applied to this project because the theory is based on the exchange of information from the environment as much as the person is willing to change to form new habits. Evidence indicates MOHO is one of the most widely used theoretical frameworks among therapists worldwide (Lee & Kielhofner, 2010). MOHO provides theory to explain occupation and occupational problems that arise from association with illness and disability, however this project seeks to prevent illness and disability (Kielhofner, 2009). Volition, habituation and performance capacity are the three components of the person considered in MOHO (Duncan, 2013). By choosing to attend the project class the participants (parents/caregivers) have demonstrated interest in learning which could ultimately lead to the formation of a habit. Once the habit is formed, they now have the skills to change their lived experiences by incorporating what they learned. One of the objectives of this project was to observe co-occupations of parent/caregiver and infants. The volitional desire of parent/caregiver to make healthy changes to facilitate proper infant development is a combination of both frameworks employed to provide theoretical support for this project.

The results of the needs assessment, conducted by the researcher in the summer of 2020 with three sets of first-time parents, determined that these first-time parents were not aware of the different positioning needs of their baby nor how to play or engage their baby. If they were aware, they were uncertain of how to go about incorporating it into a daily routine, including how long or how often. These findings were determined via a 15-question survey to determine demographic information and what they understood about positioning, playing with, and

engaging their baby. Many parents/caregivers are unaware of the importance of "tummy time" or the complications that can occur if it is not provided (Mildred et al., 1995). Koren et al, conducted an exploratory study in 2010 via survey responses from mothers with newborns, a healthcare provider focus group and analysis of parental websites. They found 90% of the mothers they survey, reported receiving information about how to position their baby while they were awake. Unfortunately, at postpartum and 2 months only 55% and 26% respectively of mothers received information about how to position their baby while awake (Koren et al, 2010). Another aspect of parents/caregivers' knowledge is even if they are aware of tummy time, some are deterred because of the baby crying and/or fussing due to the discomfort felt by the baby and parents not wanting to see their child in distress (Morea & Jessel, 2020). Having presented these findings, the purpose of this capstone project was to educate parents/primary caregivers (ideally first-time parents, however, not exclusively) of children ages 0-6 months about their child's development, and how to engage their baby through play positioning for optimal cognitive, communication, and social-emotional development and sleep positioning for optimal safety. The objectives of the project's class were to facilitate baby's development via enhanced parental/caregiver level of responsiveness, increase parental knowledge and confidence, and observe parent-infant co-occupations of play (Spiker et al., 2002).

The researcher is an occupational therapist who chose to apply the Occupational Therapy Practice Framework, 4th edition (OTPF-4) to guide the project. As the governing document of the profession, the OTPF-4 covers nine domains or areas of practice (American Occupational Therapy Association [AOTA], 2020). Four of the nine domains were addressed in the project: activities of daily living (ADLs), sleep and rest, play, and social interaction. This project aimed to assist parents/caregivers by enhancing their infant's co-occupations of play and sleep. In turn,

the baby could develop more fully by sleeping safely and playing and engaging in ways to facilitate typical development (AOTA, 2020).

Section 2- Literature Review

Sudden Infant Death Syndromes (SIDS)

Since this project was conducted in Florida, it was important to address the relevant infant statistics. According to the CDC, from 2014-2018 the average rates of SIDS in the state of Florida were 89.3 per 100,000 live births which was lower than the national average of 91.2 (Centers for Disease Control and Prevention, 2020). Although these state statistics are lower than the national average, there still existed a need to be concerned because SIDS has not been eliminated. These statistics also highlight the fact that safety, developmental, and positioning education is still needed for parents and caregivers. To promote safe sleeping habits, the National Institutes of Health has identified risk factors for SIDS and other sleep related causes of infant death. These risk factors include but are not limited to:

- sleeping on their stomachs
- sleeping on soft surfaces, such as an adult mattress, couch, or chair or under soft coverings
- getting too hot during sleep
- sleeping in an adult bed with parents, other children, or pets. Sleeping in the bed with adults increases the risk if:
- The baby is covered by a blanket or quilt.
- The baby sleeps with more than one bed-sharer.
- The baby is younger than 11 to 14 weeks of age.

(National Institute of Child Health and Human Development, 2020). In addition to the listed risks above, the Florida Department of Health has also provided tips on their website to reduce the risk of SIDS which include:

- Keeping your baby's well baby visits and immunizations up to date
- Offering a pacifier at nap and bedtime. (If you are breastfeeding, wait until breastfeeding is going well before offering a pacifier. This is usually around one month.)
- Making sure your baby does not get overheated. If the room feels comfortable for you, it is comfortable for your baby.
- Talking to everyone who cares for your baby about following your baby's safe sleep practices and other ways to reduce your baby's risk of SIDS (Florida Department of Health, 2019).

These published evidenced based recommendations to prevent SIDS are targeted to parents/caregivers via website. Given the limited knowledge of these recommendations by some new parents, a need exists to address targeted parent education prenatally and postnatally. The limited parental/caregiver knowledge also demonstrates the need to continue with parental education prenatally and especially postnatally to assist with proper development and the prevention of various developmental/health issues later in life. One of the goals and leading health issues for Healthy People 2020, is to improve the health and well-being of women, infants, children, and families. This goal specifically targets health and well-being by reducing the rates of all infant deaths within one year, reducing the rates of all neonatal deaths within the first 28 days of life, reducing the rates of all postnatal deaths between 28 days and 1 year of life, and reducing the rates of infant death from sudden unexpected infant deaths (Healthy People

2020, 2014). If the health of mothers and infants is poor, the health of the population declines and thus the declination of the population itself. Occupational therapists, provide services that maximize the health, well-being, and quality of life for all people, as stated in Vision 2025 (American Occupational Therapy Association, 2017). In 2015, the Centers for Disease Control and Prevention (CDC) identified that SUID (sudden unexpected infant) deaths among American Indian/Alaska-Native infants and African-American infants were more than twice that of non-Hispanic White infants. Specifically, per 1,000,000 live births, the SUID rates were 194.1 for American-Indian/Alaska-Native infants and 170.2 for African-American infants, which is more than twice that of non-Hispanic White infants (83.8) (CDC, 2015). These statistics highlight the health disparity experienced by minorities and exactly which demographics in the population the Healthy People 2020 goal can target to provide the most assistance. To clarify, sudden unexpected infant death (SUID) is the death of an infant younger than one year of age that occurs suddenly and unexpectedly. After a full investigation, these deaths may be diagnosed as: suffocation, entrapment, infection, ingestion, cardiac arrythmias, or SIDS. SIDS is a type of SUID and is the sudden death of an infant younger than 1 year of age that cannot be explained even after a full investigation that includes a complete autopsy, examination of the death scene, and review of the clinical history (National Institutes of Health, 2021).

This project provided an opportunity to introduce healthy sleep and play occupations to support an improved quality of life for infants and their parents/caregivers. The SIDS statistics presented earlier in this section support the need for this project as well as the occupational therapy approach to educate parents/caregivers to help possibly reduce the number of infants affected by SIDS. Occupational therapists have the tools to facilitate techniques to promote motor development, language/skill development, and engagement (Akselrud et al., 2020). Sleep

and play are the two main occupations of infants, as parents/caregivers participated in the class they increased their knowledge of and ability to perform their occupation of parenting/caring. An occupational therapist utilizes developmental skills and coaching to facilitate incorporation into the parent/caregiver's daily routine.

Positioning

Positioning during play is just as important as positioning during sleep for an infant. The educational gap with parents/caregivers can be addressed by healthcare providers being sure to emphasize both aspects of positioning when it comes to sleep and play. Parents/caregivers should be educated on the importance of infants sleeping on their backs and playing on their tummies hence, the "Back to Sleep and Tummy to Play" (Wittmeier & Mulder, 2017). As previously mentioned, after the introduction of the Back to Sleep campaign by the AAP, there was a decline in the overall use of the prone position in infant waking hours. Somehow the simple guidelines of placing the baby on their back to sleep was interpreted in daily practice as never put your baby on their tummy, which also contributed to the increase of plagiocephaly, a flattened skull (Wittmeier & Mulder, 2017). From 2011 to 2014 there was an increase in referrals to physiotherapy, occupational therapy and craniofacial clinics for plagiocephaly from 200 in 2011 to 307 in 2014 in Winnipeg, Manitoba (Wittmeier & Mulder, 2017). This report highlights some of the developmental repercussions of not being aware of proper positioning and the negative effects which can result. This project is an example of an active educational approach to teach appropriate implementation of the Back to Sleep guidelines. The Canadian Pediatric Society, 2013 recommends emphasis on back to sleep and tummy time as separate but equally necessary components of plagiocephaly prevention, by healthcare providers to increase educational opportunities for parents/caregivers to reduce incidences of plagiocephaly. Collett et al., 2013

have considered the association between developmental delay and plagiocephaly since 2005. In summary, their work suggests that delays in both cognitive and motor development can be associated with the presence of plagiocephaly, and delays can persist up to 36 months of age (Collett et al, 2013). These studies collectively demonstrate the need for education on positioning and the negative physical and developmental impact that could result for the baby due to misunderstanding or ignorance of the parent(s)/caregiver(s). Pin, Eldridge, and Galea (2007) conducted a review of the effects of sleep and play positions and equipment use on motor development in infants. They found that infants born full term who spent more time in prone when awake met their developmental milestones significantly earlier than those that did not or spent limited time in the prone position when awake in the first 6 months. They also found that low-risk preterm infants that slept in supine demonstrated head control, rolling from supine and side, and bringing hands to midline at significantly slower rate than those infants that slept in prone and/or non-supine positions. Another of their findings includes cranial asymmetry possibly resulting from an infant's head resting against firm surfaces such as car seats swings or carriers (Pin et al., 2007). Lee et al., 2018 found a correlation between low maternal health literacy and mothers placing their babies in side positions and in prone to sleep as well as mothers reporting ever having slept in the same bed with the baby (Lee et al., 2018). In 1995, side-lying as a sleeping position was removed from the AAP recommendations for sleep positioning due to infants being unstable in the position and at risk of rolling on to their stomach while sleeping, which counteracts the prevention of SIDS (AAP, 2005; Zachry et al., 2017). In a recent study conducted by Smylie and colleagues (2014), maternal education was significantly related to mothers placing of their infants in a non-supine position for sleep during the first 4 months of life. Specifically, 34.1% of mothers who did not complete high school placed their infants in

prone for sleep compared to 27.7% who had completed high school, and 19.9% who had completed postsecondary education.

Engagement

Engagement is essential to the development of a child's brain. Their brains respond differently and learn more effectively when they are actively involved in a task instead of just merely receiving passive stimulation (Case-Smith et al., 2010). The level of stimulation they receive also helps determine their responsiveness and development. Knowing the signs of engagement and disengagement for their infant is vital to parent(s)/caregiver(s) being able to respond appropriately to their infant. The more parents/caregivers know, the more attentive the parenting level. Some of the signs of engagement when an infant wants to communicate with caregiver include but are not limited to: they stop moving, gazing intently at caregiver face, having smooth arm and leg movements, reaching out to caregiver, turning head or eyes toward caregiver, stretching fingers or toes toward caregiver, smiling, cooing, and raising their head. Some signs of disengagement or an infant wanting a rest from brain activity include but are not limited to: turning their head away, crying or becoming fussy, burping, hiccupping or passing gas, arching their back, falling asleep, kicking or squirming, yawning, wrinkling forehead and exhibiting fast breathing (Hotelling, 2004). Research has shown the long-lasting effects on parent-infant miscommunication on the development of a peaceful and healthy child. There are many prevalent misconceptions about parenting and how to respond to infants, for example, the misconception of infants becoming spoiled if held or touched too often or if parents respond too quickly. In actuality the opposite is true. Research studies on the culture of humans and animals show that infants who are held, attended to, and frequently breastfed have no reason to cry and seldomly do. The sooner communication is established between parents/caregivers and infants,

the greater the attachment and the less frustration parents may feel. Effective learning occurs when parents/caregivers are empowered and thus we teach by facilitation (Hotelling, 2004). This provided a basis for the method of teaching in the proposed parental/caregiver class, facilitation to improve the engagement and overall relationship between parent/caregiver and infant. Kim and Mahoney published a study in 2004 about the effects of mothers' style of interaction on children's engagement. This study compared children with disabilities to a chronologically age-matched group of typically developing children to determine if the difference in levels of engagement were due to their disabilities or the way their mothers interacted with them. The children with disabilities had a diagnosis of mental retardation or developmental disorders prior to being a part of the study. The mothers were given a set of developmentally appropriate toys and instructed to play with their children normally using only the given toys;10-minute observations were videotaped. To assess the developmental ages of the children with disabilities the Korean Vineland Social Maturity Scale was used (Choi & Kim, 1998). Engagement of the children was measured via the 10-minute videotaped observations using the Child Behavior Rating Scale (CBRS; Mahoney & Wheeden, 1998). The observation videos were also used to determine the mother's style of interaction with the children using the Maternal Behavior Rating Scale (MBRS) (Mahoney, 1999). The observations were reviewed and coded by two raters using the CBRS and the MBRS. On average, mothers with children with disabilities had more difficulty in the areas of responsiveness and affect, however they rated higher in the area of directiveness. This study also concluded that regardless of whether or not the child has a disability, responsive parental interaction increases children's likelihood to engage in activities thought to be necessary for developmental learning (Kim & Mahoney, 2004).

Parent–Infant Relationship

An infant's early development depends, in large part, upon a positive and affectionate parent–infant relationship that is sensitive and responsive to a child's needs and lays the foundation for the child's physical, cognitive and language development (Walker et al., 2011). These shared early experiences of positive parent-infant interactions and appropriate levels of infant stimulation can provide lifelong health benefits and are fundamental to the development of social and emotional well-being in children (Bagdi & Vacca, 2005; Shonkoff & Richmond, 2009). One of the objectives of this project was to facilitate optimal infant development of cognitive, communication, and social-emotional skills via increased parental/caregiver responsiveness. Co-occupations can strengthen the parent-infant relationship as well as, lead to structured opportunities for occupational, social and emotional development in both parties (Price & Stephenson, 2011). A sub-study conducted in 2018 in Ireland of a parent-infant community program of mothers of various ages, who were first time or second time mothers, were recruited by public health nurses, was found to be perceived as helpful by the mothers in facilitating a greater understanding of their infants' needs and behavior. The mothers also reported feeling more knowledgeable about the importance of regular and appropriate infant interaction to encourage learning and development (Lecky, et al, 2019). These findings suggest that a parental/caregiver educational class could be successful to the community of mothers as well as achieving the objective of facilitating optimal infant development of cognitive, communication, and social-emotional skills via increased parental/caregiver responsiveness. In another study conducted, with mothers and the development of co-occupations with their children ages 0-5 in a domestic violence shelter, De Brun, 2017 concluded that without quality

co-occupational experiences, young children are unable to gain optimal development (De Brun, 2017).

Tummy Time

Tummy time is another aspect of positioning for the project. A 2011 study conducted by Anne Zachry and Katherine Kitzmann examined the awareness of parents/caregivers of the American Academy of Pediatrics (AAP) prone play also known as "tummy time" recommendations. A questionnaire was distributed in four pediatric clinics in Tennessee with mixed demographics resulting in a return rate of 68% of the questionnaires. The questionnaire asked whether caregivers/parents had been informed of the AAP tummy time recommendation, the sources of the recommendations and if they were informed about the complications that can occur if tummy time is not provided. This study showed that the top two sources of tummy time awareness was printed material and pediatricians. Based on the findings of this study, most parents/caregivers unfortunately, are most likely are not exposed to the printed material until their infant is at least several weeks or months old because most infants do not go to the pediatrician prior to their well-baby check-up at 1 month old. This increases the likelihood that by the time the parents are exposed to the information and/or they have their first check-up, the infant maybe more resistant to the prone position. The most optimal time to educate parents is before leaving the hospital, however shortly after discharge is also an option (Zachry & Kitzman, 2011). Tummy time also provides physical activity for infants to reduce the potential for excessive weight gain by allowing free movement especially when devices used to restrict movement is also limited such as car seats and swings (Institute of Medicine, 2011). Unfortunately, restrictive or supportive devices are used much more frequently than desired from a therapist perspective. Myers, Yuen, and Walker in their study of the use of seating devices in

child-care centers, cite a study conducted by Callahan and Sisler in 1997, that found of 187 typically developing infants, 5 months or younger, 42% spent between 4 and 8 hours a day in a seating device (Myers et al., 2006). Yin et al., 2014, assessed the relationship between parental health literacy and tummy time by asking for actual tummy time adherence; 66% of parents did not meet the current tummy time recommendation (at least 30 minutes per day) and a parent's low health literacy significantly increased the odds of a parent's reporting inadequate tummy time (Yin et al., 2014). In a 1998 study conducted by Davis et al. they found that 26% of parents in their study reported never providing tummy time for their infants due to being fearful of SID (Davis et al, 1998).

Occupational Therapist Qualifications

Coaching is an evidence-based intervention method that is family-centered and promotes adult learning (McWilliam, 2010; Rush & Shelden, 2011). Occupational performance coaching is a family-centered model in which therapists guide parents/caregivers through the problem-solving process to attain self-identified goals for their child (Santana, 2020). In this case, the therapist would be guiding the parents/caregivers through infant play and sleep positioning to maximize overall development of the infant. The proposed project used education to focus on positioning for infant sleeping and play or tummy time. Occupational therapists are to assist, empower, teach, and support families when providing early intervention services to facilitate children's development and growth (AOTA, 2004). This project used a participation-based approach, to allow the parents/caregivers the opportunity to practice various techniques intended to be used in the home on a daily basis.

Occupational therapists as early intervention professionals, provide intervention for a child by teaching caregivers how to use two primary types of child interventions to promote their

participation and learning: (1) adapting the environment, materials, or the activity/routine, including using assistive technology and (2) embedding individualized learning strategies within family routines. For the purposes of this project, a combination of both interventions was used focusing on adapting the activity/routine and embedding individualized strategies within family routines to facilitate the best outcomes for both parent/caregiver and infant. In the Occupational Therapy Practice Guidelines for Children ages 0-5 there are interventions listed that an occupational therapist is qualified to provide. These include: training parents to implement play and developmental activities with their child, therapist-led early intervention programs that focus on parent–child dyads, parent training to improve parenting behavior with consistent meetings over a 12-month period to improve parent–child dyadic behavior and parental responsiveness, a parenting program (7.5–11 hours) to improve mothers' sensitivity to infant cues, parent training to improve infant sleep latency, and parent training sessions regarding causes of and responses to infant cries to decrease infant crying and increase infant sleeping (Florek-Clark & Kingsley, 2020). As indicated in the name, these are merely guidelines and are not requirements, however these interventions have been proven to provide beneficial results for those receiving them. Occupational therapists, provide services that maximize the health, well-being, and quality of life for all people, as stated in our Vision 2025 (AOTA, 2017). Through targeted education, this project attempted to maximize the health, well-being, and quality of life of the infants and their parent/caregiver through the development of co-occupations.

The literature presented supports the focus and plan for this project. This literature supports the need for: parental/caregiver education about the risk of SIDS; education about positioning for sleeping and play; and the potential negative developmental implications that could occur in the absence of Back to Sleep Tummy to Play strategies. The importance of the

parent/caregiver/infant relationship is supported in literature and incorporated in the project to enhance the level of responsiveness and understanding of the parent/caregiver of their infant. This increased level of responsiveness could lead to the development of better engagement and co-occupations and an overall more complete development of the baby, cognitively, socio-emotionally and in the area of communication. The focus of the proposed project class was facilitating the developmental progress of infants through parent education and engagement and safe positioning of their infant in play and sleep.

Section 3- Methods

Study Design/Methods

Prior to conducting this research, approval from the university Internal Review Board (IRB) was required to ensure the safety of the participants and the integrity of the scientific process. The research project was conducted IRB approval. This pre/post survey descriptive study includes data collection through pre-class and post-class surveys (see Appendices C and D). Informed consent for participation in the proposed parent/infant class was obtained prior to participants receiving a pre class survey. Pre-class surveys included open-ended questions pertaining to what the attendees knew regarding how to position their infant for sleeping and play time (tummy time); post-class surveys included open-ended questions pertaining to what the attendees learned in the class regarding how to position their infant for sleeping and play time (tummy time). This design allowed the parents/caregivers to express their knowledge prior to attending the proposed class as well as what they learned from attending the class. The survey responses were analyzed for themes and to determine if the research question was answered. Surveys, in addition may contribute to determining how to improve the class to be more effective for future implementation. The inclusion criteria for this project: a parent/primary caregiver with

an infant six months old or younger, without any physical or neurological disability or diagnosis. If there was an abundance of participants, first time parents would be prioritized because there existed the possibility of parents having more than one child and still being unaware of proper infant positioning for sleeping and play time (tummy time). The exclusion criteria are a parent or primary caregiver with a child 12 months or older and/or a child with a physical or neurological disability or diagnosis. This project class format, PEEP included four sessions, one per week for 60 minutes, for four weeks. The class was initially designed to be completed in a classroom setting however, due to changes implemented at the start of the COVID-19 pandemic the class shifted to a virtual platform.

The Capital Area Healthy Start Coalition is the facility through which parent recruitment occurred. This agency serves expecting mothers and new mothers, those who may become pregnant, and all involved family members and loved ones through various programs and education. Their mission is a community coalition dedicated to improving the health of infants and their families (Capital Area Healthy Start, 2020). After learning of the proposed project, the executive director reported the agency history of referring to local agencies and partners for occupational therapy service. Given this history, she was interested in incorporating occupational therapy in the form of educating parents/mothers/caregivers as proposed in this project. The PEEP class session outline is seen in Appendix E. Although each session was planned for one hour, there was allotment for extended time if the participants were engaged and were benefiting. It was intended for the questionnaire to be completed before parents/caregivers begin the first class however, the survey was transitioned to an electronic format. The post-class survey was a condensed version of the pre-class survey to help assess if and what parents/caregivers learned in the class. In both cases participants were encouraged to answer as honestly as possible so the

session content was directly related to and tailored to their needs. Pre and post surveys were distributed in an electronic format via Google Forms. This format supported remote completion of the surveys by participants and provided an easily accessible digital record of each survey. The descriptive data collected from the post-class surveys were used to enhance the class for future reference should it be determined by the researcher and Capital Area Healthy Start Coalition that this class was beneficial and viable for inclusion as a part of their community programing.

Since the inception of this project, many things had to be modified to accommodate for changes due to COVID-19 for participant safety and compliance with current policies of the Capital Area Healthy Start Coalition. Some of the changes have already been mentioned such as the modification to a virtual platform instead of a face-to-face classroom setting. Another modification was the distribution of informed consent forms, the researcher obtained informed consent by distributing paper forms individually to participants (complying with CDC contact safety guidelines) and providing explanation about informed consent. The researcher sought to ensure integrity of the research process.

Section 4: Results and Discussion

Results and Discussion

As stated in the methods a pre-class survey and a post-class survey were distributed to the mothers to determine what the topics of discussion would be and what they learned from the sessions, respectively. The pre-class survey was used to determined what the mothers already knew and what topics would be focused on during the sessions. Two hospital discharge specific questions asked were, “When you left the hospital, did anyone teach you about properly positioning your baby for sleeping, eating, playing?” and “List a few things you feel would have

been helpful to know that you learned after you brought your baby home." These were intended to provide an opportunity for the mothers to express anything they felt they wanted and/or needed more explanation about and/or to help determine what would be discussed in each of the sessions. The following statement provides an example of how the survey was used to determine session topics: the mothers were all doing what they understood to be tummy time however, they were unaware of the importance and reasoning for tummy time, nor the reasoning/significance for positioning baby to sleep on their back. The researcher was able to take the various levels of understanding and determine what and how to present the information in a way that was helpful to the mothers.

Although the researchers had an outline of topics to present for each session, the aspect of each topic discussed may have changed such as the example just given. Another example of how the participants helped determine the topics they wanted to learn about was accomplished by asking questions on the topic or simply saying they were interested in a certain topic. The first session was informational and discussed what SIDS is, the importance of positioning their baby on their back to sleep, the importance of tummy time, what can happen when these things do not happen. The original lesson plan developed by the researcher for the four sessions was edited to fit the needs expressed by the mothers who attended the first session. Topics from the first two sessions were combined as previously stated due to the mothers having slightly more awareness than expected. With the remaining time, a preview of some of the remaining topics such as toys and engagement were introduced in efforts to generate more interest and hopefully attendance of all participants to the next session.

The second session discussed toys, how to use them, age-appropriate toys, devices such as (swings, sleep positioners, jumpers, and Boppy® Pillows), those that should not be used, how

to properly use them, and making sure age-appropriate toys are being used. Also, during this session the mothers were coached on how to facilitate baby transitioning from a supine to upright seated position as well as rolling from supine to side and completing a full roll from supine to prone or prove to supine. Engagement was briefly discussed as a preview for the next week's session. The major takeaway from this session was a mother expressing how she was a little uncomfortable because her pediatrician did not explain multiple options to do tummy time, so she was under the impression there was only one way to do it. If it did not happen that way, then it didn't count. After further explanation, she then expressed her relief and appreciation for the education because she felt she what she was doing with her baby was not adequate and was worried her baby's development was in jeopardy.

The session for the third week was about engagement and stimulation. The discussion included various ways to engage and stimulate their baby during tummy time, signs of engagement and disengagement and various ways to stimulate the baby during bath time (preparing for bed) such as massage and how they can improve the relationship with their baby. The major takeaway from this session was the instruction of making sure to lower baby on their side and not their back which activates their startle reflex. One mother commented that she now understood why her baby always cried when she put her down and she would now start putting her down on her side.

Session four was a review of the previous three sessions and any other questions the mothers had whether it had been discussed or not. The mothers were reminded to complete the post-class survey that was emailed immediately after the class ended. Each session was structured in the same manner: a review from the previous session, the topic for the day and ended with any questions the mothers may have had.

The aim of this descriptive study was to determine how occupational therapy could address the developmental needs of infants related to positioning for sleeping and tummy time for playing. This project used a participation-based approach, to allow the parents/caregivers the opportunity to practice various techniques intended to be used in the home on a daily basis. The study revealed there is a positive answer to the research question by demonstrating that through parental education and coaching, occupational therapy can address the developmental needs of infants related to positioning for sleeping and playing. This answer is demonstrated through the differences in responses recorded on both the pre and post class surveys. Based on the response to the question, "Do you play with your baby in tummy time?" on the pre class survey, all mothers responded 'yes'. On the post class survey, all mothers responded, 'yes' to the question "Does your baby play in "tummy time"? however, they were also able to give more specific answers by explaining how and what they do during tummy time with their baby, which was another question on the post class survey (how do they play in tummy time and for how long?). All mothers felt they learned something helpful demonstrated through comments made at the end of the last session such as "this was very educational and helpful" and "I learned a lot, thank you." These comments are in addition to responses on the post-class survey, where each mother stated what she learned and what she would continue to use in her daily occupations as a mother.

Table 1 Session Breakdown by Topic

	Topic(s)	**Discussion Points**	**Takeaways**	**Summary of Parental Comments**
Session 1 6/6 attendance	Positioning for sleeping and play	Why positioning is important, how to do tummy time, future implications on development	The importance/reason for doing tummy time, more than one way to do tummy time, and baby sleeping on back	Learned what tummy time was but didn't know how to do it or why to place baby on back for sleeping
Session 2 3/6 attendance	Toys and apparatuses (swings, jumpers, etc.)	Age-appropriate toys, how and why to use toys to facilitate during tummy time, proper ways to use apparatuses	Toys can be helpful when age-appropriate and apparatuses can be harmful when not used properly or when not age appropriate	A better understanding how to use toys during tummy time
Session 3 5/6 attendance	Engagement and its meaning, and stimulation	Ways to engage with baby, bath time, developing a routine, different ways to stimulate baby and why	The importance of bonding/engaging with baby, effects of engagement on mother/baby relationship, the importance of stimulation regarding development	Now I know why she cries every time I put her down; because I was putting her on her back instead of her side.
Session 4 5/6 attendance	Review of sessions 1-3 and Q & A	What kinds of toys are appropriate for each age of babies represented, engagement techniques	Age-appropriate toys, ways to stimulate baby and why	Realization of things being easier with the development of a routine

Description of Results

There were 6 participants. One mother identified as African, another mother identified as Haitian, and the remaining three identified as African American. This information is located in Table 2.

Table 2: Demographics of Participants

Mother's Age	Baby's Age	Education Level	First Child	Household Income
22	5 months	Undergraduate degree	Yes	$20,000-$30,000
23	7 months	High School Diploma/GED	No	$20,000-$30,000
26	2 months	Undergraduate degree	Yes	$30,000-$40,000
26	1 month	Undergraduate degree	Yes	Less than $20,000
28	3 months	Graduate degree	Yes	Less than $20,000
32	4 months	High School Diploma/GED	Yes	Less than $20,000

The pre-class survey had 13 questions with a mix between demographic information about the mother, socioeconomic information, and short answer. One of the short answer questions was "List a few things that you feel would have been helpful to know that you learned after you brought your baby home." The responses varied from learning what their baby's facial expressions mean, the woes of breast feeding, self-care, how to deal with a crying baby, baby's sleep patterns to how to properly wipe a baby and how not to become overwhelmed. Although all these topics were not all individually addressed, those that were addressed, were done within the discussions of each session. For example, feeling overwhelmed/self-care was not an isolated subject however, it was included in the discussion about engagement and stimulation and mentioned when discussing the development of a routine to make things less stressful for mother

and baby. While these topics were brought up via questions during the sessions, they were answered to the best of the researcher's knowledge. It should be noted however, that any questions that were out of the scope of practice for the researcher, it was emphasized that the mother should consult their pediatrician before making any changes to their baby's lives. It is safe to say that the mothers learning needs were met based on the researcher ensuring to answer any follow-up questions that may have arisen and ensured the mother was comfortable prior to moving on in the discussion. The researcher also made sure the mothers understood the response to her question(s) by asking if they understood before continuing through the session. As previously stated, the pre-class surveys were used to determine what the mothers already knew and the things they wanted know about, which determined the session topics.

The post-class surveys were used to determine if the mothers learned anything, if so what and if they planned to incorporate any of what they learned into their occupation as a mother. This survey only had five questions, mainly short response and one yes/no question. Inductive and deductive data analysis of the post-class surveys was conducted by searching for key words and repetition of the same words and/or topics in the responses to build themes. Thematic analysis of the post-class surveys was conducted by coding for key words and repetition of the same words and/or topics in the responses. This analysis revealed the following themes:

- All mothers were/are doing tummy time with their baby.
- All mothers positioned their baby either on their side or back for sleeping.
- All mothers planned to continue to use the information they learned in the class.
- Two of the five mothers stated one of the things they planned to continue doing was to check the Consumer Protection Safety Commission website for recalls regarding baby products.

- There was also some type of engagement/play with the baby
- The mothers felt they understood what their baby needs when they cry.

As previously stated in the literature review, the themes that emerged confirm how coaching is an evidence-based intervention method that is family-centered and promotes adult learning (McWilliam, 2010; Rush & Sheldon, 2011). The therapist guided the parents/caregivers through play and sleeping positioning to maximize overall development of their infant. Intervention was provided by the researcher who is an occupational therapist, that combined strategies to promote the participation of the mothers. The strategies adapting to the environment, materials, or the activity/routine, including using assistive technology and embedding individualized learning strategies within family routines. The mothers were coached on techniques, toys, devices, and engagement to improve their ability to perform their occupations as a mother. They were also coached on developing routines to assist with the transitions of the day and to assist with enhancing the relationship with their baby. The theme that emerged that mothers were doing some type of engagement/play with their baby demonstrated the results of coaching and techniques taught.

Another theme that emerged was the fact the mothers now felt they understood what their baby needed when they cried. Milne et al. (2018) found that mothers had a sense of success when they were able to meet their baby's needs. This finding connects to the piece about mothers developing a routine to help themselves and their baby in their daily journey together. Additionally, this idea also connects to the improvement of the mother-infant relationship by decreasing the uncertainty of what baby needs and being able to respond promptly. In another study conducted by Long in 2003, it was concluded that excessive crying can have an enormous impact on a mother and family. One in six mothers reported feeling helpless and exhausted to

their doctors. The mothers also reported after having taken the crying baby clinic they had more awareness and knowledge about why babies cry (Long, 2003). This study also supports the need for parental/caregiver education how it can improve awareness and understanding for mothers of their baby. All themes that emerged also demonstrate the occupational therapist providing services that maximize the health, well-being, and quality of life for all people, as stated in our Vision 2025 (AOTA, 2017).

The facilitating agency, Capital Area Healthy Start Coalition decided to have a resource in the class, showing their investment in the program. The first class was Friday, August 27, 2021, at 12pm and each class followed every Friday until September 17. There was only one participant that attended every class. There were times that mothers were working and unable to attend due to the time however, they were there the days they did not have to work. This information was obtained via responses to text message reminders for classes, sent every week. An email reminder with the class Zoom link was sent every Thursday and a text message reminder was sent every Friday between fifteen and twenty minutes prior to the start of the class. The mothers mentioned the reminders right before classes were helpful. Being able to conduct this project in a virtual manner allowed the researcher to reach the mothers to easily access the provided information from the comfort of their own homes. This method also allowed the mothers to use the tools they already had, such as their phones. Unfortunately, this key point also delayed their ability to review other information given during the classes until after class. Another point is making the class easily accessible, contributed to the adult learning needs of the mothers.

As previously mentioned, one of the theoretical frameworks used to model this project is the Model of Human Occupation (MOHO). This framework is based on the exchange of information

from the environment as much as the person is willing to change to form new habits. In this case, the mothers demonstrated volition by attending the classes, habituation, by doing the things taught daily and performance capacity, the three components of the person considered in MOHO (Duncan, 2013). By choosing to attend the class the participants (parents/caregivers) demonstrated interest in learning which could lead to the formation of a habit. The habits were potentially formed doing tummy time daily and only placing their baby on their backs to sleep. The mothers now have the information to understand the importance of those things because they attended the classes. Once the habit is formed, they now have the skills to change their lived experiences by incorporating what they learned. One of the objectives of this project was to facilitate co-occupations of parent/caregiver and infants. The volitional desire of the parent/caregiver to make healthy changes to facilitate proper infant development is a highlight of this framework.

Strengths

One of the things done well for this research project was the use of technology. As previously stated, this project had to pivot to a virtual format. This allowed the mothers to participate in a comfortable environment of their choice, which was mainly from their homes. Technology was also used to remind mothers each week via text messages and emails. The researcher was also able to provide resources for the mothers during the classes and via email so that they could access it on demand.

Limitations

This project has some limitations. One of the limitations includes a small sample size. The original plan was to have 10 parent/infant dyads however, a minimum 6 dyads would be enough to conduct the project. It was a very small sample size but due to the descriptive nature if

the project, it was large enough to collect data. Another factor contributing to the small sample size, was at the time, only a small number of mothers being served by the agency had infants that fit the inclusion criteria of 6 months old or younger. Attrition did occur during this project. The project initially started with 6 parent/infant dyads and ended with 5 because one mother did not complete the entire four weeks of classes; she only attended the first class. There was little cultural variation in the participants. One mother identified as African, another mother identified as Haitian, and the remaining three identified as African American. Based on the population served by Healthy Start, there is potential for more participant diversity if this class were done again. Although there was limited cultural variation, the need for parental/caregiver education in the populations represented by the participants is further supported by the 2015 CDC statistics that identified that SUID deaths among American Indian/Alaska-Native infants and African American infants were more than twice that of non-Hispanic White infants. As previously mentioned, another limitation was the COVID-19 pandemic forcing this project to be conducted via virtual setting instead of a traditional, in-person classroom setting.

One of the biases held by the researcher was not expecting the number of participants to remain steady throughout the four weeks. Due to the mothers attending remotely and not being required to go to a physical location, the researcher expected poor participation. The researcher has previous experience in early intervention home health with a high rate of cancellations after having confirmed the appointments by parent(s). Fortunately, this bias was proven wrong with the consistent attendance in every session by the mothers. The first session had 6/6 attendance, the second session had 3/6 attendance, and the last two sessions had 5/6 attendance.

Future Projects/Research

As a result of the success of the four classes and feedback from the participants, it was determined via a debriefing session with the contact person at Healthy Start that they would like to add this education to their permanent programming. Currently, the planning and logistics of how this addition would work is being discussed among the care coordinators and staff members at the agency. Some of the potential options included a class once a month or a recorded session they could use on demand.

The AAP recently has recently released information about a partnership between 5 different hospitals in various locations throughout the country. Some of the cities include Rochester, NY, Portland Oregon, and Little Rock, Arkansas. This partnership is the inaugural Community Partnership Approaches for Safe Sleep (CPASS), designed to educate parents in communities that historically experience health disparities in sleep related infant deaths by developing educational resources that are culturally and linguistically appropriate. In addition to the education of the parents that participate, safe items such as cribs and bedding to ensure safe use (AAP, 2021). The announcement of this partnership increases the validity of the research conducted during this project. This also provides another avenue to further the research conducted in the community as well as assurance that deaths due to SIDS can be prevented through parental education and awareness.

Conclusion

The results of this study demonstrated that occupational therapy could address the parent educational needs related to their infants positioning for sleeping and tummy time for playing. This study also demonstrated that more parental/caregiver education is needed about positioning

for sleep and play, how and why. While these findings are consistent with the presented literature, said findings also highlight gaps in the literature, showing the unmet needs of parents/caregivers. Occupational therapists are to assist, empower, teach, and support families when providing early intervention services to facilitate children's development and growth, which was the focus of this class (AOTA, 2004). At the conclusion of this four-week class, the mothers vocalized and wrote about via the pre-class and post-class surveys their understanding, awareness, and confidence to properly incorporate tummy time, activities of engagement and daily routines to improve their overall ability to complete their occupations as a mother. Therefore, expanding this project to a larger scale to meet community needs is imperative to ensure the role occupational therapy in parent/infant co-occupational development, as well as maximizing health, well-being, and quality of life for all people, populations and communities through effective solutions that facilitate participation in everyday life (AOTA, 2017).

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Appendices

Appendix A

Consent to Participate in a Research Study

Institutional Review Board Protocol Number
3919
Approval Valid
6/22/21-5/1/22

Parental Education and Engagement Through Positioning and Play (PEEP Class)

Key Information

You and your baby are being invited to participate in a research study. This document includes important information you should know about the study. Before consenting to participate, please read this entire document and ask any questions you have.

Do I have to participate with my baby?
If you decide you want to take part in the study with your baby, it should be because you really want to volunteer. You will not lose any benefits or rights you would normally have if you choose not to participate. You and your baby can stop at any time during the study and keep the benefits and rights you had before volunteering. You and your baby will be one of about 5 parents/caregivers and 5 babies in the study.

What is the purpose of the study?
The purpose of the study is to determine if occupational therapy can address the developmental needs of infants related to positioning for sleeping and tummy time for playing. By doing this study, we hope to learn if this can be an effective community program for parents/guardians/caregivers and their infants in the future. Parents/caregivers with typical babies under 6 months in age may participate in the study.

Where is the study going to take place and how long will it last?
The research procedures will be conducted at a community meeting room (not yet determined but assisted by the Capital Area Healthy Start Coalition) or in a virtual manner (if in-person Covid restrictions in place). You and your baby will need to come to **all 4** one hour sessions during the study. The total amount of time you and your baby will be asked to volunteer for this study is 4 hours over the next 4 weeks. The starting date will be during July or August 2021 and will be set once 4-5 parents/caregivers and their babies have given consent.

What will I be asked to do?
You will attend four PEEP sessions with your baby. There you will:

- Get to meet other parents and their infants
- Participate in a class led by an occupational therapist, learning about infant development by placing your baby in various positions to show the best positions for sleeping and playing. You will be holding your baby using the techniques taught in the class and sharing in fun infant play with other parents and babies.

- Have time to complete a survey about your baby's play and sleep at the beginning of session #1 and a survey about what you learned at the end of session #4.

Are there reasons why I should not take part in this study?
- If your baby is older than 6 months or has a diagnosis that suggests your baby may not be developing as a typical baby would.
- If you are not 18 years or older.
- If you do not want to participate in the study.

What are the possible risks and discomforts?
To the best of our knowledge, the things you and your baby will be doing will have no more risk of harm or discomfort than you both would experience in everyday life.

What are the benefits of taking part in this study?
You may benefit from participation by:

- Activities with parents/caregivers and their babies
- Access to developmental knowledge from the occupational therapist in the baby occupations of sleep and play
- Written and electronic resources (parent/caregiver/infant play and sleep routine ideas for home use).

Your participation will also provide benefits to others by helping the researcher to determine if this program can be further developed into an ongoing community program.

If I don't take part in this study, are there other choices? If you do not want to be in the study, there are no other choices.

Now that you have some key Information about the study, please continue reading if you are interested in participating before signing this Consent Form.

Other Important Details

Who is doing the study?
The person in charge of this study is G. Ebony Seay at Eastern Kentucky University. She is being guided by in this research by Dr. Leslie J. Hardman. There may be other people on the research team assisting at different times during the study.

What will it cost me to participate?
There is no cost to participating in the study. You will need to provide your own transportation to the sessions.

Will I receive any payment or rewards for taking part in the study? You will not receive any payment or reward for taking part in this study.

Who will see the information I give?
Your information will be combined with information from other people taking part in the study. When we write up the study to share it with other researchers, we will write about this combined information. You will not be identified in these written materials. However, there are some circumstances in which we may have to show your information to other people; for example, the law may require us to show your information to a court.

Can my taking part in the study end early?
If you decide to take part in the study, you still have the right to decide at any time that you no longer want to participate. You will not be treated differently if you decide to stop taking part in the study.

What happens if I get hurt or sick during the study?
If you believe you are hurt or get sick because of something that is done during the study, you should call G. Ebony Seay, MSOTR/L at 850-583-1843 immediately. It is important for you to understand that Eastern Kentucky University will not pay for the cost of any care or treatment that might be necessary because you get hurt or sick while taking part in this study. Also, Eastern Kentucky University will not pay for any wages you may lose if you are harmed by this study. These costs will be your responsibility.

Usually, medical costs that result from research-related harm cannot be included as regular medical costs. Therefore, the costs related to your care and treatment because of something that is done during the study will be your responsibility. You should ask your insurer if you have any questions about your insurer's willingness to pay under these circumstances.

What else do I need to know?
You will be told if any new information is learned which may influence your willingness to continue taking part in this study.

We will give you a copy of this consent form to take with you.

Consent

Before you decide whether to accept this invitation to take part in the study, please ask any questions that come to mind now. Later, if you have questions about the study, you can contact the investigator, G. Ebony Seay, MSOTR/L at gaile_seay@mymail.eku.edu or call 850-583-1843. If you have any questions about your rights as a research volunteer, you can contact the staff in the Division of Sponsored Programs at Eastern Kentucky University at 859-622-3636.

If you would like to participate, please read the statement below, sign, and print your name. I am at least 18 years of age, have thoroughly read this document, understand its contents, have been given an opportunity to have my questions answered, and voluntarily agree to participate in this research study.

_____ _____

Signature of person agreeing to take part in the study Date

Printed name of person taking part in the study

Name of person providing information to subject

Appendix B

Eastern Kentucky University Institutional Review Board

Parent/Guardian Permission for a Baby to Participate in a Research Study

Institutional Review Board
Protocol Number
3919
Approval Valid
6/22/21-5/1/22

Parental Education and Engagement Through Positioning and Play (PEEP Class)

Key Information

Your baby is being invited to participate in a research study. This document includes important information you should know about the study. Before providing permission for your baby to participate, please read this entire document and ask any questions you have.

Does my baby have to participate?

If you decide to permit your baby to take part in the study, it should be because you really want to allow him or her to volunteer. Your permission allows us to ask you to allow your baby to participate, but he or she does not have to participate. Your baby will not lose any benefits or rights he or she would normally have if you choose not to grant permission or if your baby chooses not to participate. Your baby can stop at any time during the study and still keep the benefits and rights he or she had before volunteering. If you decide to grant permission for your baby's participation, he or she will be one of about 5 parents/caregivers and 5 babies in the study.

What is the purpose of the study?
The purpose of the study is to determine if occupational therapy can address the developmental needs of infants related to positioning for sleeping and tummy time for playing. By doing this study, we hope to learn if this can be an effective community program for parents/guardians/caregivers and their infants in the future. Parents/caregivers with typical babies under 6 months in age may participate in the study.

Where is the study going to take place and how long will it last?
The research procedures will be conducted at a community meeting room (not yet determined but assisted by the Capital Area Healthy Start Coalition) or in a virtual manner (if in-person Covid restrictions in place). You and your baby will need to come to **all 4** one hour sessions during the study. The total amount of time you and your baby will be asked to volunteer for this study is 4 hours over the next 4 weeks. The starting date will be during July or August 2021 and will be set once 4-5 parents/caregivers and their babies have given consent.

What will my baby be asked to do?
Your baby will attend four PEEP sessions with you. There your baby will:

- Be held by you.
- Participate in a class led by an occupational therapist, with you using the techniques taught in the class and sharing in fun infant play with other parents and babies.

Are there reasons why my baby should not take part in this study?
- If your baby is older than 6 months old.
- If your baby has a diagnosed developmental delay or disability.

What are the possible risks and discomforts?
To the best of our knowledge, the things you and your baby will be doing will have no more risk of harm or discomfort than you both would experience in everyday life. Your baby may, however, experience a previously unknown risk or side effect.

What are the benefits of taking part in this study?

Your baby may benefit from taking part in this study through infant positioning and activities with his/her parent, other parents/caregivers and other babies. His or her participation is expected to provide benefits to others by helping the researcher to determine if this program can be further developed into an ongoing community program.

If my baby doesn't take part in this study, are there other choices?
If your baby does not participate in the study, there are no other choices except to not take part in the study.

Now that you have some key information about the study, please continue reading if you are interested in allowing your baby to participate. Other important details about the study are provided below.

Other Important Details

Who is doing the study?
The person in charge of this study is G. Ebony Seay at Eastern Kentucky University. She is being guided by in this research by Dr. Leslie J. Hardman. There may be other people on the research team assisting at different times during the study.

What will it cost for my baby to participate?
There are no costs associated with taking part in this study.

Will my baby receive any payment or reward for taking part in the study? Your baby will not receive any payment or reward for taking part in this study.

Who will see the information my baby gives?
Your baby's information will be combined with information from other people taking part in the study. When we write up the study to share it with other researchers, we will write about this combined information. Your baby will not be identified in these written materials.

Can my baby's taking part in the study end early?
If you decide you do not want your baby to take part in the study with your permission, he or she will still have the right to stop participating. Your baby will not be treated differently if he or she stops taking part in the study.

The individuals conducting the study may need to end your baby's participation in the study. They may do this if your baby is not able to follow the directions given, if they find that your baby's being in the study is more of a risk than benefit to him or her, or if the University or agency funding the study decides to stop the study early for a variety of scientific reasons.

What happens if my baby gets hurt or sick during the study?
If you believe your baby gets hurt or sick because of something that is done during the study, you should call G. Ebony Seay, MSOTR/L at 850-583-1843 immediately. It is important for you to understand that Eastern Kentucky University will not pay for the cost of any care or treatment that might be necessary because your baby gets hurt or sick while taking part in this study. Also, Eastern Kentucky University will not pay for any wages you may lose if your baby is harmed by this study. These costs will be your responsibility.

Usually, medical costs that result from research-related harm cannot be included as regular medical costs. Therefore, the costs related to your baby's care and treatment because of something that is done during the study will be your responsibility. You should ask your insurer if you have any questions about your insurer's willingness to pay under these circumstances.

What if I have questions?

Before you decide whether to accept this invitation to grant permission for your baby to take part in the study, please ask any questions that come to mind now. Later, if you have questions about the study, you can contact the investigator, G. Ebony Seay, MSOTR/L at gaile_seay@mymail.eku.edu or call 850-583-1843. If you have any questions about your rights or your baby's rights as a research volunteer, you can contact the staff in the Division of Sponsored Programs at Eastern Kentucky University at 859-622-3636.

What else do I need to know?

You will be told if any new information is learned which may affect your baby's condition or influence your willingness to allow your baby to continue taking part in this study.

We will give you a copy of this permission form to take with you.

Permission

Before you decide whether to accept this invitation to give permission for your baby to take part in the study, please ask any questions that come to mind now. Later, if you have questions about the study, you can contact the investigator, G. Ebony Seay, MSOTR/L at

gaile_seay@mymail.eku.edu or call 850-583-1843. If you have any questions about your baby's rights as a research volunteer, you can contact the staff in the Division of Sponsored Programs at Eastern Kentucky University at 859-622-3636.

If you would like to give permission for your baby to participate, please read the statement below, write your name and your baby's name, and sign.

I have thoroughly read this document, understand its contents, have been given an opportunity to have my questions answered, and give permission for my baby to participate in this study if he/she chooses to participate.

Parent/Guardian's Name	Date	Baby's Name
Parent/Guardian's Signature	Date	Witness Signature

Appendix C

Parental Education of Positioning and Engagement of their Baby 0-12 months

Pre-Class Survey

1. Please circle one: mother/father/caregiver
2. How old are you?
3. Child's Birthdate:
4. Education level of parent(s) **please circle one**: no high school diploma, high school diploma, undergraduate degree, professional degree, graduate degree, post-professional degree
5. Are you a single parent? YES or NO
6. Is this your first child? YES or NO
    a. If no, how many other children do you have and what number is this child (for example you have 2 children, and this is your second child).

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7. Household income level per year
    a. Less than $20,000
    b. $20,000-$30,000
    c. $30,000-$40,000
    d. $40,000-$50,000
    e. Over $50,000

8. Does your baby play in “tummy time”? (If the answer is no, skip 8a.)

    a. How do they play in tummy time and for how long?

9. Describe some of the ways you play with your baby (at least 3 things your baby likes).

10. How do you position your baby for sleep?

11. Do you feel like you are able to understand what your baby needs when they cry? YES or NO

    a. Give at least one example.

12. When you left the hospital, did anyone teach you about properly positioning your baby for sleeping, eating, playing?

13. List a few things you feel would have been helpful to know that you learned after you brought your baby home.

14. List at least one thing you would like to learn in this class.

Appendix D

Parental Education of Positioning and Engagement of their Baby 0-12 months

Post-Class Survey

1. Does your baby play in “tummy time”?
    a. How do they play in tummy time and for how long?
2. Describe some of the ways you play with your baby (at least 3 things your baby likes).
3. How do you position your baby for sleep?
4. List at least one thing you learned in this class.
5. Do you plan to continue using any of the things you learned in the class with this baby and/or future babies? If yes, list at least one of the things you learned and plan to use.

Appendix E

Proposed PEEP (Parental Educational and Engagement through Positioning and Play)

Session Outline

Introduction:

- The purpose of the class, who I am and have the parents/caretakers introduce themselves and their child
- Tell about OT perspective on infant development and parent-infant co-occupations
- The pre survey should ideally be completed before parents/caretakers attend the first session, if not time will be given in the first session prior to starting the presentation to complete the survey. The post survey will be completed at the end of the last session.

Size of class:

- 5-7 parent (caregiver)/child pairs

Physical characteristics:

- If face-to-face, a small community conference room
- Possibly virtual (based on COVID-19 regulations)

Class Time:

- The class is intended to be one hour but may extend to an hour and a half depending on the interest and/or engagement level of the participants.

Presentation:

- A quick overview of Sudden Infant Death Syndrome (SIDS) and positioning to prevent it
- A quick overview of tummy time and its importance
- A quick presentation on the importance of positioning for various activities (i.e. sleeping and playing), and engaging baby (verbally, watching for signs of disinterest/body language)
- Demonstrations- give time for each parent/child dyad to practice and ask questions

Recruitment

- Capital Area Healthy Start (In the event enough participants do not agree to attend, other agencies may be contacted.)

Appendix F

PEEP Lesson Plan

Session 1:

1. Introduction to SIDS
    a. What is SIDS?
    b. How do you prevent SIDS?
    c. Why positioning for sleeping is important (Demonstration)
        - Back sleeping
        - Side sleeping
    d. What can happen if you don't follow these prevention tips
        - Plagiocephaly (flat head)
        - Delay in cognitive and motor development
    e. Who needs to know?
        - Daycare teacher/babysitter
        - Don't be afraid to tell people how to care for your baby.
    f. Questions
    g. Wrap-Up

Session 2:

1. Brief review of session 1
2. What is tummy time? (Demonstration)
    a. Why is it important?
        - Building muscle and preparing baby for the next step
        - Facilitates a better relationship with your baby
    b. How to do tummy time and when to start
        - Positioning
        - Can be on the floor or on your chest
        - ASAP but build up time slowly.
        - Start with 2-3 minutes, 2-3 times/day everyday
        - Get in the habit of making tummy time a part of you and baby's daily routine
    c. What can happen if you don't do tummy time
        - Delay in motor development
    d. Who needs to know?
        - Daycare teacher/babysitter
    e. Questions
    f. Wrap-Up (If there is enough time left, begins toys, if not, start next session with toys)
    g. Toys (examples)
        - Should be brightly colored to make it easier for baby to see
        - Simple toys
        - Big but small enough for baby to hold/grip

Session 3:

1. Brief review of session 2
2. Toys (examples)
    a. Should be brightly colored to make it easier for baby to see
    b. Age-appropriate toys
    c. Simple toys
    d. Big but small enough for baby to hold/grip
3. Incorporating toys into tummy time
    a. As baby becomes more adjusted to tummy time, toys can be used to help with movement
    b. Reaching- helps with visual development, hand-eye coordination, building neck muscles for head turning
4. Recall list of toys and other products
5. Questions
6. Wrap-Up

Session 4:

1. Review of sessions 1-3
2. Engagement
    a. Signs of engagement- smiling, cooing, reaching out toward you, they stop moving
    b. Signs of disengagement- crying or becoming fussy, arching their back, squirming, or burping
    c. Why is it important?
        - Improves parent-infant relationship and communication
        - Stimulation
        - Helps develop baby physically, mentally and language/communication skills
3. Questions
4. Wrap-Up