ENCYCLOPEDIA
on Early Childhood
Development

Breastfeeding and Its Impact on Child Psychosocial and Emotional Development: Comments on Woodward and Liberty, Greiner, Pérez-Escamilla, and Lawrence

Grace S. Marquis, PhD

Iowa State University, USA

March 2008, 2e éd.

Introduction

Breastfeeding is the recommended method of infant feeding worldwide. While the nutritional and immunological advantages of breastfeeding are well documented,[1] consistent study results concerning the psychosocial benefits are more elusive. The pathways by which breastfeeding affects psychosocial and emotional development are difficult to disentangle and are not always uni-directional. Confounding variables, such as maternal education, are closely associated with the practice of breastfeeding, yet are also determinants of psychosocial development.[2,3] Environmental factors interact with biological determinants, modifying their observed effect on

©2008-2026 ABILIO | BREASTFEEDING

development. For example, Engle et al.[4] suggest that maternal vocalization patterns may differentially modulate the influence that child nutritional status has on cognitive development. Further, Pollitt postulated that not only do environmental factors (such as vocal stimulation) have a direct and modifying effect on children's development, the reverse is also true – a developmentally advanced child elicits more stimulation from a caregiver.[5]

Three of the four papers presented here discuss the research challenges in distinguishing the effect of breastfeeding on the social and emotional development of young children. These papers focus on maternal-infant attachment, social and behavioural adjustment, and cognitive development as indicators of psychosocial development. The fourth paper, by Greiner, discusses the social practices that will help optimal breastfeeding behaviours to become the social norm.

Research and Conclusions

Woodward and Liberty review many of the challenges of research on psychosocial development. There are a wide range of psychosocial outcomes that span from the neonatal period (e.g. early maternal-infant interactions) to later childhood and adolescence (e.g. behavioural adjustment). In addition, a variety of group comparisons can be made: breastfed versus bottle-fed, before versus after an episode of breastfeeding, or by duration or pattern of breastfeeding. Importantly, Woodward and Liberty identify as key research issues the distinction between short-term and long-term effects and the mechanism by which breastfeeding may influence psychosocial development. Woodward and Liberty demonstrate the complexity of the mechanistic pathway in their example of the influence of breastfeeding on maternal moods and the effect of the infant's feedback to the mother. However, the pathways for the different outcomes may each be unique.

Breastfeeding is a choice, not a behaviour that is randomly assigned to mothers. Women who choose to breastfeed are different from women who choose to bottle-feed their infant, and these other characteristics of the mother and her environment are confounding factors of the analysis. Although Woodward and Liberty discuss this analysis challenge, what appears to be missing is a recognition that the maternal characteristics associated with breastfeeding will vary depending on the culture studied. The maternal characteristics associated with breastfeeding (such as higher education and wealth) in resource-rich countries like Canada and the U.S. are not universal. In fact, in low-resource countries, breastfeeding is more common among the poor and less educated.[6] The unique cultural context has to be considered if we hope to understand the pathways through which breastfeeding influences psychosocial development.

©2008-2026 ABILIO | BREASTFEEDING

The paper by Pérez-Escamilla approaches psychosocial development from a different perspective than Woodward and Liberty. This review emphasizes the effect breastfeeding has on three characteristics associated with the psychosocial development of the older child: infant cognitive and motor development, and childhood obesity. Pérez-Escamilla nicely demonstrates the strength of the evidence that supports the positive effect of breastfeeding on cognitive development. There is a statistically significant, consistent result among studies; a "need response" (premature infants, who have a greater physiological need, benefit more than normal-weight infants); a logical temporal sequence (i.e. the cause precedes the effect); and a biologically plausible relationship, based on the role of PUFAs (poly-unsaturated fatty acids) in visual and mental development.

Pérez-Escamilla provides examples of studies in which breastfeeding is associated with more advanced motor development in infants, as indicated by the early attainment of certain milestones, such as crawling. Pollitt suggested that delayed development in malnourished infants may give the appearance of the child being "young," and therefore elicit less stimulation from the mother and the household environment.[7] However, the evidence that early motor development is associated with improved psychosocial development for well nourished children is not presented in the Pérez-Escamilla article.

The final paper on psychosocial development, by Lawrence, returns to early observational work by Newton.[8] In those studies 40 years ago, there was an ongoing discussion of the challenges of conducting research on breastfeeding. A primary concern then (and now) is the definition of breastfeeding. Lawrence also notes that breastfeeding occurs not only as a response to hunger, but also as a mechanism of decreasing a child's stress and discomfort, and therefore would be expected to play an important role in the child's psychosocial development. This is consistent with Peruvian mothers' description of breastfeeding as a means of providing the child with comfort, love, security and communication.[9] However, research is needed on how breastfeeding influences human characteristics that are more difficult to quantify: assertiveness, social maturity, self-assuredness. Lawrence reports on some measures of the benefits of breastfeeding on these characteristics, such as breastfed children being more cooperative and less likely to drop out of school, in studies on cognitive development, but they are limited. Well-designed studies that provide the richness of the Newton observational research are still needed.

The paper by Greiner stands out from the others because it looks at the societal features that need to be in place for successful promotion of breastfeeding. Although Greiner believes that

there is a place for a general information campaign to educate each new generation of mothers, there is a need for a balanced approach that is informative about the risks of not optimally feeding an infant. Stating that breast is best is not sufficient. For breastfeeding practices to improve, there needs to be support at every level - through the legal system (e.g. to support the Code), through health facilities to teach new mothers good breastfeeding techniques, through labour laws designed to promote working conditions that are consistent with six months of exclusive breastfeeding, and through social support of friends and family. Intervention activities that do not work cooperatively to accomplish support at all levels meet with only limited success.

Implications for Services, Development and Policy

The first three papers provide evidence that breastfeeding is associated with some components of psychosocial development. All three authors also recognize that there is a paucity of good studies and serious challenges remain to understanding the mechanisms by which breastfeeding is influential. Whereas Pérez-Escamilla and Lawrence conclude that the benefits for psychosocial development exist and should form part of the policy decision, Woodward and Liberty conclude that there is no substantive evidence and that the promotion of breastfeeding should be based solely on the nutritional and cognitive advantages. Woodward and Liberty's conclusion seems overly conservative. They present evidence of short-term benefits for the mother that would improve her ability to provide stimulation and good child care, as well as benefits for the infant (increased level of alertness, motor assessment self-regulation and less crying). Although there is little evidence of long-term benefits, the short-term benefits, as well as the absence of negative associations with breastfeeding, would seem to suggest that policy-makers can include breastfeeding as one of many social interventions to promote healthy psychosocial development in young children. There exists a wide range of behaviours and needs in every society. Services and policies should work to help all of society meet their potential. Thus, policies should be designed not only to reduce the number of extreme cases of mental illness but also to help all families to improve the psychosocial development of their children. Breastfeeding is not a panacea, but the literature would suggest that infants and children benefit in many ways when their mothers are able to optimally breastfeed. Society should find ways to support mothers so that this practice becomes universal.

References

1. Kramer MS, Kakuma R. The optimal duration of exclusive breastfeeding: A systematic review. *Advances in Experimental Medicine and Biology* 2004;554:63-77.

©2008-2026 ABILIO | BREASTFEEDING

2. Newton N. The uniqueness of human milk. Psychological differences between breast and bottle feeding. *American Journal of Clinical Nutrition* 1971;24(8):993-1004.

3. Anderson JW, Johnstone BM, Remley DT. Breast-feeding and cognitive development: a meta-analysis. *American Journal of Clinical Nutrition* 1999;70(4):525-535.

4. Engle PL, Castle S, Menon P. Child development: vulnerability and resilience. *Social Science and Medicine* 1996;43(5):621-635.

5. Pollitt E, Gorman KS, Engle PL, Martorell R, Rivera J. Early supplementary feeding and cognition: effects over two decades. Monographs of the Society for Research in Child Development 1993;58(7):1-99.

6. Grummer-Strawn LM. The effect of changes in population characteristics on breastfeeding trends in fifteen developing countries. *International Journal of Epidemiology* 1996;25(1):94-102.

7. Brown JL, Pollitt E. Malnutrition, poverty and intellectual development. *Scientific American* 1996;274(2):38-43.

8. Newton NR. The relationship between infant feeding experience and later behavior. *Journal of Pediatrics* 1951;38(1):28-40.

9. Marquis GS, Diaz J, Bartolini R, Creed de Kanashiro H, Rasmussen KM. Recognizing the reversible nature of child-feeding decisions: breastfeeding, weaning, and relactation patterns is a shanty town community of Lima, Peru. *Social Science and Medicine* 1998;47(5):645-656.