Benefits of Breastfeeding in Preterm and Low Birth Weight Infants: A Literature Review

Rancey Rouse

Lakeview College of Nursing

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Professor Bosch

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A literature review summarizes established research by evaluating past research articles and seeing the positive and negative outcomes. This literature review discusses the implementation of newborn feedings after birth. Feeding an infant as soon as possible after birth increases the chances of a successful outcome in breastfeeding, giving the infant many beneficial nutrients to promote their health. This literature review highlights the benefits of breastfeeding soon after birth, how to improve breastfeeding outcomes, and how different feeders, such as mothers, fathers, and nurses, affect infants.

Facilitating Early Breast Milk Expression in Mothers of Very Low Birth Weight Infants

Breastfeeding low birth weight infants soon after birth provides significant benefits by decreasing complications associated with preterm birth. Parker et al. (2018) performed a study by researching the delay from birth to the initiation of breastfeeding. The longer the time between birth and breastfeeding, the higher the mother's risk of producing insufficient breast milk. The first feeding after birth should be within thirty to sixty minutes to help increase lactation success and milk volume (Parker et al., 2018). This article used research to identify the cause of delayed feeding after birth while highlighting the importance of early initiation. Obstetrical (OB) nurses and providers will need education about these barriers discovered and the benefits of early initiation to implement new standards and protocols regarding this concern.

Key Points

Obstetrical nurses are responsible for initiating breastfeeding after birth. A need for more time caused many delayed initiations compared to the decrease in the number of nurses to assist and educate the mothers. The research team used an exploratory survey design for obstetrical nurses to analyze their practices of a mother's first breastfeeding without using a p-value. There are beliefs of timing initiation with mothers of higher acuity and perceived barriers of not initiating expression due to the mother's comfort. The participants from three Florida hospitals were selected, with most nurses having a bachelor's degree in nursing and experience as an OB nurse. Responses to the survey favored nurses who believed early initiation is essential; however, they would need more time to initiate the feeding. The survey showed that nurses would start the process of early expression with a mother on magnesium sulfate and infants having high blood pressure, which showed no concerns about either situation. The nurses were concerned about increasing mothers' blood pressure by breastfeeding if their blood pressure was high. Parker et al. (2018) stated that oxytocin will release during expression and breastfeeding, which causes a decrease in blood pressure because the hormone is a vasodilator. This education could help the nurses implement more early feedings by not worrying if hypertension is present. Nurses also had concerns about causing maternal stress after birth. However, expression is associated with decreasing stress allowing the mother to feel they are contributing to their child's health. By initiating the first breastfeeding within one-hour post-birth, premature complications risks such as enterocolitis, sepsis, and neurodevelopmental outcomes will decrease. This research article provides great significance by showing the misperceptions regarding the early initiation of breastfeeding and the importance of eliminating discrepancies among nursing staff by suggesting

an update in policies. The research identified these nursing units needing more initial breastfeeding policies related to the need for more education.

Assumptions

The authors in this article are trying to prove that obstetrical nurses have invalid perceptions related to delaying the initial feeding of breastmilk to a newborn. Most nurses surveyed stated an unknown number of hours between birth and the first breastfeeding, while other nurses reported having initiated the first feeding within six hours after birth. Before conducting research, the author's primary assumption was that delayed breastfeeding initiation was related to inadequate nursing staff, and the results supported this statement. Based on the participant's experience in the survey, the author assumes that if it were a less experienced group of nurses, more education would be needed.

Deficit/Conclusion

This student nurse accepts and agrees with the author's line of reasoning. The initial breastfeeding should be within thirty to sixty minutes post-birth to help the infant latch and increase milk production. Nursing could help implement quicker initiation by providing the mother's education during pregnancy to decrease the time a nurse spends educating the mother. If nursing fails the line of reasoning, mothers will continue to have difficulty breastfeeding, potentially leading to stopping altogether. Nurses should utilize a lactation consultant to help with breastfeeding techniques if policies could be updated requiring one. If each obstetrical unit had a lactation consultant available, the nurses could give better patient care while having more time to treat and educate other patients while providing care.

Relationship Between Feeders and Exclusive Breastfeeding and Mixed Feeding During the First Month of Life

Exclusive breastfeeding is feeding the newborn only human milk and is the recommended source of nutrition during the first six months of an infant's life. Srisopa et al. (2023) performed a study on the relationship between feeders such as mothers, fathers, and the hospital staff or family, compared to exclusive breastfeeding from birth to one month after discharge. The rates of exclusive breastfeeding during the first six months and formula feeding before two days and at three months have increased in the last ten years (Srisopa et al., 2023). The breastfeeding rates decreasing one month after discharge are related to early bottle feeding in infants, leading to the cessation of breastfeeding. This article highlights the correlation between mothers' breastfeeding and fathers' mixed feeding rates with late preterm infants and full-term infants.

Key Points

The data in this study is a secondary analysis from a descriptive longitudinal study conducted in 2012-2013 (Srisopa et al., 2023). They selected 115 mothers to complete a questionnaire regarding their experience breastfeeding and demographics before discharge. After discharge, the mothers were sent weekly questionnaires for one month regarding their experience and frequency of feedings, type of feedings, and their support with feedings. Most mothers were highly educated with high incomes, and racial demographics showcased well distribution. The demographics showed no statistical differences except for family income and maternal ethnicity making the data significant as both p-values were less than 0.05 (Srisopa et al., 2023). Mothers of full-term infants' breastfeeding rates decreased from week one to week four. While breastfeeding rates were the lowest in week four, the number of fathers who bottle-fed human

milk doubled in week four. Mothers of full-term infants' data showed a positive net effect on breastfeeding that decreased over time compared to mothers of late preterm infants showing a positive net effect and increased over time. Srisopa et al.'s (2023) study provided significant data showing full-term infants that mothers fed were more likely to breastfeed exclusively compared to those being fed by fathers in weeks one ($P<0.001$), weeks two, four, and five ($P<0.05$). In contrast, late preterm infants had no difference in exclusive breastfeeding from different feeders. Overall, the relationship between bottle feeding and exclusive breastfeeding at four weeks did not result in significant data, as the p-value was >0.05. The fathers negatively affected both groups exclusively breastfeeding rates over one month. This data supplies research for healthcare professionals to become more motivated in finding ways for parents to exclusively breastfeed longer than one month after discharge by continuing until at least six months.

Assumptions

This study aimed to increase the support and education for mothers and fathers by supporting their breastfeeding goals to increase the rate of exclusive breastfeeding (Srisopa et al., 2023). Parents need lactation education because many issues can arise with breastfeeding, and mothers may need help with latching, positioning, and pain. This study wanted to provide research to encourage universal guidelines and strategies to reduce mixed feeding rates while increasing rates of exclusively breastfeeding. These strategies should tailor to the parents and interventions of the parents' breastfeeding goals and education needs. Srisopa et al. (2023) discuss further education needs and support for monitoring breastfed infants' weight and hydration, sustaining milk supply, managing breastfeeding difficulties, and lactation support easily accessible and available for these mothers and fathers exclusively breastfeeding.

Deficit/Conclusion

This student nurse accepts the author's line of reasoning and agrees with the need for research. Many parents often feel unprepared once discharged and at home with an infant, trying to remember the strategies for proper breastfeeding techniques. The decrease in breastfeeding rates after discharge could improve if lactation support were available with interventions and follow-up feeding appointments. Further research would need to identify parents' knowledge and the gaps in knowledge to help tailor breastfeeding education and interventions. This research's significance in nursing relates to the importance and benefits of breastfeeding. If nursing fails to accept this line of reasoning, breastfeeding rates will continue to decline not only one month after discharge but potentially altogether. Breastfeeding requires adequate supply, support, education, and interventions; however, the benefits substantially surpass the work involved in trying to breastfeed exclusively.

Neonatal Intensive Care Unit-Specific Lactation Support and Mother's Own Breast Milk Availability for Very Low Birth-Weight Infants

Breastfeeding is recommended to every mother as it provides excellent benefits. Premature infants and those with very low birth weight have an increased need for the benefits associated with breastfeeding due to the increased risk of mortality and long-term comorbidities. The associated risks include respiratory problems, infections, feeding and nutrition difficulties, and concerns with neurodevelopment (Mercado et al., 2019). Donor breast milk is an option when an infant's mother's milk is not. However, the availability of donor milk is limited and very costly. A mother's own milk (MOM) to their infant provides bioactive components in the breast milk to promote the infant's immune system development. Mother's milk can decrease the need for total

parenteral nutrition by improving feeding tolerance which also decreases the duration of stay in the hospital. Mercado et al. (2019) study the promotion of decreasing barriers to infants receiving their mother's milk as the benefits are well acknowledged; however, interventions for barriers are not. The research article suggests a need for a neonatal intensive care unit (NICU) designated lactation consultant compared to sharing with other units to prevent the barriers to infants receiving optimal nutrition such as MOM. Therefore, the study aimed to examine how effective a lactation consultant designated to the NICU's support is by increasing the mother's milk in very low birth weight infants (Mercado et al., 2019).

Key Points

Mercado et al. (2019) used a retrospective chart review to compare two hospitals' data on the number of infants receiving mothers' milk with and without a dedicated lactation consultant. The two hospitals, A and B, are sister hospitals in the same organization. Hospital A was a level three NICU with eighteen beds with two certified lactation counselors only for the NICU. They typically work with mothers once per day and only Monday through Friday during the day. Hospital B was also a level three NICU with fifty-six beds but did not have a dedicated lactation consultant for the NICU; however, the hospital had one full-time, one part-time, and one as-needed lactation consultant. These consultants only covered the postpartum unit and needed a specific consult if needed for NICU. The hospitals included in the research had the same medical management guidelines, besides Hospital B, including surgical patients. Donor breast milk was not available to either hospital due to unavailability. Formula supplementation results from having no donor breast milk when the mother's milk cannot be used or is limited. The infants included in the study were less than fifteen hundred grams making them very low birth weight infants (VLBW). 48 VLBW infants were born at Hospital A, and 119 VLBW infants were born

at Hospital B over a study period of two years, with a total sample size of 167 (Mercado et al., 2019). The data used included MOM amount and percentages received on day seven, median of the hospital stay, and the day of discharge.

Direct breastfeeding occurrence on the day of discharge was also noted, with the percentage of feeding consistency of the mother's milk. The days required to achieve full feed, number of nothing by mouth (NPO) days, number of days to first feed, the days TPN was required, and the length of the stay (LOS) were also data extracted from each hospital's medical records. After using a linear regression model, Mercado et al. (2019) excluded the insufficient or confounding variables with length of stay. The significant LOS-independent variables included gestational age ($P<0.001$), birth weight ($P<0.001$), and sex ($P <0.25$). The research discovered that breastfeeding increased when a lactation consultant was available on discharge. Overall, the research data supported the intervention of designated lactation consultants suggested and improved breastfeeding outcomes (Mercado et al., 2019).

Assumptions

Lactation consultants provide excellent support for breastfeeding parents. They assist and educate these parents to help overcome the many barriers to breastfeeding, including lactation difficulties, lack of knowledge, separation between mothers and infants, maternal stress and fatigue, and delayed initiation of milk expression (Mercado et al., 2019). Premature and very low birth weight infants often cannot feed directly at the breast due to physiologic immaturity, which can be challenging to overcome. Mercado et al. (2019) discuss providing the best nutrition, particularly for VLBW and other vulnerable newborns, and strategies to overcome these obstacles must be considered and implemented into new standards.

Deficit/Conclusion

This nursing student accepts the author's reasoning, as breastfeeding can be challenging, but support is limited. NICU infants require the most interventions in providing care. Therefore, updating standards to have a lactation consultant available to NICU mothers is essential. If nursing fails to accept this line of reasoning, another suggested implication is to increase lactation consultants in the other units, such as postpartum. If other units had more staff available for their workload, this could promote the availability and lactation consultants providing care and support in the NICU. Without the suggested research, many mothers having difficulty providing their infants with breastmilk may stop trying to overcome breastfeeding barriers.

Conclusion

In conclusion, this literature review provides significant research for nursing to help mothers implement breastfeeding. As discussed, breastfeeding has many benefits and challenges, and the articles provided suggest the need for healthcare management standards and guidelines to be updated. Parker et al. (2018) highlighted the discrepancies in care related to initiating breastfeeding, with outcomes resulting in supporting the need for more education in nurses on when to initiate the first feeding after birth. Srisopa et al.'s (2023) study suggested a decreased breastfeeding rate after discharge, resulting in data showing the need for more support and education during the hospital stay and after to prevent this. Mercado et al.'s (2019) research provided data showing the importance of having a dedicated lactation consultant in the NICU to support and assist mothers with breastfeeding, as some hospitals have to share lactation consultants between units. Overall, each article contributes to how to update nursing assistance with breastfeeding to promote the best nutrition option, breastfeeding, as early and as long as possible. Each research article's outcomes supported the need for more education and care

strategies on the suggested topic relating to breastfeeding. This literature review has emphasized the current healthcare protocols, guidelines' need for updates, and the data supporting a need for quality improvement in this nursing field.

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