

# UNICEF UK BABY FRIENDLY INITIATIVE

## RESPONSE TO THE JAMA PEDIATRICS STUDY ON ASSOCIATION OF EARLY INTRODUCTION OF SOLIDS WITH INFANT SLEEP



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Unicef UK has received a number of queries about a [study](#) published in JAMA Pediatrics, finding an association between the early introduction of solids into infants' diet, longer sleep duration, less frequent waking at night, and a reduction in reported sleep problems.

The study divided breastfed babies into two groups:

- An early introduction group (EIG) continued to breastfeed while non-allergenic and then six allergenic foods were introduced.
- A standard introduction group (SIG) followed British infant feeding guidelines (i.e., exclusive breastfeeding to six months and to avoid any food consumption during this period).

All families were sent an online questionnaire each month which included questions about breastfeeding frequency and duration and included a Brief Infant Sleep Questionnaire for assessing infant sleep.

It was estimated that infants in the EIG slept a mean of 7.3 minutes more per night on average over the duration of the study. The difference peaked at 16.6 minutes more per night at age six months, with two fewer night wakings per week. There was no difference in the amount of daytime sleep between the two groups. Exact figures are not given, but, at six months, it is reported that the percentage of serious sleep problems was **around** 3.6% in the SIG group and **around** 1.5% in the EIG.

There are numerous concerns with this study, including:

- The data relies on a brief, parental self-reported survey to determine sleep patterns. [Recent research by Rudzik, Robinson-Smith and Ball \(2018\)](#) raises questions about the outcomes of infant sleep studies where accuracy of parentally-reported infant sleep data is assumed. They found that parental reporting of sleep varies, according to feeding method and sleep location, and that this variable should be considered in intervention studies designed to influence sleep outcomes. Indeed, the authors of the present study note that there is a commonly held belief that introducing solids early will help infants sleep better and that this could have produced a reporting bias amongst parents.
- Although solid food was introduced to the EIG at three months, no differences were observed in night-time sleep patterns until five months, so it is not a quick fix solution for night waking, nor was compliance with the protocol for introduction of solid foods at three months even possible for 58% of EIG families.
- The study uses the 'Barker hypothesis' to support a causal relationship between 17 mins extra sleep per night at six months, to health and wellbeing in later life and a reduction in adverse health outcomes. However, the study fails to report the extensive body of evidence

that supports why exclusive breastfeeding until six months of age saves lives and has profound implications for child, maternal and lifelong health.<sup>1,2,3,4,5</sup>

The World Health Organization (WHO) recommends exclusive breastfeeding for six months, during which time breastmilk meets all of a baby's nutritional and energy requirements, and then continued breastfeeding alongside complementary foods for two years and beyond.<sup>6,7</sup>

As noted, the benefits of six months of exclusive breastfeeding are observed for both mother and baby, and not only in developing but also industrialized countries.

In the UK, the Scientific Advisory Committee on Nutrition (SACN) in 2017, [published a report](#) (based on a review of the best possible evidence) reinforcing the recommendations that babies are not given solids until six months, and that introducing solid foods before four months is associated with increased risks of gastrointestinal, respiratory and ear infections in infants.

Thought should be given to the ethics of this study in terms of the early introduction of solid food, which is widely advised against in the literature and policy at an international and national level.

Taking this into account, alongside the research's modest findings and its limitations, the results of this one small study should be interpreted with great caution and should not prompt any change in the information and support given to parents.

### Further reading

- Perkin, M.R. et al (2018). Association of Early Introduction of Solids With Infant Sleep: A Secondary Analysis of a Randomized Clinical Trial *JAMA Pediatrics*, doi:10.1001/jamapediatrics.2018.0739 <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2686726>
- Rudzik, Robinson-Smith and Ball (2018). Discrepancies in maternal reports of infant sleep vs. actigraphy by mode of feeding. *Sleep Medicine*, <https://doi.org/10.1016/j.sleep.2018.06.010>
- SACN report <https://www.nutrition.org.uk/nutritioninthenews/new-reports/feedinginthefirstyear.html>
- NHS Start4Life <https://www.nhs.uk/start4life/baby/first-foods/>
- "Giving your baby solid food early won't help them sleep better" *The Conversation* <http://theconversation.com/giving-your-baby-solid-food-early-wont-help-them-sleep-better-99645>

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<sup>1</sup> Victora CG, Bahl R, Barros AJD, Franca GVA, Horton S, Krusevec J, Murch S, Sankar MJ, Walker N, Rollins NC (2016) Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *Lancet* 387 10017: 475–490. <http://www.thelancet.com/series/breastfeeding>

<sup>2</sup> Rollins NC, Bhandari N, Hajeerhoy N, Horton S, Lutter CK, Martines JC, Piwoz EG, Richter LM, Victora CG (2016) Why invest, and what it will take to improve breastfeeding practices? *Lancet* 387:10017: 491–504. <http://www.thelancet.com/series/breastfeeding>

<sup>3</sup> Horta BL, Loret de Mola C, Victora CG (2015) Long-term consequences of breastfeeding on cholesterol, obesity, systolic blood pressure and type 2 diabetes: a systematic review and meta-analysis. *Acta Paediatrica*, 104: 30–37. <https://www.ncbi.nlm.nih.gov/pubmed/26192560>

<sup>4</sup> *Acta Paediatrica* (2015) Special Issue: Impact of Breastfeeding on Maternal and Child Health, December, Volume 104, Issue Supplement S467, pp. 1–134 <http://onlinelibrary.wiley.com/doi/10.1111/apa.2015.104.issue-S467/issuetoc>

<sup>5</sup> Renfrew MJ, Pokhrel S, Quigley M, McCormick F, Fox-Rushby J, Dodds R, Duffy S, Trueman P, Williams T (2012) Preventing disease and saving resources: the potential contribution of increasing breastfeeding rates in the UK, Unicef UK Baby Friendly Initiative <https://www.unicef.org.uk/babyfriendly/baby-friendly-resources/advocacy/preventing-disease-and-saving-resources/>

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<sup>6</sup> WHO (2018) Nutrition: Exclusive breastfeeding

[http://www.who.int/nutrition/topics/exclusive\\_breastfeeding/en/](http://www.who.int/nutrition/topics/exclusive_breastfeeding/en/)

<sup>7</sup> WHO (2003) Global Strategy for Infant and Child feeding (Geneva:WHO/Unicef)