

# Infant Nutrition & Breastfeeding



**Varsha Nagaraj**  
Paediatric and Public Health Dietitian

**Most babies can be breastfed effectively with the right support.<sup>1</sup> The World Health Organization (WHO) recommends:**

- **Breastfeeding begins within the first hour of a baby's life**
- **Exclusive breastfeeding for the first 6 months of life**
- **Continued breastfeeding with appropriate complementary food for up to two years and beyond.<sup>2</sup>**

## Benefits of breastfeeding

Breastmilk is not just food for babies – but a rich source of essential nutrients and antibodies that boosts a child's immune system, brain development and saves lives. Breastfeeding is important for the health and development of infants and their mothers, and is linked to the prevention of major health inequalities.<sup>3</sup> Specifically, increasing evidence demonstrates that:

- Breastfeeding is protective against future overweight or obesity with the benefit being observed after adjusting for socio-economic status<sup>4</sup>

- Children who are breastfed for longer periods have lower infectious morbidity and mortality<sup>4,5</sup>
- For women, breastfeeding can prevent breast cancer and might reduce a woman's risk of diabetes and ovarian cancer.<sup>5</sup>

## How is this applicable to the UK?

A review by Renfrew *et al.* (2012)<sup>6</sup> considered the evidence. If 45% of women exclusively breastfed for four months, and if 75% of babies in neonatal units were breastfed at discharge, every year there could be an estimated:

Hospital admission	GP consultations	Money saved (+£££)
• ↓↓ 3,285 gastrointestinal infections	• ↓↓↓↓ 10,637 GP consultations	>£3.6 million
• ↓↓↓ 5,916 lower respiratory tract infections	• ↓↓↓↓↓ 21,045 GP consultations	>£750,000
• ↓ 361 Necrotising enterocolitis (NEC)		>£6 million

## Breastfeeding rates in the UK

Despite this, breastfeeding rates in the UK are low, the lowest in Europe and in the world.

The World Breastfeeding Trends Initiative (WBTi) is a collaborative national assessment of implementation of key policies and programmes from WHO's Global Strategy for Infant and Young Child Feeding (IYCF) and the Innocenti Declaration. WBTi is distinctive in having a strong conflict of interest policy. The UK assessment combines the scores, weighted by population, for the individual four nations: England, Northern Ireland, Scotland and Wales. This is the second UK assessment, the first was carried out in 2016.<sup>7</sup> See **Table 1**.

**Table 1: Infant Feeding Practices – findings from the WBTi UK Report 2024**

	2016	2024
Early initiation of breastfeeding within 1 hour of birth	60%	46-61%
Mean % of exclusive breastfeeding for first 6 months	18%	25-29%
Median duration of breastfeeding	~3 months	39 days
Bottle feeding: % babies 0-12 months fed with bottles	88%	80%+
Complementary feeding: % of babies receiving solids at 6-8 months	98%	94-99%

Source: WBTi UK Report 2024 (2025), Breastfeeding trends (UK). 2025. Accessed online: <https://ukbreastfeeding.org/wbtiuk2024/> (May 2025). Note: Data collection methods have changed since 2016.

## Getting breastfeeding off to a great start

To get breastfeeding off to the best start, various strategies can help, as highlighted below.

### Mother's nutrition & wellbeing

Often mum's diet and nutritional needs can be overlooked with the focus firmly on baby's feeding well. However, mum's diet and nutritional well-being is a vital consideration for supporting and sustaining breastfeeding, protecting her own immediate and future health and wellbeing, and to establish and maintain good eating habits.

### Breastfeeding & diet

Having a healthy balanced diet overall, according to the Eatwell Guide principles, is paramount ([www.nhs.uk/live-well/eat-well/food-guidelines-and-food-labels/the-eatwell-guide/](https://www.nhs.uk/live-well/eat-well/food-guidelines-and-food-labels/the-eatwell-guide/)).<sup>8</sup>

Encourage regular meals and nourishing snacks and drinks from the four main food groups to ensure that the diet contains all the essential nutrients needed to support mum's energy levels, breastmilk production, health and wellbeing. See **Table 2** for specific dietary considerations.

### Weight management

Breastfeeding can expend up to 500 kcal/day. Eating healthily and engaging in regular physical activity will not affect the quality or quantity of breast milk.<sup>14</sup>

**Table 2: Specific dietary considerations**

Nutrient	Modifications while breastfeeding
Energy	<p>↑ 330 kcal/day while exclusive breastfeeding for the first 6 months.</p> <p>Needed for the production of breastmilk.<sup>9</sup></p>
Calcium	<p>5-6 portions/day</p> <p>Examples of sources include: 1 average glass of semi-skimmed milk (240 mg of calcium), 120 g pot of plain yoghurt (240 mg of calcium), a matchbox size hard cheese (222 mg of calcium), 1 medium orange (29 mg of calcium).<sup>10</sup></p>
Vitamin D	<p>Supplement 10 µg/day</p> <p>In addition to mums, all babies from birth to one year should be given a daily supplement of 8.5-10 µg vitamin D unless they have more than 500 ml of infant formula milk.<sup>11</sup></p>
Hydration	<p>2200-2300 ml of healthy and nourishing drinks (usual recommendation for adults 1500 ml/day + 600-700 ml extra). Examples include: water, milk, decaffeinated tea and coffee and fruit juice.<sup>12</sup></p>
Caffeine & alcohol	<p>Caffeine is a stimulant and can pass through breastmilk. Limit to less than 200 mg/day. Sources and their caffeine content include: a cup of tea – 75 mg, instant coffee – 100 mg, filter coffee – 140 mg, can of cola – 40 mg, chocolate – 25 mg.<sup>13</sup></p> <p>Alcohol passes into breastmilk. No safe level has been established. The usual recommendation is to avoid alcohol during this time or that breastfeeding should be delayed until the alcohol is completely cleared from breastmilk. This happens at the rate of approximately one unit per hour.<sup>13</sup></p>

### Adequate sleep & stress management

As challenging as this may sound for new mums, getting enough rest and managing stress levels are really important during this time. Engaging in wellbeing activities such as movement, hobbies, being out in nature, connecting with loved ones, etc., are good ways to relax and focus on self-care. Asking partners, family and friends for help with the looking after baby and the household chores also go a long way in supporting new mothers' wellbeing.

## Colostrum harvesting

### What is antenatal colostrum harvesting?

Expressing breastmilk by hand during pregnancy involves expressing colostrum in the final few weeks of pregnancy. It can also be referred to as 'colostrum harvesting'.

It is recommended to express by hand rather than using a breast pump. Colostrum will be produced in quite small quantities and can easily stick to the bottles or pump parts and be harder to collect. A pump at this stage is likely to be more uncomfortable than gentle hands. It is recommended to hand express for a few minutes, 2 or 3 times a day. Mums are normally advised to wait until around 36 weeks before starting antenatal expression. Mums who are having multiple births may sometimes start sooner as giving birth earlier is more likely.<sup>15</sup>

## Why do it?

For some mums it can be a useful tool that helps ensure their baby will start life without the need for formula supplementation. Mums will also start their breastfeeding journey with experience of hand expressing and confidence about how their breasts work.

It is a good idea to encourage mothers to discuss colostrum stores in their birth plan and to ensure that all healthcare professionals involved in their care are made aware of this.<sup>15</sup>

## Skin-to-skin contact

Skin-to-skin (also known as kangaroo care) can help parents bond with their baby.<sup>16</sup> Skin-to-skin contact means holding baby against the parent's skin. Skin-to-skin contact is encouraged regardless of the feeding method for all babies and parents.

If baby is born pre-term and needs special care after they are born, it may not be possible to hold baby straight away. The maternity team will support parents to gently touch or hold their hand.

Baby will be able to hear the comforting sound of mum's heartbeat and voice, which will help calm and relax them. The benefits of skin-to-skin contact include:<sup>17</sup>

- Regulate baby's temperature, breathing and heart rate
- Boost mother's milk supply and stimulate baby's feeding instincts
- Release the hormone oxytocin – also known as the love-hormone, the body's natural feel-good chemical
- Build baby's immunity to infections.

Mothers can write in their birth plan that they would like to prioritise this special time and for it to be uninterrupted. The maternity team will know to wait before carrying out the routine newborn tests.

Skin-to-skin contact is an important part of routine care after birth. Unless there is a medical reason not to, baby should be placed skin-to-skin on mum's chest as soon as possible.<sup>17</sup>

## Support with breastfeeding

Enabling all mothers to get breastfeeding off to a good start builds on foundations laid in pregnancy and immediately post-birth. A universal multifaceted approach aims to build a mum's confidence and the ability to feed her baby based on her individual needs, preferences and desires from a biological, psychological and cultural perspective.<sup>18</sup>

Early support is key to successful breastfeeding. Seeking support from the family's healthcare professional to observe baby feeding and their positioning and attachment, and whether they are transferring milk from the breast effectively, is vital to establish and sustain breastfeeding.<sup>13</sup>

## Donor milk & milk banks

Breastmilk is especially critical for premature babies, low birth weight or sick infants, and where there is insufficient supply of mother's own milk. Human milk banks can offer safe screened

donor human milk as an alternative to infant formula.<sup>18</sup> Donor milk can significantly reduce complications such as necrotising enterocolitis.<sup>20</sup>

## Setting up of a milk bank in Wales

Until 2021, there were no milk banking facilities within Wales, making it the only UK nation not to have its own milk bank.

In 2021, funding was awarded to Swansea University, which enabled a collaboration with the charity the Human Milk Foundation (HMF) and Swansea Bay University Health Board to establish a donor milk hub facility at Singleton Hospital in Swansea. The HMF deliver a milk banking service through the Hearts Milk Bank in Hertfordshire, which serves numerous hospitals around the UK through its hub model.

The hub project has had significant success in Wales, having a positive impact upon health services, infant health and the local community. Over 1500 litres of donor milk have been donated from over 150 mothers, which would not have been possible before establishing the hub.

This has helped to support maternal wellbeing, especially for women who have experienced feeding or mental health difficulties themselves or are one of our specially supported snowdrop donors: mothers who decide to go on to donate milk after baby loss.

The hub has also enabled some families to receive donor milk for their baby outside of the neonatal unit. Known as the 'community milk' scheme, this supports families who would benefit from donor human milk but would not qualify under NHS criteria. This has included older babies who are very unwell but also for families affected by cancer, where mothers are unable to breastfeed due to surgery or medications. Research at Swansea University has shown the incredible impact this can have on parents' wellbeing.<sup>21</sup>

## Conclusion

Breastfeeding is a natural, healthy and optimal way to feed a baby – offering numerous health benefits for baby and mum. Various strategies can support mums that choose to breastfeed to effectively do so.

To improve breastfeeding rates in the UK a multi-faceted approach is required:

- **Government:** Enhanced political will and advocacy, adequate funding and resources prioritised towards early years nutrition. Improved legislation and policy in protecting breastfeeding and reducing the influence of the formula milk industry.
- **NHS:** Better investment for early years professionals to enable them to offer support to families and prioritising professionals' knowledge and skills in breastfeeding.
- **The Public:** Develop societal awareness in the UK by having national government campaigns and improving the visibility of breastfeeding encouraging more people to breastfeed in public.

**About the author:** Varsha has worked in the NHS for over 18 years and children and family services for over 11 years. She is passionate about health and wellbeing and uses a holistic approach to her practice. Email: [varsha@thefamilywellbeingdietitian.co.uk](mailto:varsha@thefamilywellbeingdietitian.co.uk)

References: 1. UK Breastfeeding (2018). Breastfeeding and the First 1000 Days: the foundation of life. Breastfeeding trends (UK). Accessed online: <https://ukbreastfeeding.org/2018/09/13/breastfeeding-and-the-first-1000-days-the-foundation-of-life/> (May 2025). 2. World Health Organization (2023). Infant and Young Child Feeding. World Health Organization. Accessed online: [www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding](http://www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding) (May 2025). 3. World Health Organization (2023). Breastfeeding. Accessed online: [www.who.int/health-topics/breastfeeding#tab=tab\\_1](http://www.who.int/health-topics/breastfeeding#tab=tab_1) (May 2025). 4. Horta BL, et al. (2022). Systematic review and meta-analysis of breastfeeding and later overweight or obesity expands on previous study for World Health Organization. *Acta Paediatr.*; 112(1): 34-41. 5. Victora CG, et al. (2016). Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *Lancet.*; 387(10017): 475-90. 6. UNICEF (2012). Professor Mary J Renfrew et al. Preventing disease and saving resources: the potential contribution of increasing breastfeeding rates in the UK. Accessed online: [www.unicef.org.uk/wp-content/uploads/sites/2/2012/11/Preventing\\_disease\\_saving\\_resources.pdf](http://www.unicef.org.uk/wp-content/uploads/sites/2/2012/11/Preventing_disease_saving_resources.pdf) (May 2025). 7. WBTI UK Report (2024). Breastfeeding trends (UK). 2025. Accessed online: <https://ukbreastfeeding.org/wbtiuk2024/> (May 2025). 8. GOV UK (2016). The Eatwell Guide. Accessed online: [www.gov.uk/government/publications/the-eatwell-guide](http://www.gov.uk/government/publications/the-eatwell-guide) (May 2025). 9. GOV UK (2011). SACN Dietary Reference Values for Energy. Accessed online: [www.gov.uk/government/publications/sacn-dietary-reference-values-for-energy](http://www.gov.uk/government/publications/sacn-dietary-reference-values-for-energy) (May 2025). 10. British Dietetic Association (BDA) (2021). Calcium. Accessed online: [www.bda.uk.com/resource/calcium.html](http://www.bda.uk.com/resource/calcium.html) (May 2025). 11. GOV UK (2016). SACN vitamin D and health report. Accessed online: [www.gov.uk/government/publications/sacn-vitamin-d-and-health-report](http://www.gov.uk/government/publications/sacn-vitamin-d-and-health-report) (May 2025). 12. BDA (2020). Fluid (water and drinks). Accessed online: [www.bda.uk.com/resource/fluid-water-drinks.html](http://www.bda.uk.com/resource/fluid-water-drinks.html) (May 2025). 13. BDA (2021). Breastfeeding - what are the benefits? Accessed online: [www.bda.uk.com/resource/breastfeeding.html](http://www.bda.uk.com/resource/breastfeeding.html) (May 2025). 14. NICE (2010). Weight Management before, during and after Pregnancy. Accessed online: [www.nice.org.uk/guidance/ph27](http://www.nice.org.uk/guidance/ph27) (May 2025). 15. Association of Breastfeeding Mothers (2018). Expressing your milk before your baby arrives. Accessed online: <https://abm.me.uk/breastfeeding-information/antenatal-expression-colostrum/> (May 2025). 16. BabyCentre UK (2024). Skin-to-skin with your baby. Accessed online: [www.babycentre.co.uk/a25017209/skin-to-skin-with-your-baby](http://www.babycentre.co.uk/a25017209/skin-to-skin-with-your-baby) (June 2025). 17. NHS (2023). Skin-to-skin contact with your newborn - Start for Life. Accessed online: [www.nhs.uk/start-for-life/baby/baby-basics/caring-for-your-baby/skin-to-skin-contact-with-your-newborn/](http://www.nhs.uk/start-for-life/baby/baby-basics/caring-for-your-baby/skin-to-skin-contact-with-your-newborn/) (May 2025). 18. UNICEF (2013). The evidence and rationale for the UNICEF UK Baby Friendly Initiative standards. Accessed online: [www.unicef.org.uk/wp-content/uploads/sites/2/2013/09/baby\\_friendly\\_evidence\\_rationale.pdf](http://www.unicef.org.uk/wp-content/uploads/sites/2/2013/09/baby_friendly_evidence_rationale.pdf) (May 2025). 19. UKAMB. Receiving Donor Milk - Donor's Milk for Babies. Accessed online: <https://ukamb.org/receiving-donor-milk/> (May 2025). 20. Quigley M, et al. (2024). Donor human milk for preventing necrotising enterocolitis in very preterm or very low-birthweight infants. *Cochrane Database Syst Rev.*; 9(9): CD002971. 21. Brown A, et al. (2024). Disparities in being able to donate human milk impacts upon maternal wellbeing: Lessons for scaling up milk bank service provision. *Matern Child Nutr.*; 20(4): e13699.