Breastfeeding and adult intelligence

Cesar Victora and colleagues[1] used a large Brazilian sample to investigate the effect of breastfeeding on children's intelligence quotient (IQ), education, and earnings at age 30 years. They noted that, after adjustment for confounders, infants who were breastfed for 12 months or longer had, on average, about 4 points higher IQs, about 1 year more of schooling, and a monthly income that was roughly 350 Brazilian reals higher than did children who were breastfed for less than 1 month. Importantly, they identified a dose-response effect for breastfeeding—with almost every increase in the duration of breastfeeding, there was a slight rise in IQ.

Victora and colleagues' study is consistent with most breastfeeding studies in that it focuses on controlling for the potential confounders on the mother's side (family income at birth, parental schooling, household score index, genomic ancestry, maternal smoking during pregnancy, maternal age, type of delivery, and maternal pre-pregnancy body-mass index), while looking at the baby only through the crudest of lenses: gestational age and birthweight, while other studies sometimes throw in an Apgar score above a certain threshold.

We believe that it is reasonable to regard a baby's ability and willingness to nurse as an early indicator of its future developmental trajectory. For the baby to be able to nurse, he or she needs to have some control of oral and facial muscles, in addition to at least to two working reflexes (rooting and sucking) and an ability to put them to use within a specific microenvironment.

Findings from several studies have shown early sucking and swallowing problems to be predictive of later developmental delays.[2] Therefore, subtle brain injuries (some of which could later be reflected in slightly reduced cognitive performance) could make nursing more difficult for the babies and therefore make breastfeeding more difficult for their mothers, leading them to switch to formula feeding.

From the infant's perspective, bottles might seem to require less effort than breasts, especially in very early life. Since nursing requires some degree of learning on the baby's part, babies who master this task quickly and well, could be (slightly more) intelligent. Whatever the reason, those babies who find it easy to nurse are probably breastfed for longer durations, which could explain the dose-response association seen.

A further limitation of Victora and colleagues' study is that the formula milk used by the mothers is likely to have been different to that used nowadays. Docosahexaenoic acid-enriched formula, which has been available in the USA since 2002, has been reported to significantly narrow the gap between formula-fed and breastfed babies, thus limiting the applicability of Victora and colleagues' findings to the modern day.[3]

In our view, the focus on possible confounders on the maternal side, while well founded, has perhaps drawn attention away from what could be another very important confounder. Future studies would do well to make sure that the baby's ability to breastfeed is better taken into account.

We declare no competing interests.

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