

Early Breastfeeding Difficulties: Incidence and Risk Factors

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KG Dewey, LA Nommsen-Rivers, MJ Heinig, RJ Cohen. Risk factors for suboptimal infant breastfeeding behavior, delayed onset of lactation, and excess neonatal weight loss. *Pediatrics*. 2003;112:607-619.

In this issue of *JHL* we are taking an unusual approach in that we are spotlighting a research study in which the *JHL* editor and assistant editor were a part of the research team. However, we feel the study has findings relevant to the practicing lactation consultant and thus is important to share with the *JHL* readership.

While it is certainly possible to overcome early breastfeeding difficulties, especially with professional lactation support, recent studies show that obstacles to breastfeeding success such as sore nipples, difficulty latching the infant at the breast, and delayed onset of lactation all increase the risk of early abandonment of breastfeeding.¹⁻⁴ The purpose of the spotlighted study was to examine risk factors for these early difficulties among women highly motivated to breastfeed. If we are able to understand the modifiable factors that influence the establishment of breastfeeding, we may be able to increase the proportion of women who continue to breastfeed throughout the first year of life and beyond. The study prospectively followed a sample of 280 women representative of the childbearing population in Davis, California, which is a community with a strong breastfeeding culture. Our objectives were to determine the incidence of, and the risk factors associated with, poor lactation outcomes in the absence of sociocultural barriers to exclusive breastfeeding.

Three outcomes that are key indicators of early breastfeeding success were examined: the timing of onset of lactation, infant suck behavior, and infant weight change over the first 3 days of life. The timing of onset of lactation was based on maternal recall of time

when breasts felt noticeably fuller. Delayed onset was defined as breasts not noticeably fuller by 72 hours postpartum. Infant suck behavior was evaluated using Matthew's Infant Breastfeeding Assessment Tool (IBFAT). The IBFAT assigns 0 to 3 points on each of 4 aspects of suck behavior: arousal, rooting, latch (fixing), and sucking effectiveness, for a total maximum score of 12. Suboptimal infant breastfeeding behavior (SIBB) was defined as a score of ≤ 10 . Breastfeeding behavior was assessed once within the first 24 hours of life, day 3 (72-96 hours postpartum), and at 1 week of age. Infant weight change from birth to day 3 (72-96 hours postpartum), as a percentage of birth weight, was also calculated. Excess weight loss was defined as loss of $\geq 10\%$ of birth weight.

The incidences of all 3 poor outcomes were surprisingly high. Delayed onset occurred in 22% of mothers. The incidence of delay was more than 4 times higher among primiparae (34% vs 8% of multiparae). Nearly half of infants on day 1 (49%) exhibited SIBB, although the percentage steadily decreased over the first week of life, with only 22% on day 3 and 14% on day 7 categorized as SIBB. Weight loss $\geq 10\%$ of birth weight occurred in 12.5% of the exclusively breastfed infants ($n = 240$).

Data were collected on several potential risk factors: maternal and infant characteristics, labor and delivery variables, breast characteristics, and early breastfeeding practices. In all, 27 independent variables that potentially affect early breastfeeding outcomes were examined in multivariable logistic regression, with delay, SIBB, and excess weight loss as the outcome variables. Estimated relative risks (RRs) were calculated based on the adjusted odds ratios in the final logistic regression models. The RR is a measure of the increased risk of a particular factor, controlling for the other factors in the model. For example, an RR of 2.0 means that those with the factor have twice the risk of poor outcome as compared to those without the factor.

Found to be independent, significant risk factors for delayed onset were stage II labor > 1 hour (RR = 2.3), cesarean section delivery (RR = 2.0), maternal body mass index (BMI) > 27 kg/m² (RR = 2.5), flat or inverted nipples on day 0 (RR = 2.3), primiparity (2.9), and among primiparae, delivering an infant with a birth weight > 3600 g (RR = 6.0).

The risk of SIBB was higher at all time points examined among women with flat or inverted nipples as assessed on day 0 (RR = 1.6 at day 0, 3.0 at day 3, and 6.6 at day 7). Other significant risk factors for SIBB were cesarean section delivery (among multiparae on day 0, RR = 2.5), use of non-breast-milk fluids in the first 48 hours (RR = 2.3 at day 3 and 2.6 at day 7), any pacifier use in the first 72 hours (day 3, RR = 1.95), stage II labor > 1 hour (day 7, RR = 3.1), birth weight < 3.6 kg (day 7, RR = 2.3), maternal BMI > 27 kg/m² (day 7, RR = 2.6), and infant status (days 0 and 3). When the influence of SIBB on day 0 was considered, primiparity was a factor in SIBB on day 3. Thus, infants of primiparous mothers who were not breastfeeding well on day 0 were at risk of continued poor suck on day 3 (RR = 2.4), while this was not a factor for infants of multiparous mothers. When only vaginal births were considered, use of intravenous or intramuscular analgesia was a significant predictor of SIBB on day 3 in multivariable analysis (RR = 1.9).

Risk factors for excess neonatal weight loss were cesarean section delivery (RR = 2.2), total labor duration > 14 hours (RR = 2.4), primiparity (RR = 2.8-4.5), use of any labor medications (among multiparous only, RR = 4.1), and infant not given oxygen (RR = 8.3). Both delayed onset of lactation and SIBB were significantly associated with excess weight loss. Among mothers with normal milk onset, only 5.7% of their infants had excess weight loss as compared to 40.4% of infants of mothers with delayed onset, a 7-fold increased risk. Among infants with adequate breastfeeding behavior on day 0, 7.4% had SIBB on day 3 as compared with 19.6% of infants categorized as SIBB on day 0, a 2.6-fold increase.

Thus, this study suggests that even among mothers highly motivated to breastfeed, early difficulties are common. In particular, first-time mothers (especially those delivering a large infant), mothers with flat or inverted nipples, mothers with a long labor, long pushing stage (more common among recipients of epidural analgesia),⁵ or cesarean delivery should be prioritized to

receive in-hospital breastfeeding support. It is important to note that many early breastfeeding difficulties will linger beyond the postpartum hospital stay or will not even become clinically apparent until post-discharge. These findings support the need for post-discharge follow-up of the breastfeeding dyad during the critical window of time when lactation is being established (72-96 hours postpartum). This evaluation should include a breastfeeding observation, verification of onset of lactation, and assessment of infant weight change since birth, with continued follow-up for those exhibiting early difficulties.

While lactation support for those with breastfeeding difficulties is important, it is also important to examine how the hospital environment can be modified to minimize the incidence of these early difficulties. The finding that the receipt of non-breast-milk fluids or pacifiers in the first days of life puts the infant at risk for poor suck supports the Baby-Friendly Hospital Initiative steps 6 (give no food or drink other than breast milk, unless medically indicated) and 9 (give no pacifiers to breastfeeding infants). However, the data also suggest that a breastfeeding-friendly hospital environment begins even before the infant is born. A mother-friendly birth experience⁶ will result in a lower incidence of many of the risk factors for early breastfeeding difficulties such as long labor, prolonged pushing, analgesia use, and cesarean section delivery. Thus, it is both baby-friendly and mother-friendly hospital policies that, in combination, are the keys to early breastfeeding success.

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