The Association of Delaying the First Newborn Bath on Bilirubin and Phototherapy

Joni H. Lisenbee, MSN, RN, IBCLC • Mary Ellen Wright, PhD, APRN, CPNP-BC
Jennifer Holloway, BSN, RN • Veronica Parker, PhD

Clemson University School of Nursing

Background

The World Health Organization (2013) recommends that bathing be delayed until after 24 hours of age in a newborn. Thermoregulation is a primary consideration in the timing of the first bath and often cultural reasons make the bath a priority over breastfeeding initiation, skin to skin and bonding time with the mother. The events of the immediate postpartum period are highly associated with the initiation and duration of breastfeeding and exclusive breastfeeding. Bartick and Reinhold (2010) study found that "if 90% of US families could comply with medical recommendations to breastfeed exclusively for 6 months, the United States would save $13 billion per year and prevent an excess 911 deaths, nearly all of which would be in infants" (Bartick & Reinhold, 2010, p. e1048). Studies have shown that breastfeeding has a significant influence on jaundice in the newborn. We know that delayed initiation and problems with breastfeeding can lead to maternal milk insufficiency and thereby increase the newborn's risk of hyperbilirubinemia.

Purpose

- The aim of this research study was to find out if delaying the stressor of the first newborn bath would cause an increase in feeding frequency and/or associate with a lessened bilirubin levels and subsequent association with the rates of the use of phototherapy with the infants.

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Design

- This study is a comparative, correlational, cohort study involving two groups of infants:

  1.) Infants receiving the intervention of delayed bathing in the postpartum period,

  2.) Comparison group of infants who did not have delayed bathing

  The two groups were compared as to the association of delayed bath and feeding frequency, bilirubin levels and the use of photo therapy

Setting

- A medium sized health system using three of the hospital sites to obtain patient data.
- 1st hospital: 394 deliveries per year.
- 2nd hospital: 200 deliveries per year.
- 3rd hospital: 4000 births per year.

Time frame

- Four months before and four months after implementation of delayed bathing

Results

Total Infant Records Reviewed n = 3267

Total number of study exclusions due to gestational age, incomplete data, NICU care n = 983

Total infants' records included in study n = 2284
Infants with delayed bath n = 1200

Infants with routine care without delayed bath n = 1084

Demographic Characteristic	n (%)
Type of Birth	
Vaginal Birth	1632 (71.4)
Cesarean Birth	652 (28.5)
Feeding Type	
Breast	1657 (71.1)
Formula and Breast	657 (28.7)

Pearson Chi-Square	Value	df	Asymptotic Significance (2-sided)
Bilirubin Levels and Delayed Baby	13.58	3	(p <.05) p = .004
Phototherapy Use and Delayed Bath	14.77	1	(p<.001) p = .000

t-test for equality of means	t	df	Sig. (2-tailed) p<.05
Feeding Frequency and Delayed Bath			
Feeding Frequency for Infants Routine Care/ Without Delayed Bath	-1.22	659	p = .22
Feeding Frequency for Infants with Delayed Bath	1.68	1624	p = .09

Interpretation

In this study there were significant association between delayed bath and Infants' bilirubin levels and use of phototherapy treatment.

Limitations

- Because the exclusivity rate at the tertiary care center in this study was already near 70% it may have caused less of an impact than on a tertiary care center that has not already instituted those evidenced based breastfeeding practices.
- Feeding frequency was taken from electronic documentation and quality of feeds was not taken into consideration.

Conclusion

- Research has already shown several benefits to delaying the first bath of the newborn. Among those benefits are a reduction in hypothermia, hypoglycemia (McInerney, C. M., & Gupta, A., 2015) and one study delay of bathing for 12 hours showed an increase in breastfeeding exclusivity (Preer, et al, 2013).
- Even though this study did not show any statistical significance related to exclusive breastfeeding, it did show significance in the factor of bilirubin levels and phototherapy. Future studies should be performed to further evaluate the variables of efficiency of newborn feeding in relation to volume of breastmilk that may prevent hyperbilirubinemia and the consequential need for phototherapy.
- The impact of improved feeding in infants could have significant impact on improving health outcomes in this population.

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