

Literature Review on Sudden Infant Death Syndrome (SIDS)

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### **Sudden Infant Death Syndrome (SIDS)**

SIDS can be described as an unexplained loss of life which occurs mostly when infants are sleeping and it affects infants within the first 12 months after birth (Adams et al., 2015). The actual cause of SIDS is not known. However, a number of researchers have suggested several methods of minimizing the risk of the syndrome, with some researchers proposing back to sleep, the use of pacifiers, and swaddling. There is a need to conduct research on ways in which the risk of SIDS can be minimized in order to reduce the mortality of infants, especially in the United States where the syndrome is the main cause of infant deaths. This paper will involve a comprehensive review of past literature on SIDS, with a focus on the proposed methods of minimizing the risk, such as the use of pacifiers and swaddling. The study aims to determine whether the use of pacifiers is significantly better in minimizing the risk of SIDS within the first 12 months of birth, compared to swaddle with arms out.

Kelmanson (2013) conducted a study on the relationship between infant sleep behavior and swaddling, for two-month-old infants. The study assessed whether there existed a relationship or association between the two. The participants were healthy infants that were selected by chance from the community, with their mothers filling questionnaires on infant characteristics, demographics, and maternal attributes with a focus on swaddling and sleep behavior. The mothers described the sleep disturbances in domains such as awakenings, sleep and snoring duration, and excessive sleepiness during the day (Kelmanson, 2013). The study did not find any relationship between swaddling and the habitual position that an infant was found awake or the maternal reports on sleep disturbances (Adams et al., 2015). About the subject, Kelmanson (2013) states that the sleep behavior of infants was not found to be associated in any way with swaddling, and there was no evidence that swaddling had any benefit in influencing sleep routine that may be potentially protective against SIDS. This

theory is consistent with my capstone project which attempts to show that the use of pacifiers is more beneficial compared to swaddling. However, the research did not involve an analysis of pacifier use benefits.

The research by Kelmanson (2013) confirmed the findings of other researchers that swaddling has no significant benefit or notable influence on the sleep behavior or routine of infants. A study by the Task Force on Sudden Infant Death Syndrome (2011) provided proposals for creating a secure sleeping surrounding for infants. In the task force's recommendations, the American Academy of Pediatrics (AAP) noted that the rate of infant mortality was increasing and the efforts to minimize the deaths had stagnated. The AAP is one of the most significant research personalities or bodies for infant care and infant health. The task force was tasked with coming up with recommendations that were not only focusing on SIDS but on all the sleep-related infant deaths from other causes such as suffocation because the risk aspects for suffocation and SIDS were the same (Task Force on Sudden Infant Death Syndrome, 2011). The AAP recommended breastfeeding (Shapiro-Mendoza et al., 2015), routine immunization, avoidance of bedding that is soft, and consideration of a pacifier, amongst other recommendations. Research reviewed by the AAP had shown notable advantages of pacifier use in minimizing the risk of SIDS (Shapiro-Mendoza, 2017).

Pease et al. (2016) carried out a meta-analysis on swaddling and the risk of SIDS. This study reviewed research on sleeping position and age and conducted a meta-analysis of SIDS for swaddled infants. The study found that swaddling risk varied depending on the sleep position that infants were placed, with the noted risk being at the highest for prone sleeping and supine position. Some evidence found out that the risk with swaddling increased with the age of the infant. The authors recommended that mothers avoid side and front sleeping posture to infants who are swaddled, and recommended that swaddling is discouraged (Pease et al., 2016). The authors concluded, from the evidence obtained, that the

risk was higher when an infant was found on the side while swaddled compared to an infant that was kept on the side with no swaddling. An infant who was swaddled on the back was at a notable risk compared to one kept on the back but not swaddled.

Pease et al. (2016) called for research into other methods of handling infants that could reduce the chances of SIDS, such as using a pacifier. Walsh et al. (2014) proposed pacifier use in reducing the chances of SIDS, after noting some benefits of the pacifier in the sleep behavior of infants. Meadows-Oliver and Hendrie (2013) analyzed the AAP guidelines on minimizing the chances of SIDS and other deaths that are related to sleep in infants. In one of the proposals provided by the AAP, the institution recommended pacifiers to minimize the chances of SIDS. The AAP had made this recommendation after reviewing a number of studies that showed that pacifiers had a protective benefit on the SIDS incidences, such as the study by Hauck et al. (2003), Walsh et al. (2014), and the review by Kennedy (2013). While their theory, that pacifier use minimizes the risk of SIDS, is consistent and best fits the capstone project, there is a need for further research to determine the extent to which the use of a pacifier minimizes SIDS risk and the effect that a pacifier has on the sleep patterns of the infant.

The AAP (Task Force on Sudden Infant Death Syndrome, 2011) and other groups of researchers have found that the use of pacifiers has a positive effect throughout the sleep of infants, regardless of whether the pacifier falls out during sleep (Joyner et al., 2016; Horne et al., 2014; Moon & Task Force on Sudden Infant Death Syndrome, 2016; Walsh et al., 2014). However, the pacifier should never be hung around the neck of an infant, and those that attach to clothing should not be used during sleep. The reviewed research shows evidence of benefits derived from using a pacifier in infants within the first year after birth. From the reviewed literature, it is known that the use of pacifiers improves the sleep behavior of infants and minimizes the risk of sleep-related infant deaths, such as death from suffocation, and

SIDS. This theory aligns with the current project since the aim of the project is to show that pacifier use is better, compared to swaddling, since it minimizes the risk of SIDS. The literature reviewed shows that swaddling has an element of increased risk of SIDS, especially with increasing age of infants. The hypothesis of this research can be proven through the reviewed literature.

With regard to nursing theories, various aspects are undergone by nurses to gain the expected experience and capabilities towards addressing distinct human bodies issues, For instance, Dr. Benner in her theory, from novice to expert, explains the stages with which individual rise from novice to the expert level in nursing. The first stage is novice, followed by advanced beginner, competent, proficient and expert (Ulrich, 2011). There is huge variation between the performance of nurses from different levels in the nursing profession. That is, beginners will tend to do what has been laid out in the lists of their roles whereas experts will focus on a bigger picture and even notice some aspects among the patients. The theory is highly relevant and significant to the SIDS project in that it reflects transition from the past and shows the concrete experience between levels. Each of the steps arises from a previous one over time through certain conditions and practices.

A number of gaps in the theories proposed by the reviewed literature include the extent to which using a pacifier lowers the risk of SIDS is not known. There is no research conducted on pacifier use and the level of benefit or the percentage by which it reduces the risk of infant death from sleep-related causes, even though it has been identified that it has benefits. The researchers identified further topics for research which would aim at providing further insight into the extent to which pacifiers decrease the chances of SIDS and the level of risk that swaddling poses for infants. The risk of swaddling has generated a significant debate in hospitals and the media. Many mothers and nurses continue to swaddle infants even after some hospitals discouraged the practice. Mothers and nurses should be informed about the

benefits of pacifier use and swaddling should be discouraged to minimize the risk of SIDS. In addition, research conducted by AAP and other organizations has shown benefits from breastfeeding (Salone et al., 2013; Moon & Task Force on Sudden Infant Death Syndrome, 2016; Thompson et al., 2017; Cunningham, 2017), routine immunization, and avoidance of soft bedding (Adams et al., 2015; Shapiro-Mendoza et al., 2015). Mothers should be adequately informed of the methods recommended for the reduction of the chances of SIDS and other sleep-related infant deaths.

The main gap in this research was the level to which using a pacifier minimizes the risk of SIDS was not shown or investigated. Swaddling was not recommended since there was no proof of how it can be beneficial in risk reduction. Even though these authors noted a positive effect of using pacifiers, none of their studies investigated how the pacifier is able to improve the sleep behavior of infants or by what extent the pacifier minimizes the risk of sleep-related infant deaths.

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