Chapter 2: Literature Review

“Evidence-based practice has been defined as making clinical decisions using a problem solving approach” (Harris et al., 2014, p. 222). “Evidence-based practice utilizes and integrates the highest quality, most experiential, scientific evidence while also incorporating the organization’s mission, vision, and values” (Harris et al., 2014, p. 222). One of the roles and responsibilities of the clinical nurse leader (CNL) is to utilize evidence-based interventions to impact quality improvement projects. In order to form a strong foundation of evidence-based knowledge, a thorough literature review of the clinical problem must be conducted first (Polit & Beck, 2017). A literature review provides an opportunity to gather information on the current processes, procedures, and existing guidelines prior to collecting organization specific data. The purpose of this chapter is to summarize and synthesize key concepts identified during a thorough literature review to present the current state of knowledge about infant safe sleep practice.

Literature Review Question

Since the initial infant safe sleep guidelines and national educational efforts were enacted, 4,000 infants die unexpectedly and suddenly every year in the United States (Centers for Disease Control and Prevention, 2017). According to Bartlow, Cartwright, and Shefferly (2016), nurses do not demonstrate complete compliance with the American Academy of Pediatrics (AAP) safe sleep positioning guidelines and do not consistently model correct care related to safe sleep practice and environment during hospital care. It is important for health care providers to educate parents and role model safe sleep practices while in the inpatient setting. The role modeling can have a strong influence on their practice at home (Rowe et al., 2016). A practice change must accompany education in order to achieve sustainability. Education alone does not create sustained change (Harris et al., 2014).
Polit and Beck (2017) describe the first step in evidence-based practice as the most crucial. It involves converting the information needed into a properly worded clinical question that can be addressed and answered with research. In this situation, the population, intervention, and outcome compose the information needed. The literature review was conducted to gather a strong knowledge base. The question to be addressed is, will caregivers on the pediatric unit who care for infants 0 to 12 months old show increased adherence to safe sleep practice as evidence by increased compliance during safe sleep audits three months post implementation of caregiver education and a practice changes inclusive of a revised safe sleep bundle?

**Methodology**

The literature was searched using the keywords: infant safe sleep, education, sudden infant death syndrome, infant sleeping arrangements, and parent education. The databases searched included CINAHL Complete, PubMed, and Cochrane Library. The dates of the literature reviewed ranged from 2010 through 2015. The journals that provided the most pertinent articles included *Journal of Community Health, Journal of Pediatric Nursing, Clinical Pediatrics,* and *Journal for Specialists in Pediatric Nursing.* The results were not necessarily limited, but they were not plentiful. The keywords sudden infant death syndrome yielded the most results in CINAHL Complete, but after reviewing some of the articles, the majority of them were not pertinent for this review. The keyword infant safe sleep yielded 214 results from CINAHL Complete. Limiting the publication dates to 2010 through 2016 and also selecting the source type of Academic Journals narrowed results. The literature review included ten articles that focused on either implementation of safe sleep practices or parental perception, and understanding of the practice.
Evidence-Based Practice Guidelines

Based on epidemiologic studies associated with SIDS and risk factors, the American Academy of Pediatrics (AAP) recommends that infants up to one year of age be put in a safe sleep position and a safe sleep environment (Moon, 2011). SIDS is most common among infants that are one month to four months old, but infants can die from SIDS up to one year old. Therefore, the recommendations to prevent SIDS should be used consistently for the infants until they turn one year (AAP, 2015). In 1992, the AAP released its initial safe sleep recommendation that infants be placed in a non-prone position for sleep (Moon, 2011). In 2005, the AAP updated its recommendations and published a policy statement identifying an increase in other causes of sleep related deaths in infants such as suffocation, asphyxia, entrapment, and unspecified causes of death (Moon, 2011). In 2011 the AAP expanded the policy statement again to include recommendations to decrease the risk of all sleep related infant deaths (Moon, 2011).

The AAP has a total of 19 safe sleep recommendations. A number of the recommendations are aimed towards parents to practice at home to help reduce the risk of SIDS, suffocation, entrapment, and strangulation. The guidelines recommend that infants be placed on their backs for sleeping; are in a crib without pillows or toys; and share a room with a parent but not a bed (Moon, 2011). Other recommendations are aimed towards health care professionals, policy makers, and expectant mothers. For example, the guidelines recommend that while pregnant, mothers should avoid smoking, smoke exposure, consumption of alcohol, and illicit drugs (Moon, 2011).

Parental Perception

Herman, Adkins, and Moon (2015) took a qualitative approach to find out the Knowledge and beliefs of African American and American Indian parents and supporters about infant safe
Their goal was to gain insight and input regarding African American and American Indian mothers’ beliefs and knowledge regarding infant safe sleep practices due to the racial disparity associated with the problem. The infant mortality rates among African Americans and American Indians are almost twice the amount compared to whites. In Michigan, the disparities are even larger. In 2009, the African American infant mortality rates were 15.5/1000 live births and the American Indian rates were 9.0/1000 live births compared to 5.4/1000 live births among whites (Beebe, 2012). Participants in the study were audiotaped and later transcribed by an outside company. Quotes from the mothers and supporters, were displayed within the article. These were especially helpful, the discussions allowed the reader to gain a lot of insight about the beliefs and perceptions of the mothers.

Chu, Hackett, and Kaur (2015) took a similar approach. To better understand why infant caregivers placed their infants in an unsafe sleep environment, the authors analyzed over 100 SIDS cases. Themes emerged related to caregiver knowledge and behavior: sleep environment decisions were based on situational care needs, decisions were made due to infant or their own preference, and most decisions lacked knowledge about safe sleep practices. Promoting safe sleep practices and emphasizing the importance of consistently carrying out a safe sleep environment for infants are evidence-based interventions health care providers across the continuum can provide (Chu, Hackett, & Kaur, 2015; Rowe et al., 2015; Ahlers-Schmidt, Kuhlmann, Kuhlmann, Schunn, & Rosell, 2014).

**Inpatient Caregiver Education**

Caregiver education alone does not create sustained change, but sometimes the determining factor in whether or not quality improvement projects impact practices can come down to the successful presentation and dissemination of information to caregivers throughout
the organization (Harris et al., 2014). With infant safe sleep practice, evidence supports staff consistency as it relates to role modeling and educational approaches with parents. This consistency is an integral component in parental adherence to safe sleep practices at home (Andreotta, Hill, Eley, Vincent, & Moore, 2015; Ahlers-Schmidt et al., 2014; Chu et al., 2015).

Bartlow et al. (2016) state despite the existence of the AAP guidelines, nurses are still not following them and more research is needed to understand the disconnect between their knowledge and adherence in practice. Bartlow et al. (2016) focused on assessing safe sleep practices in two different hospitals and asked nurses if they were aware of the AAP guidelines and if they were practicing them. The study was an observational, quantitative, descriptive study. The observations revealed noncompliance with safe sleep recommendations. Nurses reported awareness of the AAP guidelines, but also reported they were reluctant to use them.

Literature supports collecting a baseline needs assessment for determining the focus of caregiver education (Rowe et al., 2016; Geyer, Smith, & Kair, 2016; Bartlow, Cartwright, & Shefferly, 2016). Surveys and questionnaires completed by caregivers were utilized in various studies to gather information including knowledge and beliefs regarding infant safe sleep practices. The intent of collecting a baseline knowledge assessment is to utilize the information obtained to develop the education plan. Themes will emerge from the survey results, making it easier to compose focus areas and to target specific educational needs for caregivers. Results from the surveys showed significant increases from pre and post educational intervention in knowledge of the AAP safe sleep guidelines (Rowe et al., 2016; Geyer, Smith, & Kair, 2016). Studies show that parents tend to replicate behaviors observed in the hospital setting once they are discharged back home (Geyer et al., 2016; Herman et al., 2015; Rowe et al., 2016; Chu et al.,
Relaying the importance of role-modeling the safe sleep environment in the inpatient setting is also an important component of the caregiver education.

**Implementing the Infant Safe Sleep Bundle**

Evidence-based components of an effective safe sleep bundle, adjusted for the specific clinical setting, includes education on infant safe sleep practices and guidelines for nurses and resident physicians, an updated safe sleep policy, safe sleep champions, parent education, and storage products (Geyer et al., 2016). As discussed earlier, caregiver education is an important component of the safe sleep bundle. Caregiver education should include an information update on the newest version of the AAP guidelines and cover the focus areas identified in the surveys. Updating the safe sleep policy in this medium-sized Michigan hospital to reflect the current AAP guidelines and evidence-based practice is necessary to promote high quality care.

Implementation of a safe sleep champion will help to reinforce safe sleep practices and adherence to the safe sleep policy providing feedback and mentorship to members of the clinical team who interact with parents. Implementing a storage product would encourage caregivers and families to store items outside of the infant’s sleep area, allowing the sleeping environment to be safe, and removing one of the main barriers caregivers encounter (Geyer et al., 2016). Prior to initiating the use of a storage product, a thorough trial would need to commence to decide which product is most effective for the unit.

**Literature Summary**

Infant safe sleep is a known and utilized concept in hospital settings across the United States. The American Academy of Pediatrics (AAP) continues to update their recommendations every five years with the most up to date evidence-based research. Although not all literature reviewed involved hospitals with safe sleep policies, every article mentioned the AAP clinical
practice guidelines as their reference point, and most up to date version of the guidelines were utilized. Please refer to Appendix A for a brief overview of the literature review in table form. Various common themes were identified throughout the literature review. Although the AAP guidelines exist and are promptly updated every five years, majority of the articles identified non-compliance by parents and caregivers as an issue. Another theme that emerged frequently was the act of role modeling safe sleep practice and educating parents. Numerous articles mentioned the importance of educating and modeling the safe sleep practices because of the influence on the parents and their sleep practices at home (Rowe et al., 2016). It is known that there is effective evidence-based guidelines available to follow and it is known that there is a lack of compliance with these guidelines. What is still not known is the practice change, or interventions needed to comply and sustain the evidence-based practice guidelines. Hopefully, in the near future, this project and clinical question together can help address this issue.