Does breastfeeding have an effect on intelligence?

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abstract

A young mother under my care is concerned because she has decided not to breastfeed and was told by several people that formula feeding will cause the baby not to be "as smart." Is this based on real science?

Studies during the last decade have shown breastfeeding to be associated with higher intelligence in young children. Better controlled and more recent studies have shown that this association is probably not proof of causation, because mothers who decide to breastfeed tend to be better educated and more socioeconomically advantaged than those who decide to use formula. After controlling for these differences, the effect tends to disappear.

résumé

Une jeune mère que je soigne s'inquiète car elle a décidé de ne pas allaiter son enfant et s'est fait dire par de nombreuses personnes que la formule de lait ne rendrait pas son enfant «aussi intelligent». Est-ce fondé sur des faits scientifiques?

Les études entreprises au cours de la dernière décennie ont montré que l'allaitement maternel était associé à une plus grande intelligence chez les jeunes enfants. Des études mieux contrôlées et plus récentes font valoir qu'il n'existe probablement pas de lien de cause à effet. Les mères qui décident d'allaiter leurs enfants sont généralement mieux éduquées et plus privilégiées sur le plan socio-économique que celles qui décident d'utiliser la formule de lait. Une fois que la différence dans ces facteurs est prise en compte dans l'analyse, la causalité semble disparaitre.

The advantages of breastfeeding on infants' health are proven beyond doubt. In previous updates, we have shown that morbidity and mortality rates are lower among breastfed infants in both developing and developed countries. The notion that breastfeeding is associated with higher intelligence is not really new, but it received tremendous publicity in 1992 when Lucas and colleagues showed that the intelligence quotient (IQ) of children 7.5 to 8 years old depended on how they were fed as infants.1 Infants fed human milk had an 8-point IQ advantage over those fed formula.

An intriguing element of this study was that the mother's milk was not given by breastfeeding but by tube, thus potentially controlling for the act of breastfeeding itself as a possible psychological advantage. The authors controlled for mother's education and social class and still found differences in favour of breast milk. An important criticism of this study was that mothers who choose to pump out milk to be given by tube to preterm infants might be very different in their motivation, characteristics, and parenting skills from those who do not. Hence there can only be an association and not causation.

This study sparked intense research into the fatty acid qualities of breast milk and formula that might explain this purported effect. Some suggested, for example, that breastfed infants have higher levels of docosahexaenoic acid in the brain.2 In parallel, formula-producing companies intensified their research into adding "favourable" fatty acids to their preparations.

Subsequent research has tried to control for the potential differences between mothers who choose to breastfeed and those who do not. An Australian study failed to find higher IQs among breastfed infants in a cohort of 375 children after adjusting for sociodemographic, environmental, and biomedical factors.3 Similarly, a recent study from Detroit, Mich, showed no advantages for breastfeeding after adjusting for maternal IQ and parenting skills. These findings indicate that the advantages of breastfeeding on IQ are unlikely due to the composition of breast milk.
milk but probably related to genetic and socioenvironmental factors. A vastly different study from the United Kingdom had similar results. The researchers measured the IQs of 994 aging men and women born between 1920 and 1930 whose method of feeding as infants was known. In the 1920s and 1930s, breastfeeding was not associated with higher socioeconomic status as it is today. In multivariate analysis, after adjusting for various parental determinants, the authors could not find an association between adult IQ and method of feeding.

ANSWER
Family physicians should encourage women to breastfeed because of the known health and psychological advantages for infants. We should, however, be careful not to misinform women that breast milk by itself leads to higher infant IQs.

References