

Study identifies foods to help pregnant people optimize intake of key nutrients

September 27 2023



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Most pregnant people in the U.S. are at risk of not getting enough of six nutrients important to a healthy pregnancy—vitamin A, vitamin D, folate, calcium, iron, and omega-3 fatty acids—from foods alone. Yet finding a combination of foods and supplements that delivers the right amounts of these nutrients without exceeding calorie recommendations or safety limits can be challenging.

In a new study published in [The Journal of Nutrition](#), researchers from NIH's Environmental influences on Child Health Outcomes (ECHO) Program wanted to find low-calorie, nutrient-rich foods that could boost nutrient intake, much like [dietary supplements](#) do. They calculated how much of the six nutrients participants were getting from their diets and compared that data to [pregnancy](#) nutrition recommendations to determine the amount of nutrients the participants would need from additional foods to make up for the gaps in their [diet](#).

What they found was that no single food they evaluated gave enough of all six nutrients in a reasonable serving size to bring typical diets in line with recommendations for nutrient intake during pregnancy. One food—raw seaweed—contained five of the key nutrients—vitamin A, folate, calcium, iron, and omega-3 fatty acid—but required up to 7 cups a day to meet daily requirements.

Twenty-one foods and beverages contained at least four key nutrients in reasonable serving sizes, including a 1.2-cup ready-to-drink nutritional shake. Researchers also found that few foods met the targets for vitamin D and iron, suggesting that dietary supplements may be necessary to fill the gaps for those particular nutrients.

"This study emphasizes the importance of a balanced and varied diet during pregnancy, along with considering appropriate supplementation, to ensure the well-being of both the mother and the developing baby," study author Katherine Sauder, Ph.D. of the Wake Forest University School of Medicine said.

The research highlights a selection of healthy, low-calorie foods that pregnant people can add to their diets to help meet nutritional requirements during pregnancy. Some examples of readily available foods to choose from include:

- 0.2 cups of raw carrots for vitamin A
- 2.6 cups of reduced-fat milk for [vitamin D](#)
- 0.4 cups of edamame could provide the optimal amount of folic acid
- 1 cup of a nutritional drink or shake for calcium
- 0.9 cups of multigrain cereal for iron
- 0.1 cups of canned chicken for omega-3 [fatty acids](#)

What happened during the study

ECHO researchers examined more than 2,300 foods and drinks that people in the U.S. typically eat, focusing on those containing one or more of the six essential nutrients to be consumed during pregnancy. The foods and quantities evaluated contained the minimum amount of one or more of the nutrients without exceeding 340 calories or the maximum amount of any of the other [nutrients](#).

Then, they compared diets of 2,450 pregnant participants from six ECHO research sites across the U.S. to pregnancy nutrition recommendations to determine how participants could fill the gaps in their diets.

This [collaborative research](#) was led by Dr. Sauder and Catherine Cohen, Ph.D., RD of the University of Colorado Denver—Anschutz Medical Campus.

More information: Katherine A. Sauder et al, Identifying Foods That Optimize Intake of Key Micronutrients During Pregnancy, *The Journal of Nutrition* (2023). [DOI: 10.1016/j.tjnut.2023.08.012](https://doi.org/10.1016/j.tjnut.2023.08.012)

Provided by Environmental influences on Child Health Outcomes

Citation: Study identifies foods to help pregnant people optimize intake of key nutrients (2023, September 27) retrieved 12 May 2024 from <https://medicalxpress.com/news/2023-09-foods-pregnant-people-optimize-intake.html>

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