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The Effects Of A Safe Sleep Environment And The Reduction Of SIDS

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THE EFFECTS OF A SAFE SLEEP ENVIRONMENT AND THE REDUCTION OF SIDS

Honors Thesis

**Presented in Partial Fulfillment of the Requirements
For the Degree of Bachelor of Science**

In the School of Nursing
at Salem State University

By

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Abstract

This research addresses the prevalence of the phenomenon Sudden Infant Death Syndrome (SIDS). Not much is known about the pathophysiology of SIDS, but steps can be taken to help decrease the risk of the disease, yet, it still prevails. The aim of this research will be to look closer into the risk factors for SIDS and its prevalence since the creation of the 1994 public health initiative, the 'Back to Sleep Campaign'. There are many complexities to its prevalence including but not limited to race, culture, education level, income, individual nursing practices, and lack of SIDS policies in hospitals. This research will look closely into these different risk factors and what can be done from a nurse's stand point. SIDS risk reduction is important to nursing because its reduction is primarily education based. At risk populations are not receiving the proper education on SIDS and its risk reduction. The lack of nursing education with the combination of other risk factors mentioned before creates a complex situation to which a solution is necessary. The research for this paper will be gathered through a systematic review of literature. All articles will be gathered using the nursing database Medline Plus and will include qualitative and quantitative research articles published between 2010-2018. All articles used for this paper will be in English and limited to the age group 'infant, newborn: birth-1 month'.

Keywords: Sudden Infant Death Syndrome, Back to Sleep

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Sudden Infant Death Syndrome, or SIDS, is the unexpected and unexplainable death of an infant younger than one year old (Goldberg, Rodriguez-Prado, Tillery, & Chua, 2018). In the United States alone, approximately 4,000 infants die yearly from sleep related deaths (Goldberg et al., 2018). In 1994 the 'Back to Sleep Campaign' (BTSC) was launched in effort to decrease the number of infants dying from SIDS. The BTSC increased awareness of the recommendation of supine sleeping and the risk of dangers associated with prone sleeping (Zundo, Richards, Ahmed & Codington, 2017). Since the 1990's rates of infant deaths related to sleep have decreased by 50% (Zundo et al., 2017). Yet, SIDS remains one of the top three leading causes of deaths in children between one month and one year of age (Zundo et al., 2017). According to Zundo et al. (2017) reasons for this include race/ethnicity, educational level, income, and varying perceptions of infant comfort. Though public health efforts including the BTSC exist, the problem remains significant particularly among certain ethnicities. The demographic of people who are primarily affected by SIDS due to non-compliance is consistent, especially within African American and Hispanic communities (Zundo et al., 2017). Unsafe sleep methods and not providing infants with the safe sleep environments recommended by health care professionals can lead to devastating consequences for newborns.

Background/Significance

SIDS is a silent killer about which little is known, however there appears to be a strong link to the brain and newborn breathing patterns. Factors such as infant sleeping positions and environments have been shown to greatly affect the chances of an infant dying from SIDS. Side-lying or sleeping on the stomach during the first few months of

life can profoundly increase the risk of SIDS (Goldburg et al., 2018). According to Goldburg et al. (2018) there are three components that play a role in SIDS: the stage of infant development, intrinsic risk factors, and extrinsic risk factors. Intrinsic or naturally occurring risk factors include genetics, prenatal drug or smoke exposure, premature birth, brain/brainstem abnormalities, and ethnicity. Extrinsic or risk factors caused by individual actions include sleeping positions, second hand cigarette smoke exposure, respiratory infections, bed sharing, loose bedding/blankets in crib, and bottle feeding.

While the direct cause of SIDS is unknown there are precautions that can be taken to help reduce its risk. Some hospitals and prenatal clinics offer training to reduce the risk of SIDS, but this is not required by law thus leading to valuable information not being given to all mothers and fathers. The BTSC and its recommended sleeping guidelines dramatically decreased the numbers of SIDS deaths over the last two decades. Yet, even with a public health intervention on a global level such as the BTSC, SIDS is still one of the leading causes of infant deaths. What parents learn in the hospital setting also influences how they position their infants for sleep at home. There is a difference between care provided to premature babies and healthy babies. Research has shown that parents tend to comply with sleep recommendations given to them by licensed healthcare providers, yet this information is not required to be taught and enforced prior to discharge.

There is a strong link to ethnicity and SIDS, specifically within African American and Hispanic communities. This has a lot to do with varying cultures and childcare practices. According to Zundo et al. (2017) African American/Hispanic women are generally familiar with SIDS but choose not to follow safe sleep guidelines due to

inconsistent and/or noncredible sources of advice/information. Inaccurate information can be passed down from generation to generation solely because it is something that has always been done in the past. In some cultures, it is hard for women to not listen to older relatives due to the fact that traditions are important and must be followed.

Aim of Study

As far too many infants die annually due to causes that may have been avoided. The aim of this research was to look at the different components playing a role in the prevalence of SIDS. Ongoing research demonstrates that non-compliance to safe sleeping methods is one of the largest contributors to this. Given the complexity of SIDS, a further aim of this study was to determine what more hospital nurses might do to promote and enforce safe sleeping environments.

This research is important for general nursing practice because parent education could potentially reduce the risk of SIDS. Learning about SIDS is not mandated or required in hospitals in the United States which may contribute to lack of knowledge on the part of parents. However, when safe sleep practice is taught it is generally taught by nurses. Vital for nurses to understand are what types and forms of education are most effective and what they can do to further promote and enforce that teaching style. Of further importance is that nurses be able to identify the reasons behind non-compliance and populations most affected by SIDS. SIDS risk reduction could then be more targeted to these populations.

Teaching and learning methods are constantly evolving. Therefore, as the nursing community learns more about SIDS and its risks, it may be sensible to consider SIDS as a component of new parent education. A strong role of the maternity nurse is education.

Maternity nurses ought to consider providing updated education and evaluation of proper infant sleep techniques.

Methods

A systematic review of literature was used to explore the prevalence of SIDS and noncompliance with SIDS education. Articles were selected from the database Medline plus. Keywords ‘sudden infant death syndrome’ and ‘back to sleep’ were used as search criteria. To narrow the search, those articles published between 2010-2018 were included. A further criterion for limiting the search was that all articles had to be available in full text and in English. The population was then filtered to ‘infant, newborn: birth-1 month.’ All articles reviewed for this research involved noncompliance to SIDS risk reduction education and safe sleep practices. Articles included either qualitative or quantitative research. The studies reviewed were not limited to a particular region of the world.

Results

Following review of the literature, several themes arose concerning noncompliance to SIDS risk reduction education. Five articles fitting the research parameters were used as a basis for this systematic review of literature. The first article was a general overview of SIDS detailing what SIDS is and its prevalence and decline in numbers since the creation of the BTSC. Though the utility of the BTSC increased in 1994, “the rate of SIDS has remained stationary despite major public health efforts aimed at improving infant’s sleep environment and focusing on high-risk groups” (Goldberg et al., 2018, p. 118). According to Goldberg et al. (2018), as explained below, SIDS is not completely preventable but by following the fundamental ‘ABCs’ of sleep can decrease the risk. Goldberg and colleagues (2018) described the ABCs of sleep as: ‘A’ is for infants

sleeping ‘alone’ instead of co-sleeping with an adult, ‘B’ is for placing infants on their backs when they sleep as opposed to side-lying, and lastly ‘C’ is for sleeping in a ‘crib’ as opposed to in a bed or on a sofa. Natural or intrinsic risk factors for SIDS, include genetics, prenatal smoke exposure, brain/brainstem abnormalities, intrauterine growth restrictions, and Black or Native American ethnic groups (Goldberg et al., 2018). Risk factors that are created due to individual actions or extrinsic risk factors include infant prone/side sleeping position, cigarette smoke exposure, respiratory infections, bed sharing soft/loose bedding, and bottle feeding (Goldberg et al., 2018). In addition, infants between the ages of two-four months of age are at the highest risk for SIDS. All three components, developmental stage, natural/intrinsic, and external/extrinsic risk factors all contribute to the outcome of SIDS.

Zundo and colleagues (2017) explored and supported the theme of noncompliance to infant safe sleep practices and why SIDS rates are remaining stationary. Similar to Goldberg and researchers (2018), this article discussed the slight decline in SIDS rates during the rise of the BTSC but then the continuous increase of SIDS deaths thereafter. Recent research has shown that “of 3,136 infants deaths resulting from SIDS or sudden unexplained infant deaths, only 25% of those infants were in a crib and sleeping supine; 70% were on a non-recommended sleep surface, such as an adult bed; and 64% were sharing a sleep surface” (Zundo et al., 2017, p. 83). One of the factors responsible for increasing SIDS rates is parental knowledge deficit regarding safe sleep positions. According to Zundo et al. (2017), a recent study showed 43% of mothers who received benefits from Women, Infant, and Children (WIC) centers believed that SIDS is associated with sleep position while the other 57% were unaware of the potential causes

of SIDS. Further, African-American mothers were more likely to not comply to safe sleep recommendations due to misunderstanding the reasoning behind those recommendations (Zundo et al., 2017). Multiparous women were also very likely to not follow safe sleep recommendations due to experiences with their other babies (Zundo et al., 2017). This demonstrates culture is a significant factor in SIDS education because the sources of advice pertaining to safe sleep positions can vary depending on culture.

Zundo and researchers (2017), surveyed a sample of 136 low-income parents on awareness on supine sleep recommendations. One-third of these infants were placed supine or on their back. The other two-thirds chose to place their infants on their sides or abdomen due to advice received from older relatives (Zundo et al., 2017). Being of the African-American, Asian, or Hispanic decent are all high-risk populations (Zundo et al., 2017). According to Zundo et al. (2017), infants of African-American descent begin sleeping on their backs but approximately one-third of them sleep on their side by the age of two to four months. With two-four months of age being the highest risk period for SIDS to occur education of high-risk populations ought to be considered. Education level and income proved to be a factor in non-compliance with safe infant sleep position. “Mothers with less than a high school education were more than twice as likely to place infants in non-supine sleep position than mothers who had completed post-secondary education” (Zundo et al., 2017, p. 89). This data was collected from A WIC center providing resources specifically for low-income families.

SIDS not only effects healthy babies but premature babies as well. “Infants born prematurely are at an increased risk of SIDS” (Fowler, Evans, Etchegaray, Ottenbacher, & Arnold, 2013, p. 1045). In the neonatal intensive care unit (NICU) premature babies

are generally placed on their abdomen to help promote breathing if they have respiratory or gastrointestinal abnormalities. According to research by Fowler et al. (2013) it was hypothesized that premature infants were more affected by SIDS due to the theory that parents of premature infants replicate the care learned and observed in NICUs. This included keeping their infants on their abdomen when sleeping in the home setting.

Fowler and researchers' study (2013) involved completion of surveys by parents of premature and healthy newborns. Consisting of two sections the survey assessed both caregiver knowledge about SIDS and utilization of that knowledge. Researchers determined that "knowledge of SIDS reduction measures was approximately equal among both groups but parents of NICU infants were more likely to practice the guidelines" (Fowler et al., 2013, p. 1049). This was due to the fact that the BTSC guidelines and safe sleep environments were being initiated and modeled in the NICU in preparation for the transition to the home setting. Parents of NICU infants were being taught one-on-one about safe sleep practices to ensure they utilize these techniques at home. However, in well-baby nurseries parents are not taught this information about SIDS risk reduction. A particularly poorly performing score was an area of the survey exploring bed sharing. It was also noted that only about one-third of parents of healthy babies placed their newborns in cribs and approximately 60% co-slept with their newborns in adult beds on a regular (Fowler et al., 2013). Fowler et al. (2013), also reported that only 16.7% of the total NICU and well-baby parent populations receive papers or brochures regarding the BTSC or safe sleep recommendations. Modeling behaviors and one-on-one interactions with parents proved more effective in enforcing safe techniques.

Continuing with the theme of healthcare providers modeling safe sleep techniques, a 2010 qualitative research study (Dattani, Bhat, Rafferty, Hannam & Greenough, 2011) in the United Kingdom was done to understand how many healthcare facilities and faculty members utilized/educated parents of premature babies on safe sleep practices. A campaign similar to the BTSC called ‘Time to Get Back to Sleep’ (TTGBTS) was created in 2008 (Dattani et al., 2011). This campaign was specifically designed for premature babies and recommended the initiation of infants sleeping on their backs two weeks prior to discharge. According to Dattani et al. (2011), the amount of written information provided to patients increased since the introduction of TTGBTS. Parents are typically influenced by healthcare practitioners when choosing a sleep position for their newborn (Dattani et al., 2010). Yet, there was no official written policy for staff to utilize this technique or even provide education on supine sleeping prior to discharge (Dattani et al., 2010).

In a similar 2013 study in the United States, researchers investigated the use of the BTSC in a single hospital in the state of Kansas. Outcomes demonstrated that parents of infants are more likely to use safe sleeping practices at home if they see them being modeled in the hospital. Yet, many nurses chose to position newborns in nurseries on their side due to the fear of them aspirating while supine (Mason, Ahlers-Schmidt, & Schunn, 2013).

This research explored potential ways to improve safe sleep environments in the hospital setting. Baseline information was recorded and, out of the 144 sleeping babies observed, 75% of them were in unsafe sleeping environments such as co-sleeping with a parent in a bed. Others had multiple items such as burp clothes, extra blankets, or suction

bulbs in the crib with the baby. Interventions such as nursing staff education seminars were done to refresh/teach nursing staff about the importance of safe sleep environments and modeling safe sleep behaviors in the hospital setting. Along with that, safe sleep recommendation/guideline posters were put in all postpartum suites to remind staff and parents. Finally, the nursing staff at the hospital were asked to assess the babies and their sleeping environments/positions every time they entered patient rooms for data gathering purposes. After the implementation of these interventions the number of infants that were in safe sleeping environments went from 25% to 58%. (Mason, Ahlers-Schmidt, & Schunn, 2013).

Discussion

Based on this review of literature there were numerous themes relevant to the prevalence of SIDS even after the emergence of the BTSC. Common themes that increased the chances of SIDS occurring included, but was not limited to, the low-income African American and Hispanic demographics. Along with that, varying cultures, being parents of premature babies in the NICU, nursing practices, and lack of SIDS education policies in the hospital setting were all significant factors for the prevalence of SIDS. Race and culture were huge benefactors due to age-old practices such as co-sleeping in the same bed, sleeping in side-lying position, and loose bedding around infants; all actions proven to be detrimental to infant health.

Parents who observed their premature babies placed on their stomachs and then witnessed the transition to being placed on their backs regularly are more likely to follow BTSC safe sleep guidelines post discharge. This was due to the fear of having a ‘fragile’ child and not wanting to cause it further harm. Abundant amounts of research have

shown that safe sleep modeling and teaching experienced in the hospital setting is effective in regard to parents utilizing similar care at home post discharge. Yet, many hospitals continue to allow nurses and other healthcare professionals to place infants in side-lying positions due to the individual nursing practices and lack of policies related to SIDS in general.

Parents of newborns are more opting to use safe sleep practices at home if they are introduced to them in the hospital setting prior to discharge. Not only that but if safe sleep practices are taught throughout the pregnancy then there is a higher likelihood of these practices being utilized. From a nursing perspective education is a vital part of any major change. It was noted during this research that parents of healthy babies are a higher risk for SIDS because they simply do not follow safe sleep guidelines due to a magnitude of reasons. It is crucial for nurses to provide education to not only populations at a high risk for SIDS but all parents regarding SIDS and its risk reduction.

Implementing policies specific to SIDS risk reduction, safe sleep modeling, and safe sleep education are important for the continuation of SIDS reduction. As of right now SIDS education or prevention policies are not in place in many hospitals across the United States. This is a major concern because if there are no regulations or policies monitoring and ensuring that proper safe sleep teaching and assessing is being done then this creates the issue of parents utilizing improper sleeping techniques. Along with nurses not being held accountable for not providing the necessary education. Required SIDS teaching in the hospital setting prior to discharge is something that can help reinforce any SIDS risk reduction teaching that might have already been done in the past.

A greater public health effort is required to ensure changes are made. Policies that require nurses to continuously assess for safe infant sleep environments in hospital settings creates a sense of importance and creates liability for nurses. This would assure that the proper safe infant sleep environments are being maintained. Being aware of cultural differences is significant to general nursing. It is also significant to maternity nurses because it is important for nurses to be aware of different cultural norms pertaining to infant sleep practices to be able to identify at risk populations. Campaigns similar to the BTSC would be beneficial as well because the initial BTSC was moderately successful in decreasing SIDS rates.

Conclusion

The information examined in this study is important to nursing because SIDS is one of the leading preventable causes for infant deaths all around the world. Much remains undiscovered about this phenomenon; therefore, it is vital for nurses to work toward its prevention. A plethora of published research indicates parents, particularly those from low-income households and low levels of education, are at higher risks of losing infants to SIDS. Moreover, certain cultures such as African Americans and Hispanics are also at higher risk of losing infants to SIDS. Much needs to be done by nurses and other healthcare professionals in the clinical setting to provide SIDS education to populations at risk. In the best interest of all newborns, policies regarding SIDS risk reduction must be created. These policies may serve to guide nurses in better educating parents of newborns about the dangers of SIDS and its risk reduction.

Further public health measures to promote safe infant sleeping should be considered. Efforts similar to the BTSC may influence the rates SIDS related deaths. In

teaching safe sleep practices to new parents, nurses play a critical role therefore they must first be empowered to empower new parents to practice safe sleep environments. Education is a powerful tool and nurses are essentially teachers and educators. It is vital for policies to be placed mandating nurses to educate parents about SIDS prior to discharge. Nurses should also constantly utilize safe infant sleeping practices in the clinical setting themselves.

References

- Dattani, N., Bhat, R., Rafferty, G. F., Hannam, S., & Greenough, A. (2011). Survey of sleeping position recommendations for prematurely born infants. *European Journal of Pediatrics, 170*(2), 229-232.
- Fowler, A. J., Evans, P. W., Etchegaray, J. M., Ottenbacher, A., & Arnold, C. (2013). Safe sleep practices and sudden infant death syndrome risk reduction: NICU and well-baby nursery graduates. *Clinical Pediatrics, 52*(11), 1044-1053.
- Goldberg, N., Rodriguez-Prado, Y., Tillery, R., & Chua, C. (2018). Sudden infant death syndrome: A review. *Pediatric Annals, 47*(3), e118-e123.
- Mason, B., Ahlers-Schmidt, C., & Schunn, C. (2013). Improving safe sleep environments for well newborns in the hospital setting. *Clinical Pediatrics, 52*(10), 969-975.
- Zundo, K., Richards, E. A., Ahmed, A. H., & Codington, J. A. (2017). Factors associated with parental compliance with supine infant sleep: An integrative review. *Pediatric Nursing, 43*(2), 83-91.

Appendix A

Citation Author(s)/ Year	Design	Theoretical Foundations	Target Population, Sample Size, Location	Type Intervention	Outcomes/Aims	Results	Limitations	Nursing Implications/Gaps
Dattani, N., Bhat, R., Rafferty, G. F., Hannam, S., & Greenough, A. (2011). Survey of sleeping position recommendations for prematurely born infants. <i>European Journal of Pediatrics, 170</i> (2), 229-232.	Questionnaire	No theoretical foundations mentioned	Location: United Kingdom Population: Neonatal practitioners and healthcare providers.	No intervention was needed for this study	To determine whether the national campaign “time to get back to sleep” influenced the recommendations by healthcare professionals regarding the sleep position for prematurely born babies.	90% of questionnaires were completed and it was concluded that the same percentage of units instituted supine sleeping 1-2 weeks prior to discharge and a greater number of units were providing parents with written information pertaining to safe sleep.	Not all questionnaires were completed and returned	The implications of this study would be that nurses and other healthcare professionals need to model and implement SIDS prevention teaching for parents of premature newborns prior to discharge.
Fowler, A. J., Evans, P. W., Etchegaray, J. M., Ottenbacher, A., & Arnold, C. (2013). Safe sleep practices and sudden infant death syndrome risk reduction: NICU and well-baby nursery graduates. <i>Clinical Pediatrics, 52</i> (11), 1044-1053.	Survey	No theoretical foundations mentioned	Location: Southern United States Population: Caregivers of infants discharged from a NICU and Well Baby Nurseries.	No intervention was needed for this study	Collect data regarding knowledge and practice of safe sleep practices/SIDS risk reduction in parents of premature and well babies and the reasons for non-compliance in parents of NICU parents and well-baby parents.	Parents of NICU babies had more knowledge about the back to sleep campaign and were more apt to follow the guidelines as opposed to the parents of babyish from the WBN for many different reasons.	English was not the primary language for some of the primary participants, infants had medical diagnoses that could preclude supine sleeping, some of the people bringing babies into the hospital were not primary caregivers.	The implications would be to educate parents of healthy newborns because they are at a higher risk of SIDS due to a lack of SIDS education as opposed to parents of premature newborns.
Goldberg, N., Rodriguez-Prado, Y., Tillery, R., & Chua, C. (2018). Sudden infant death syndrome: A review. <i>Pediatric Annals, 47</i> (3), e118-e123.	Systematic review of literature	No theoretical foundations mentioned	Location: N/A Population: Infants younger than 1 year of age, specifically between 2-4 months.	No interventions were needed for this research.	Provide an overview on what Sudden Infant Death Syndrome is, what are risk factors, and how it can be prevented.	ABC’s of safe sleep is the most efficient way to prevent SIDS. Time in development, intrinsic, and extrinsic risk factors all play a role in the SIDS. And safe sleeping environments are major for preventing SIDS.	There were no limitations to this research.	The implication would be to educate new parents with up-to-date data about SIDS and its prevention.

<p>Mason, B., Ahlers-Schmidt, C., & Schunn, C. (2013). Improving safe sleep environments for well newborns in the hospital setting. <i>Clinical Pediatrics</i>, 52(10), 969-975.</p>	<p>Plan-do-study-act cycle</p>	<p>No theoretical foundations mentioned</p>	<p>Location: Wesley Medical Center, Wichita, Kansas Population: Well infants in postpartum rooms</p>	<p>No interventions were needed for this research</p>	<p>The aim of this research was to implement teaching techniques regarding safe sleeping environments for infants in the hospital setting that will then be carried out into the home setting.</p>	<p>Post intervention provided by hospital staff the percentage of infants sleeping in safe environments was significantly increased to 58.2% from the baseline of 25%.</p>	<p>Research was conducted in one institution in Kansas.</p>	<p>Nursing implications would include refreshing safe sleep techniques with nursing staff and implementation of continuous safe sleep assessment.</p>
<p>Zundo, K., Richards, E. A., Ahmed, A. H., & Codington, J. A. (2017). Factors associated with parental compliance with supine infant sleep: An integrative review. <i>Pediatric Nursing</i>, 43(2), 83-91.</p>	<p>Systemic literature review</p>	<p>No theoretical foundations mentioned</p>	<p>Location: United States Population: Military beneficiary parents, primiparous women, African Americans, low-income parents, caregivers of infants.</p>	<p>No interventions were needed for this research</p>	<p>The aim of this study was to examine reasons for parental noncompliance with supine sleep recommendations provided by healthcare professionals.</p>	<p>Parent knowledge about sleep position played a huge role in non-compliance. Along with that factors such as sources of advice, perceptions of infant comfort, safety concerns, race/ethnicity, educational level, and income all played roles in parental non-compliance with the back to sleep campaign.</p>	<p>Small sample size and limited articles published in English.</p>	<p>Nursing implications would include identifying high risk SIDS populations and being more culturally aware.</p>