Oh the Irony! Protective Effect of Parity and Lactation on Anemia in Mothers, Not Infants

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Previously, research on the relationship between maternal hemoglobin and anemia during lactation has reported increased risk of anemia among women at higher parities—particularly in women with marginal nutritional statuses. However, the majority of these studies investigate populations of variable maternal age and parity, making it difficult to separate the associations of age and parity with iron status. Here, we investigate the association between parity and hemoglobin levels during lactation.

Reproductive histories were collected from 125 lactating women (ranging in parity from 1-5) from Cebu, Philippines, at two year intervals. This allowed us to facilitate reconstruction of investment in lactation, pregnancy, and non-lactating, non-pregnant time intervals. Hemoglobin level was also measured in the same 2-year intervals via fingerpricks on a Hemocue B-Hemoglobin analyzer. All analyses were run in Stata 10.1.

Maternal parity was a significant predictor of hemoglobin levels during lactation. First time mothers were significantly more likely to be anemic during lactation than mothers of higher parities. Mothers on their second parity had the highest mean hemoglobin values with a modest decline in hemoglobin with later parities. These associations persisted even after adjustment for other potential maternal factors, such as iron supplementation during pregnancy or dietary iron intake. There was a modest decline in hemoglobin status among mothers with parities greater than 4. Among multiparous women, there was no significant association between hemoglobin and prior breastfeeding lengths or interbirth intervals, suggesting that the iron requirements of pregnancy and lactation are successfully managed by this population.

First time mothers are at significantly higher risk to be anemic than multiparous mothers. Dietary practices, longer lactations, and extended interbirth intervals may help mothers recover and maintain iron stores over multiple births.