



ECHO

Environmental influences
on Child Health Outcomes

A program supported by the NIH

Study Summary

Who is getting too little or too many vitamins and minerals during pregnancy?

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Who sponsored this study?

This research was supported by the Environmental influences on Child Health Outcomes (ECHO) program, Office of The Director, National Institutes of Health.

Why was this study needed?

One in three pregnant women in the United States eats too little or too many key vitamins and minerals. Prior studies do not tell us what groups are at the most risk for poor nutrition during pregnancy. Knowing who is at risk for poor nutrition can make it easier for doctors and public health workers to help pregnant women manage their nutrition.

Who was involved?

The researchers studied 9,801 women aged 14-50 years living across the United States who were pregnant between 1999 and 2019.

What happened during the study?

Pregnant women reported their daily food and dietary supplement intake during pregnancy. Researchers compared their daily intake of 19 vitamins and minerals to the Institute of Medicine recommendations for pregnant women.

What were the study results?

More than one in every five pregnant women did not eat enough of the vitamins D, E, K, and choline and the minerals magnesium and potassium, even when taking dietary supplements. The women most likely to not get enough vitamins and minerals were those aged 14-18 years, those who were Hispanic or Black, those who had less than a high school education, and those with obesity. Non-Hispanic women were the most likely to eat too much folic acid.

Footnote: Results reported here are for a single study. Other or future studies may provide new information or different results. You should not make changes to your health without first consulting your healthcare professional.

Impact

The study showed that many pregnant women are at a high risk of not getting enough nutrients from food alone, so it is important for pregnant women to improve their diet quality and take dietary supplements when needed. The risk of not getting enough vitamins or minerals for women of various

ages, races/ethnicities, education levels, or weights is often a problem, even when using dietary supplements.

This study shows that the dietary supplements women use today do not help them get all the nutrients they need in the right amounts. Pregnant women need guidance specific to their bodies to manage the vitamins and supplements they need. Different combinations and formulas of dietary supplements taken before getting pregnant may also help this problem and make sure women do not receive too much folic acid, iron, and zinc.

What happens next?

The researchers will study how much vitamins and minerals women are getting from foods and compare this amount to the amount pregnant women should get. They will identify dietary supplements that can give women the right amounts of the vitamins and minerals they need.

Where can I learn more?

Access the [full journal article](#), titled “Disparities in risks of inadequate and excessive intake of micronutrients during pregnancy” in *Journal of Nutrition*.

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