

Dietary Intake During Lactation-Topic of the Month

MARCH 5, 2025

The postpartum period, often referred to as the fourth trimester, is an important time to replenish nutrient stores and to focus on overall nutrition. This is especially true when providing human milk. Read this topic of the month to learn more about nutrition needs while breastfeeding, pumping milk, or chestfeeding.

Nutrient intake during the postpartum period

Lactation increases nutritional needs and can lead to increased thirst and hunger. Listening to body cues, eating and drinking frequently throughout the day, and not overriding those feelings due to the desire to lose weight are important aspects of WIC nutrition counseling.

Nutrient needs while breastfeeding are higher than while pregnant; an extra 300-500 calories per day is recommended. A common challenge for postpartum participants is not eating enough during the day. Many share that they face lack of sleep, time, and support. As WIC staff, you can help participants set simple reminders and encourage following hunger cues, while providing tips on how to incorporate the needed nutrients during lactation.

Nursing participants should be encouraged to eat a healthy, diverse diet that meets their nutritional needs. Dietary intake and optimal breastfeeding practices ensure a sufficient milk supply for baby.

Nutrients impacted by maternal diet

Maternal dietary intake has some influence on breastmilk nutrient composition, which includes vitamins A, C, D, B vitamins, choline, iodine, and Docosahexaenoic acid (DHA). An overall diet consisting of a variety of whole foods, in as close to their natural state as possible, will supply most of the nutrients needed. Below we will look at recommendations and sources of important postpartum nutrition needs.

- **Vitamin D** can be challenging to get adequate amounts. Supplementation is recommended. The U.S. Recommended Dietary Allowance (RDA) is supplementation of 600 International Units (IU) daily. A participant's health care provider may have a different supplementation recommendation based on their individual needs. (See [Vitamin D- Topic of the Month](#) for more information.)

DIETARY INTAKE DURING LACTATION-TOPIC OF THE MONTH

- **Vitamin A** content in breastmilk is highest in the early milk, colostrum. Infants are born with naturally low vitamin A, even if maternal stores are adequate. Animal foods are the best sources which include milk and eggs yolk. Other sources include dark green leafy vegetables, and orange and yellow fruits and vegetables. There are two forms of vitamin A, Beta-carotene (plant based) and Retinol (animal based). It is important that the mother is consuming both.
- **B vitamins** are vital to cellular function. These include Thiamin (B1), Riboflavin (B2), Niacin (B3), Pantothenic acid (B5), Pyridoxine (B6), Biotin (B7), Folic acid (B9), Cobalamin (B12). These are found in a wide range of foods including tuna, salmon, fortified cereals, chickpeas, poultry, dark leafy greens, papayas, and cantaloupe.
- **B12** is needed for normal fetal growth and development, the infant's growing body, brain and central nervous system, and DNA synthesis. Body stores of B12 and diet impact their infant and milk content. Best food sources are foods of animal origin including seafood, salmon, meat, poultry, eggs, and dairy products. Some WIC breakfast cereals are fortified with vitamin B12.

A participant that is a vegan and those with gastrointestinal disorders or bariatric surgery history should consult with their healthcare provider about additional vitamin B12 supplementation.

- **Vitamin C** is necessary for tissue healing, blood vessels, cartilage, collagen, and is an antioxidant – all very essential in postpartum. Sources include red peppers, oranges, grapefruit, kiwi, broccoli, strawberries, brussels sprouts, and other colorful fruits and vegetables.
- **Choline** is a water-soluble compound that is neither a vitamin nor mineral. It is relatively newly recognized compared to other vitamins. Sources include eggs, cod, salmon, cauliflower, broccoli, beans, peas, and lentils.
- **Iodine** is critical to the thyroid, brain, breast health, and sufficient levels are needed for infants' neurodevelopment. Without sufficient intake, the body stores and the amount in breastmilk will decline over the months of lactation. Smoking decreases iodine in breastmilk. Encourage participants to ensure their multivitamin contains iodine and that their table and cooking salt is iodized. Food sources include seafood and shellfish, dairy products, eggs, and chicken. (See [Iodine- Topic of the Month](#) for more information.)
- **DHA** is an essential fatty acid used by the body during the last half of pregnancy to grow the infant's brain, eyes, and nervous system, both in utero and after birth. There is a positive correlation between dietary intake and breastmilk DHA content. Fish and other seafood are the best sources including cold-water fatty fish such as salmon, mackerel, tuna, herring, trout, sardines, and some eggs (check the label). Our bodies can only convert a small fraction of plant-based omega-3's to DHA (i.e., flax seed, chia seed, walnuts, etc.).

The WIC postpartum food packages promote the consumption of foods needed to provide optimal levels of nutrients in breastmilk including milk, yogurt, eggs, dark leafy greens, fruits, fortified cereals, canned fish, and canned or dry beans.

Other important nutrients

- **Iron** is a highly important mineral for overall health, particularly for pregnancy and infancy. Babies build their body's iron stores during the third trimester as well as through the cord blood received at birth. These stores along with the highly bioavailable iron in breastmilk are meant to last the healthy full-term baby four to six months. (For supplementation information see [Diagnosis and Prevention of Iron Deficiency and Iron-Deficiency Anemia in Infants and Young Children \(0–3 Years of Age\)](#).)
- Sources of iron include meat, poultry, seafood, sardines, egg yolks, mushrooms, sweet potatoes, dark green vegetables, beans and lentils, whole grains, tofu, or dried fruits.
 - Heme iron in animal products is better absorbed in the body than non-heme iron. Non-heme iron foods paired with high vitamin C foods, helps with iron absorption.
 - Avoid high calcium foods or calcium supplement when consuming iron foods. Cooking on cast iron pans is also a good source.
- **Calcium** is important for bones, teeth, blood clotting, muscle and nerve function, heart rhythms, and more. Breastmilk is not highly affected by maternal dietary intake. Temporary bone mass loss is common during pregnancy and lactation (calcium drawn from the mother's bones); however, it is restored after pregnancy and weaning. Sources of calcium includes milk, cheese, yogurt, fortified plant beverages, edamame, WIC tofu, canned sardines, salmon with bones, almonds, or leafy greens.

Probiotics/prebiotics

Breastmilk lays the foundation for the gut microbiome, prevents harmful bacteria, and is the best source of prebiotics and probiotics for an infant.

Probiotics are live microorganism that when consumed, can be beneficial to health. Some participants may choose to take a probiotic supplement in addition to dietary intake. Food sources include fermented foods like pickled beets, kimchi, kefir, yogurt, sauerkraut, and pickled radishes.

Prebiotics are also important to help maintain the good bacteria. Fibers serves as a prebiotic that helps the gut maintain population of good bacteria. Sources are fruits, vegetables, whole grains, nuts and seeds.

Caffeine

With caffeine, moderation is key. Recommendations include limiting caffeinated beverages to under 300 mg/day. Caution should be taken when breastfeeding and consuming caffeine and feeding premature, ill or highly sensitive babies.

Fluids

Recommendations for hydration include drinking to thirst or to a level that produces pale yellow urine. It can be hard for some to drink enough water throughout the day when caring for an infant. One suggestion is to keep placing a water bottle in a convenient place possibly, next to the bed, by the crib, in the stroller, and in the car.

Food naturally high in fluid concentration is a great suggestion while nursing including fruit, broth, soup, lactation-friendly teas, and smoothies. Consuming excess fluids above hydration needs has not been shown to increase milk supply.

Alcohol

Generally, moderate consumption of up to one standard drink in a day is not known to be harmful for the breastfeeding infant, especially if waiting two hours after a single drink before nursing or expressing breastmilk. Excessive alcohol intake can impair milk ejection reflex, so the baby takes in less milk and the milk supply isn't fully stimulated. Moderation and careful planning generally allow for safe consumption of alcohol.

It is best practice to avoid habitual use of alcohol during lactation. For specific guidance see [Alcohol & Breast Milk](#).

Frequently asked questions

Will certain foods increase my milk supply?

No. However, adequate consumption of all foods and nutrients will help to maintain milk supply. If there are concerns about milk supply, diet plus other breastfeeding practices should be reviewed (milk removal, latch, frequency of feeds).

Will eating fibrous foods cause gas in my baby?

No. Gas in the intestinal tract cannot make its way into the parent's bloodstream and therefore will not be in the parent's milk.

Will eating more fat increase the fat content of my milk?

No, however, the quality of fat is determined by diet. It is important to consume food sources containing omega-3 fatty acids that then transfer through breastmilk for baby's brain development.

When can I start focusing on losing weight?

Focusing on internal healing is priority and establishing a good milk supply. Once a healthy supply is established, focusing on small changes will help meet weight loss goals. A great starting point is practicing mindful eating and looking at the quality of food versus restriction.

If parents are not meeting nutrient needs, should they still breastfeed?

When counseling the breastfeeding parent, it is important to remember those who are unable to eat a nutrient dense diet still make the best food for their baby! Human milk is rich in immune-boosting antibodies, easily digestible proteins, fats, and carbohydrates.

Key takeaways

While breastfeeding, participants should know they do not need to follow a special diet. However, eating healthy as a part of a normal lifestyle will support the parent as they heal and prepare to make milk, and the baby as they grow. WIC staff can use the information provided above as a tool to support parents on their breastfeeding journey.

Tips to share with participants:

- Eat a wide range of nutrient dense foods at meals/snacks times.
- Load up on a variety of colorful fruits and vegetables throughout the day.
- Choose whole grain carbohydrates to get a better source of fiber.
- Consume iron rich foods daily to support adequate levels for mom and baby.
- Take a multivitamin with folic acid daily during childbearing years.
- Consume healthy fats regularly to support infant brain development.
- Drink plenty of water for good health and milk production.
- Talk to your healthcare provider with dietary and health concerns.
- Contact a lactation specialist if you have concerns about milk production.

Help participants to purchase and use the WIC foods. The WIC foods provide many of these key nutrients.

Check their benefit utilization to see what foods they are accessing and what questions they may have or support they may need. See [How to Assess Household Benefit Redemption \(PDF\)](#).

Resources

[Maternal Diet and Breastfeeding](#) (Center for Disease Control and Prevention. Feb. 9, 2024)

[Nutrient Requirements during Pregnancy and Lactation](#) (National Library of Medicine. Nutrients, Feb. 21, 2021)

[Breast Milk, a Source of Beneficial Microbes and Associated Benefits for Infant Health](#) (National Library of Medicine. Nutrients, Apr. 9, 2020)

[The Triad Mother-Breast Milk-Infant as Predictor of Future Health: A Narrative Review](#) (National Library of Medicine. Nutrients, Feb. 2, 2021)

[Weight loss while breastfeeding](#) (La Leche League International. Nov. 2024)

[Alcohol](#) (Institute for the Advancement of Breastfeeding and Lactation Education. Trash the Pump and Dump.)

Nichols, L. (2018). Real food for pregnancy: the science and wisdom of optimal prenatal nutrition. Lily Nichols.

References- complete listing of hyperlinks:

[Vitamin D- Topic of the Month](#)

(<https://www.health.state.mn.us/docs/people/wic/localagency/wedupdate/2022/topic/0302topicmonth.pdf>)

[Iodine- Topic of the Month](#)

(<https://www.health.state.mn.us/docs/people/wic/localagency/topicmonth/iodine.pdf>)

[Diagnosis and Prevention of Iron Deficiency and Iron-Deficiency Anemia in Infants and Young Children \(0–3 Years of Age\)](#)

(<https://publications.aap.org/pediatrics/article/126/5/1040/65343/Diagnosis-and-Prevention-of-Iron-Deficiency-and?autologincheck=redirected>)

[Alcohol & Breast Milk](#) (<https://www.healthychildren.org/English/ages-stages/baby/breastfeeding/Pages/Alcohol-Breast-Milk.aspx>)

[Maternal Diet and Breastfeeding](#) (<https://www.cdc.gov/breastfeeding-special-circumstances/hcp/diet-micronutrients/maternal-diet.html>)

[Nutrient Requirements during Pregnancy and Lactation](#)

(<https://pmc.ncbi.nlm.nih.gov/articles/PMC7926714/>)

[Breast Milk, a Source of Beneficial Microbes and Associated Benefits for Infant Health](#)

(<https://pmc.ncbi.nlm.nih.gov/articles/PMC7231147/>)

[The Triad Mother-Breast Milk-Infant as Predictor of Future Health: A Narrative Review](#)

(<https://pmc.ncbi.nlm.nih.gov/articles/PMC7913039/>)

[Weight loss while breastfeeding](#) (<https://lilli.org/breastfeeding-info/weight-loss-mothers/>)

[Alcohol](#) (<https://trashthepumpanddump.org/alcohol>)

Minnesota Department of Health - WIC Program, 625 Robert St N, PO BOX 64975, ST PAUL MN 55164-0975; 1-800-657-3942, health.wic@state.mn.us, www.health.state.mn.us; to obtain this information in a different format, call: 1-800-657-3942.

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