

The Lancet Global Health: Longer duration of breastfeeding linked with higher adult IQ and earning ability

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THE LANCET

Longer duration of breastfeeding is linked with increased intelligence in adulthood, longer schooling, and higher adult earnings, a study following a group of almost 3500 newborns for 30 years published in *The Lancet Global Health* journal has found.

"The effect of breastfeeding on brain development and child intelligence is well established, but whether these effects persist into adulthood is less clear,"* explains lead author Dr Bernardo Lessa Horta from the Federal University of Pelotas in Brazil.

"Our study provides the first evidence that prolonged breastfeeding not only increases intelligence until at least the age of 30 years but also has an impact both at an individual and societal level by improving educational attainment and earning ability. What is unique about this study is the fact that, in the population we studied, breastfeeding was not more common among highly educated, high-income women, but was evenly distributed by social class. Previous studies from developed countries have been criticized for failing to disentangle the effect of breastfeeding from that of socioeconomic advantage, but our work addresses this issue for the first time."*

Horta and colleagues analysed data from a prospective study of nearly 6000 infants born in Pelotas, Brazil in 1982. Information on breastfeeding was collected in early childhood. Participants were given an IQ test (Wechsler Adult Intelligence Scale, 3rd version) at the average age of 30 years old and information on educational achievement and income was also collected.

Information on IQ and breastfeeding was available for just over half (3493) participants. The researchers divided these subjects into five groups based on the length of time they were breastfed as infants, controlling for 10 social and biological variables that might contribute to the IQ increase including family income at birth, parental schooling, genomic ancestry, maternal smoking during pregnancy, maternal age, birthweight, and delivery type.

While the study showed increased adult intelligence, longer schooling, and higher adult earnings at all duration levels of breastfeeding, the longer a child was breastfed for (up to 12 months), the greater the magnitude of the benefits. For example, an infant who had been breastfed for at least a year gained a full four IQ points (about a third of a standard deviation above the average), had 0.9 years more schooling (about a quarter of a standard deviation above the average), and a higher income of 341 reais per month (equivalent to about one third of the average income level) at the age of 30 years, compared to those breastfed for less than one month.

According to Dr Horta, "The likely mechanism underlying the beneficial effects of breast milk on intelligence is the presence of long-chain saturated fatty acids (DHAs) found in breast milk, which are essential for brain

development. Our finding that predominant breastfeeding is positively related to IQ in adulthood also suggests that the amount of milk consumed plays a role."*

Writing in a linked Comment, Dr Erik Mortensen from the University of Copenhagen in Denmark says, "With age, the effects of early developmental factors might either be diluted, because of the effects of later environmental factors, or be enhanced, because cognitive ability affects educational attainment and occupational achievements...By contrast, Victora and colleagues' study suggests that the effects of breastfeeding on cognitive development persist into adulthood, and this has important public health implications...However, these findings need to be corroborated by future studies designed to focus on long-term effects and important life outcomes associated with breastfeeding."

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NOTES TO EDITORS:

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*Quotes direct from author and cannot be found in text of Article.

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Media Contact

Dr. Bernardo Lessa Horta
blhorta@gmail.com (mailto:blhorta@gmail.com)
55-538-133-9447

🐦 @TheLancet (<http://www.twitter.com/TheLancet>)

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