



ARTICLE

## Nourishing Young Brains: Why Do Iron, Iodine, and Vitamin B1 Matter?

6 mins read

Brain development in children under 6 years is a critical period in their early life, and nutrition plays a significant role in shaping how their brain grows and functions. A child's brain is highly plastic, meaning it can form new connections rapidly, especially during the first 3 years of life.

### **How Early Nutrition Shapes Your Child's Brain Development?**

The first few years of a child's life are crucial for brain development, and the right nutrition during this time can play a huge role in making sure the brain grows and functions properly. Brain development is a complicated process, but the environment, including the food a child eats, can have a big impact on how the brain develops. Good nutrition can help the brain grow in healthy ways, while poor nutrition can cause delays or problems. This is why the food a child eats in their early years is so important—it can help set them up for better brain health and development in the future.

### **Key Nutrients for Brain Growth and Development:**

Micronutrients, like vitamins and minerals, are crucial for children's growth and immune health. A good diet in the early years helps protect against infections and supports healthy brain development, setting kids up for a stronger, smarter future.

**Thiamine (Vitamin B1):** For children, the amount of Vitamin B1 they need is based on their energy needs. For kids, the recommended amount of Vitamin B1 is about 0.3 mg for every 1,000 calories they eat. This amount helps make sure their body has enough Vitamin B1 to keep their brain and muscles working well. This recommendation is the same for children from 1 year old to under 18 years old and applies to pregnant and breastfeeding women.

**Iodine:** For children under 6 years old, iodine is very important for their growth and development. It helps the brain and body work properly. The recommended amount of iodine for children aged 1–8 years is 90 micrograms (µg) each day. If a child doesn't get enough iodine, they could develop problems like a swollen neck (goiter), difficulty learning or growing, hearing loss, and in severe cases, a condition called cretinism. Iodine supplements can help if there's a deficiency, but it's important not to give too much, as too much iodine can also cause health problems.

**Iron:** One of the biggest nutritional risks around the world is not getting enough iron. Iron deficiency is the most common cause of anaemia in babies and young children under 2 years old. Anaemia happens when the body doesn't have enough red blood cells to carry oxygen, which can lead to tiredness, weakness, and delays in growth and development. It's important for young children to get enough iron to stay healthy and strong.

### **Role of Iron in Brain Development:**

Iron plays a crucial role in helping children's brains grow and develop, especially when it comes to memory and learning. When children are young, their brains are growing fast, and iron is needed for many important processes in brain cells. If a child doesn't get enough iron, it can lead to problems with thinking, learning, and even behaviour. For example, babies and toddlers with iron deficiency might have trouble with things like speaking, understanding sounds, and moving their bodies as they should.

Iron helps the brain work properly, and it's especially important in the first few years of life. Without enough iron, children may struggle with things like remembering, concentrating, and growing physically. That's why it's important for kids to get enough iron from their food or supplements, especially in their early years when their brain is developing quickly.

### **How to Include Iron, Iodine, and Vitamin B1 in Children's Diet?**

To ensure your child gets enough iron, iodine, and vitamin B12, include a range of nutrient-dense foods in their diet. For iron, serve sources like red meat, chicken, beans, lentils, spinach, and iron-fortified cereals. Pair these with vitamin C-rich foods, such as oranges, strawberries, or tomatoes, to boost iron absorption. For iodine, use iodized salt in meals and include foods like seafood, dairy products (milk, cheese, yogurt), and eggs. To include enough Vitamin B1 in your child's diet, offer whole grains like brown rice and oats, fortified cereals, lean meats like pork and chicken, fish such as tuna, and plant-based options like beans, lentils, and nuts. Eggs and vegetables like peas also provide thiamine.

### **How Fortified Foods Help Meet Your Child's Nutritional Needs?**

Fortified foods, which have extra nutrients added, can help prevent anaemia and improve brain health in young children. Studies have shown that baby foods with added iron can lower the risk of anaemia by 57% in kids up to 3 years old. Also, feeding babies cereals with extra iron can be a great way to make sure they get enough iron in their diet, helping to keep them healthy.

#### **Nestle NanGrow**

Nestle NanGrow is a specially designed formula milk that can help support the nutritional needs of young children, especially when it comes to preventing iron deficiency and promoting healthy brain development.

**Helps Prevent Iron Deficiency:** Nestle NanGrow is fortified with iron, which is crucial for preventing iron deficiency and anemia in young children. Iron is needed to make healthy red blood cells that carry oxygen to the brain and body. Adequate iron helps prevent tiredness, weakness, and developmental delays.

**Support for Brain Development:** Iron is essential for brain development, especially in the first few years of life. Nestle NanGrow contains iron along with other nutrients like vitamins and minerals that support cognitive function, helping with memory, learning, and overall brain health.

**Promotes Healthy Growth:** The formula is designed to provide balanced nutrition that supports your child's overall growth. It contains essential vitamins, minerals, and proteins to help with physical growth, immune health, and strong bones.

**Convenient Nutritional Support:** For parents who may find it challenging to provide enough iron through food alone, Nestle NanGrow offers a reliable source of nutrients in a convenient way. It's an option to ensure your child is getting the right balance of vitamins and minerals during their important early years.

#### **References:**

1. Prado, E. L., & Dewey, K. G. (2014). Nutrition and brain development in early life. *Nutrition Reviews*, 72(4), 267-284. <https://doi.org/10.1111/nure.12102>
2. Turck, D., Bresson, J., Burlingame, B., Dean, T., Fairweather-Tait, S., Heinonen, M., Hirsch-Ernst, K. I., Mangelsdorf, I., McArdle, H. J., Naska, A., Nowicka, G., Pentieva, K., Sanz, Y., Siani, A., Sjödin, A., Stern, M., Tomé, D., Van Loveren, H., Vinceti, M., . . . Neuhäuser-Berthold, M. (2016). Dietary reference values for thiamin. *EFSA Journal*, 14(12). <https://doi.org/10.2903/j.efsa.2016.4653>
3. Hatch-McChesney, A., & Lieberman, H. R. (2022). Iodine and Iodine Deficiency: A Comprehensive Review of a Re-Emerging Issue. *Nutrients*, 14(17), 3474. <https://doi.org/10.3390/nu14173474>
4. Ghirri P, Lunardi S, Boldrini A. Iodine Supplementation in the Newborn. *Nutrients*. 2014;6(1):382-390. doi: [3390/nu6010382](https://doi.org/10.3390/nu6010382)
5. Eichler, K., Wieser, S., Rüthemann, I., & Brügger, U. (2012). Effects of micronutrient fortified milk and cereal food for infants and children: a systematic review. *BMC Public Health*, 12(1).

