The Secret in Breast Milk: A Review of Breastfeeding Behaviors That Influence Infant Weight

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Purpose: There is a gap in research investigating the link between breast milk hormones, maternal sensitivity, infant temperament, and infant weight gain. Studies have evaluated separate aspects of this complicated interplay, but to date no research study has aimed to investigate the complicated interplay of factors that are pivotal to breastfeeding. This review will provide the background and significance of the complex interplay of breast milk hormones, maternal sensitivity, infant temperament, and infant weight gain.

The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of an infant’s life and then continued breastfeeding throughout the first two years of life (WHO, 2017). Breastfeeding rates vary across the United States and within various demographic groups. The Center for Disease Control and Health Promotion (CDC) monitors and tracks breastfeeding rates nationally and at the state level. According to the CDC, in 2012 the rate of breastfeeding at any point during infancy for all demographic groups was 80%, breastfeeding at six months was 51%, breastfeeding at 12 months was 29%, exclusive breastfeeding at three months was 43%, and exclusive breastfeeding at six months was almost 22%.

When rates are broken down by socio-demographic data, Hispanics, non-Hispanic whites, non-Hispanic Asians, and Hawaiian/Pacific Islanders have the highest rates of ever breastfeeding, at 82%, 83%, 83%, and nearly 84%, respectively. African Americans have the lowest rates of ever breastfeeding, 66% (CDC, 2012). Other significant factors that influence breastfeeding rates include education, age, income, WIC eligibility, and geographic location. Particularly notable are the impacts of education, age, and marital status on breastfeeding. Ninety-one percent of women with a college degree reported ever breastfeeding, compared to 71% of women who only obtained a high school diploma. Only 58% of women under 20 years of age report ever breastfeeding, as compared to 84% of women 30 and over, and 68% of unmarried women report ever breastfeeding, as compared to 87% of married women (CDC, 2012). These rates drop significantly at six and twelve months with only 17% and 4% of women under 20 reporting any breastfeeding, respectively.

Income and poverty level are also associated with lower rates of breastfeeding. Among the poorest states in the nation, 15 also have the highest rates of obesity and rates of initiation of breastfeeding below the national rate of 79% (CDC, 2014). Maternal obesity is correlated with lower breastfeeding initiation rates and lower exclusive breastfeeding rates. Further, the duration of breastfeeding and exclusivity of breastfeeding is also impacted by obesity. Hormonal factors, such as higher levels of androgens and low thyroid hormone production, and psychosocial factors, such as body dissatisfaction may also play a role in limiting breastfeeding exclusivity and duration (Bever-Babendure et al., 2015).

Methods: A literature review will be performed using the following search terms: maternal, breast milk hormones, adiponectin, leptin, insulin, Temperament, Mood, Colic, Irritability, Infant, Baby, Neonate, Weight, Growth Chart, Percentile, Weight-for-length (WFL), Feeding, Practices, Breastfeeding, Bottle Feeding, Supplemental Feeding, "Maternal Sensitivity", "Infant Cues", "Hormones"[Mesh], "Milk, Human"[Mesh], "Body Weight"[Mesh], "Breast Feeding"[Mesh], "Bottle Feeding"[Mesh]. Literature older than 10 years from print date will be excluded, unless it is seminal research, systematic reviews, and non-human studies will all be excluded. Duplicates will be removed before literature analysis.

Results: Work in progress.
Conclusion: This literature review will provide the background and significance for a proposed study for investigating the correlation between breast milk hormones, maternal sensitivity, infant temperament, infant feeding practices, and infant weight.

Title:
The Secret in Breast Milk: A Review of Breastfeeding Behaviors That Influence Infant Weight

Keywords:
Breast milk hormones, Infant weight and Maternal sensitivity

References:


Abstract Summary:
An examination of the current research literature on the complex and intricate interplay between feeding preferences, maternal sensitivity, hormones, infant temperament, and infant weight. This review will provide the background and significance for a research proposal.

Content Outline:

1. Introduction
   1. Review of Breastfeeding recommendations
   2. Review of Breastfeeding statistics

2. Body
   1. Maternal Sensitivity
      1. The sensitivity link to breastfeeding
         1. All other factors held equal sensitivity leads to longer duration of breastfeeding
         2. Factors that can influence or impact maternal sensitivity
      2. The sensitivity link to infant weight
         1. The examination of evidence linking maternal sensitivity and infant weight
         2. Clues to the sensitive mother
   2. Infant Temperament
      1. Temperament and breastfeeding
         1. How does infant temperament influence breastfeeding rates and duration?
         2. Infant temperament vs infant colic
      2. Temperament and infant weight
         1. Aspects of temperament that influence weight
         2. What is appropriate weight, weight gain, overweight, and failure to thrive look like under one year of age?
   3. Maternal hormones
      1. Research on breast milk hormones
         1. Hormones that are detectable in breast milk
         2. Hormone analysis
      2. The hormonal influence on infants
         1. Evidence for maternal sensitivity, infant temperament, and infant feeding
         2. Long term health implications

3. Conclusion
   1. Closing the gap
   2. A proposed study for investigating the correlation between breast milk hormones, maternal sensitivity, infant temperament, infant feeding practices, and infant weight.

Topic Selection:
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