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Safe sleep practices and discharge planning

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Abstract The recommendation to place infants on their backs to sleep has been widely known since the mid-1990s. Upon implementation of this recommendation, sudden infant death syndrome (SIDS) and sudden unexplained infant death (SUID) were dramatically decreased. However since that time, further reduction in the death rates has not been evident. This literature review focused on implementation of safe sleep practices in the inpatient setting prior to discharge of the mother and infant. Evidence supports staff consistency as it relates to educational strategies and role modeling, as this is integral in parental compliance of the recommendations. Additionally, tailoring the educational components specific to parental ethnicity and socioeconomics may influence their perceptions of safe sleep and its value in the safe care of their infant.
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Sudden Infant Death Syndrome (SIDS) and Sudden Unexplained Infant Death (SUID) are conditions responsible for nearly 4000 infant deaths annually in the United States (US). SIDS and SUID are considered diagnoses of exclusion, and are confirmed on autopsy when an infant dies unexpectedly with no identifiable etiology (Centers for Disease Control and Prevention [CDC], 2011). Infants one month to one year of age are at greatest risk. A movement of awareness began in 1994 with

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the "Back to Sleep" campaign, which actively promoted placing infants on their backs to sleep. The US sustained declines in the number of sleep-related deaths by up to 50% (National Institute of Child Health And Human Development [NICHHD], 2013). The success of this program has become stagnant, however, as these numbers have remained constant over the last 20 years.

Advances in technology, changes in the way infant deaths are investigated, and a more comprehensive understanding of this phenomenon have brought forth an evolution to revitalize and expand this philosophy. A shift in culture emerged, not only to place infants on their backs to sleep, but to create an overall safe sleep environment, with a campaign name change to "Safe to Sleep" (NICHHD, 2013). It is well documented that parents model the advice and actions of the nursing staff that provide education (Carrier, 2009), so a definitive opportunity to educate families is throughout their stay in the inpatient setting. An investigation of the literature was conducted to determine if neonates discharged from a hospital setting whose parents receive hands-on training regarding safe sleep practices, versus those parents who do not, experience a lower mortality rate of SIDS; this is the critical clinical question.

Purpose

The purpose of this literature review is to examine the effect of hands-on safe sleep education with parents of infants discharged from an inpatient setting. Mason et al. (2013) highlighted in their literature, "although newborn sleep-related deaths are not expected in the hospital environment, the hospital setting provides an opportunity for health care workers to model risk-reduction behavior" (p. 973). The inpatient setting is the first place in which many new parents are exposed to and taught appropriate infant care. Additionally, new parents tend to have a greater trust in the healthcare providers who care for their infants (Shaefer et al., 2010). Both role modeling and demonstration have been significantly more impactful on parental safe sleep practices than discussion and/or reading alone (Moon and Omron, 2002). Furthermore, the authors reported that 70% of parents stated they had received information about safe sleep from nursing staff upon discharge; however, only 10% of those parents were able to accurately describe safe sleep practices, such as supine sleeping.

A review of literature regarding successful safe sleep teaching practices will add support to the growing influence of nurse role-modeling and hands-on demonstration teaching. The goal of the review is to encourage institutions to not limit parental education to only spoken and written safe sleep educational materials, but also include role-modeling, demonstrations, and to ensure parental understanding by requiring return demonstrations of these practices. Better parental educational practices could possibly reduce infant mortality due to SIDS and SUID.

Methodology

The literature was searched with keywords of safe sleep, healthy infants, sleep practices, sudden infant death, sudden infant death syndrome (SIDS), sudden unexpected infant death (SUID), parent education, and newborn safety. The literature range of dates for the search included 2009 through 2014. Databases searched were CINAHL, PubMed, Medline, and Cochrane Library. Journals most frequently providing pertinent articles related to this topic included Clinical Pediatrics, the Journal of Obstetric, Gynecologic and Neonatal Nursing, and the American Journal of Public Health. The results were limited, and there has been minimal safe sleep quantitative research completed. Searches of the mentioned databases yielded only 10—20 applicable articles and several were limited by focus of the article, such the variety of practices of child safety and the extent of parental educational materials.

Literature summary

The literature review revealed eleven articles that investigated safe sleep practices. Six articles used descriptive methods, two studies were mixed methods, and one study was qualitative. The remaining two articles consisted of a policy statement and an expert opinion. Common themes supporting the clinical question were found throughout the literature.

These included the following: (a) assessment of parent perceptions of safe sleep practices; (b) testing of safe sleep promotion strategies in inpatient and outpatient settings; (c) analysis of relationships between parent demographics and safe sleep compliance; and (d) evaluating the impact of healthcare provider role-modeling behaviors on parent practices.

Evidence demonstrates that parental perceptions of safe sleep are influenced by education, socioeconomic status, age, and ethnicity. A

descriptive study by Duzinski et al. (2013) examined infant sleep practices among Hispanic teen mothers, specifically those whose parents were foreign-born. The results indicated that Hispanic families promote bed-sharing as an accepted cultural practice and teen mothers are encouraged to practice what is modeled by their family members (Duzinski et al., 2013). Smylie et al. (2014) examined maternal education level and socioeconomic status as they related to safe sleep compliance. The researchers discovered that safe sleep promotion strategies are in need of modifications to better serve the individualized needs of disadvantaged parents, especially those parents with less than a high school education.

A qualitative study by Moon et al. (2010) investigated parental perceptions of black parents, and identified an increased risk of SIDS in black infants versus white infants. The authors found that these mothers inherently held no merit in the connection between SIDS and risk factors such as bed sharing, prone sleeping, and exposure to smoking. Black mothers who participated in the study believed SIDS to be a "random, unpreventable occurrence" (Moon et al., 2010, p. 95). The authors concluded that education needs to clearly address the link between SIDS and the risk factors, and consistency will promote parental engagement of this topic.

A pilot quantitative study by Chung-Park (2012) assessed the knowledge and practices of safe sleep by military beneficiary parents. The author emphasized the value of human behavior guided by the consequences of the behavior, expectations of others, and an individual's perception of his or her control over behavior. The emphasis of this study included interventional education programs for families that are theory-based, in order to significantly influence parents' intentions to perform safe sleep practices (Chung-Park, 2012).

A mixed methods study by Shaefer et al. (2010) described the implementation of a four-year project to change safe sleep attitudes and practices of nurses who work with urban parents. The authors noted that nursing behaviors significantly influence parents' adherence to safe sleep practices. Although the long-term outcomes have not yet been evaluated, the researchers shared success in the adoption of safe sleep practices by nurses, as well as demonstration by parents and implementation by the community (Shaefer et al., 2010).

Schnitzer et al. (2012) assessed that the majority of SIDS victims in the study shared a sleep surface, most often with an adult. The authors found that the most consistent variables among SIDS victims were sharing a sleep environment, use of surfaces that were not intended for infants, and extraneous soft objects in the sleep environment. This study supports the identified risk factors contributing to SIDS and their value when included in parent education.

In a mixed methods study, Fowler et al. (2013) explored the safe sleep practices of parents of infants from both well-baby nurseries and neonatal intensive care units (NICUs). The study, like similar studies, found that lower-income, black, unmarried parents were more likely to co-sleep or place their infants on their stomachs in their cribs. Mothers were more likely to demonstrate traditional practices taught by their family support systems, which was a clear delineation from the current evidence supporting safe sleep. The authors concluded that "knowledge does not predict practice" (Fowler et al., 2013, p. 1049), and the practices witnessed by parents in the nursery and NICU significantly impacted their choice of sleep position. Interactive educational interventions that included role modeling of safe sleep behaviors were identified as the most influential in changing parent practices.

Mason et al. (2013) evaluated the improvement of inpatient safe sleep practices, as well as safe sleep environment. The authors discussed that previous studies have focused on modeling positioning, but little emphasis has been placed on modeling a safe environment. As stated by the authors, "the hospital setting provides an opportunity for health care workers to model risk-reduction behaviors" (Mason et al., 2013, p. 973). The authors go on to support that the hospital setting is often the primary source of education for lower-income parents. The intervention in this study included a safe sleep education bundle to improve staff compliance, and involved nursing staff in improving safe sleep practices of both staff and parents. The researchers reiterated that consistent educational content increased parental intent to follow safe sleep practices (Mason et al., 2013).

Ahlers-Schmidt et al. (2014) focused on the development of a safe sleep toolkit intervention for inpatient and outpatient providers. The toolkit included methods for consistently sharing safe sleep educational messages. Parents were involved by completing questionnaires regarding their compliance with safe sleep recommendations. Results shared by the authors presented parental understanding of safe sleep practices; however, implementation and compliance were lacking, as parents did not identify consistent educational content among their healthcare providers (Ahlers-Schmidt et al., 2014). Another significant factor

noted in the study was the lack of communication between parents and their childcare providers regarding implementation of safe sleep practices.

A policy statement by the American Academy of Pediatrics (AAP; 2011) provides recommendations of safe sleep practices that have been expanded to include all sleep-related infant deaths, including those with a known etiology. The recommendations are primarily directed toward parents, caregivers, and healthcare providers, although some are directed toward policy makers and researchers. Flook and Vincze (2012) summarized each recommendation and provide detailed evidence-based support for each. The expert opinions of the authors provide educational strategies for increasing awareness of safe sleep among hospital staff. The strategies include simulation scenarios, providing a fair-like educational setting, incorporating safe sleep into new hire orientation, and establishing committees to oversee adherence on a multidisciplinary level.

Discussion

The 11 studies included in the body of evidence were not without limitations. Schnitzer et al. (2012) study results may have had limited accuracy based upon state and county compliance, as well as data inclusion of only nine states, which can limit generalizability. Studies by Ahlers-Schmidt et al. (2014) and Chung-Park (2012) were pilots, so process and scope were limited. Another limitation included social desirability bias by teens who gave answers based upon what they believed the adult interviewers wanted to hear. The community in which the studies were conducted was identified as a potential limitation, because of the socioeconomic status and educational background of the parents who used certain healthcare facilities.

Literature supports the significant value of nurse behaviors and educational strategies about parental safe sleep practices. Consistency is vital in the message parents receive; however, providers need to accommodate for ethnic background, educational limitations, and socioeconomic status. This review has underscored role-modeling behaviors and interactive, individualized educational strategies by nurses can potentially improve parental understanding of the rationale behind safe sleep, as well as parental compliance with practices. Healthcare facilities that provide care to prenatal and postnatal parents should seek out and initiate an evidence-based and generalizable approach to parent/family education regarding infant safe sleep positioning and safe sleep environment.

Implications

Studies focused on safe sleep practices support recommendations that healthcare settings providing care to new parents should institute consistent education that is individualized, based upon educational level, spoken language, and socioeconomic status. Smylie et al. (2014) stated that "the needs of socioeconomically disadvantaged populations are an approach that might help address the differential impact of this strategy in the reduction of nonsupine sleep position across socioeconomic strata" (p. 546). According to the literature reviewed, a key component to compliance is educating parents while taking their beliefs into consideration, especially parents who are greatly influenced by their supportive family structure. A second critical factor is educating inpatient staff regarding the importance of their role-modeling behaviors, and the impact these behaviors have on parental perception. Fowler et al. (2013) shared that practices by nurses in the nursery were one of the most important factors in the parents' determination of safe sleep practices.

Conclusion

The findings in this review emphasize the importance of healthcare provider behaviors relating to consistency in practice, as well as educational strategies. Staff should model a consistent example of supine sleeping as the position of choice, along with additional guidelines as recommended by the AAP. These include a dedicated sleep area that is only for the infant, a firm mattress that fits the crib/playpen, a tight-fitting crib sheet, avoidance of items that pose suffocation hazards (i.e. pillows, bumper pads, stuffed animals, blankets, and sleep positioners), avoiding an overheated room, and choosing room sharing over bed sharing. Facilities should develop and enact safe sleep education programs that initiate at the earliest point of postpartum care and continue through discharge. Following discharge from the in-patient hospital setting, these recommendations should continue to be reinforced as part of the well-baby check-up throughout the first year of life. Judicious follow through is influential in parental compliance with safe sleep practices.

Clinicians should give consideration to the ethnic background and socioeconomic status of the newborn's parents when reinforcing these guidelines. African-American and Hispanic families have documented higher rates of infant death than other ethnicities attributed to SIDS and SUID (Duzinski et al., 2013; Moon et al., 2010). Educational materials specific to these populations may provide the additional awareness necessary to influence the choices these parents make. Additionally, lower socioeconomic groups may lack the resources necessary to provide a safe place for their newborn to sleep upon discharge. Ideally, screening for this should take place prior to delivery, as well as before being discharged to home. Staff should be aware of agencies and resources available for contact in the event a safe sleep environment is needed.

Caregivers are vital members of an infant's healthcare team, and must be aware of the rationale and practicality of safe sleep. In this current culture of care outside the home, grandparents are often primary caregivers when parents return to work. Generational gaps may be difficult to overcome where the previous ideology of prone sleeping was used as best practice. Providing information such as education specific to caregivers, pamphlets, and videos can further enforce the consistency of these practices for the infant while in the care of a non-parent provider.

Adoption of new strategies is often a challenge that involves increased time commitment and long-term follow-up evaluation. Achievement of sustained changes in educational content, role modeling, and reinforcement could result in significant improvements in safe sleep compliance among parents and caregivers. Reiterative teaching and modeling of safe sleep practices by parents, family, caregivers, and healthcare providers in all settings of an infant's first year of life can ultimately decrease infant sleep-related deaths.

References

Ahlers-Schmidt, C.R., Kuhlmann, S., Kuhlmann, Z., Schunn, C., Rosell, J., 2014. To improve safe-sleep practices, more emphasis should be placed on removing unsafe items from the crib. Clin. Pediatr. 53 (13), 1—3. http://dx.doi.org/10.1177/0009922813518964.

American Academy of Pediatrics, 2011. SIDS and other sleep-related infant deaths: expansion of recommendations for a safe infant sleeping environment. Pediatr 128 (5), 1030—1039. http://dx.doi.org/10.1542/peds2011-2284.

Carrier, C.T., 2009. Back to sleep: a culture change to improve practice [Abstract]. Newborn Infant Nurs. Rev. 9 (3), 163—168.

Centers for Disease Control and Prevention, 2011. About Sudden Unexpected Infant Death and Sudden Infant Death Syndrome. Retrieved from http://www.cdc.gov/sids/aboutsuidandsids.htm.

Chung-Park, M.S., 2012. Knowledge, opinions, and practices of infant sleep position among parents. Mil. Med. 177 (2), 235—239. http://dx.doi.org/10.7205/milmed-d-11-00323.

Duzinski, S.V., Yuma-Guerrero, P.J., Fung, A., Brown, J.M., Wheeler, T., Barczyk, A.N., Lawson, K.A., 2013. Sleep behaviors of infants and young children: associated demographic and acculturation characteristics among Hispanic teen mothers. J. Trauma Nurs. 20 (4), 189—198. http://dx.doi.org/10.1097/JTN.0000000000000001.

Flook, D.M., Vincze, D.L., 2012. Infant safe sleep: efforts to improve education and awareness. J. Pediatr. Nurs. 27 (2), 186—188. http://dx.doi.org/10.1016/j.pedn.2011.12.003.

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. Clin. Pediatr. 52 (11), 1044—1053. http://dx.doi.org/10.1177/0009922813506038.

Mason, B., Ahlers-Schmidt, C.R., Schunn, C., 2013. Improving safe sleep environments for well newborns in the hospital setting. Clin. Pediatr. 52 (10), 969—975. http://dx.doi.org/10.117/0009922813495954.

Moon, R.Y., Oden, R.P., Joyner, B.L., Ajao, T.I., 2010. Qualitative analysis of beliefs and perceptions about sudden infant death syndrome in African-American mothers: implications for safe sleep recommendations. J. Pediatr. 157 (1), 92—97. http://dx.doi.org/10.1016/j.jpeds.2010.01.027.

Moon, R.Y., Omron, R., 2002. Determinants of infant sleep position in an urban population. Clin. Pediatrics 41 (8), 569—573. http://dx.doi.org/10.1177/000992280204100803.

National Institute Of Child Health and Human Development, 2013. Progress in Reducing SIDS. Retrieved from http://www.nichd.nih.gov/sts/about/SIDS/Pages/progress.aspx.

Schnitzer, P.G., Covington, T.M., Dykstra, H.K., 2012. Sudden unexpected infant deaths: sleep environment and circumstances. Am. J. Public Health 102 (6), 1204—1212. http://dx.doi.org/10.2105/ajph.2011.300613.

Shaefer, S.J.M., Herman, S.E., Frank, S.J., Adkins, M., Terhaar, M., 2010. Translating infant safe sleep evidence into nursing practice. J. Obstet. Gynecol. Neonatal. Nurs. 39 (2), 618—626. http://dx.doi.org/10.1111/j.1552-6909.2010.01194.

Smylie, J., Fell, D.B., Chalmers, B., Sauve, R., Royle, C., Allan, B., O'Campo, P., 2014. Socioeconomic position and factors associated with use of a nonsupine infant sleep position: findings from the Canadian maternity experiences survey. Am. J. Public Health 104 (3), 539—547. http://dx.doi.org/10.2105/AJPH.2012.301061.

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