

Expecting moms may be consuming excess folic acid but not enough choline

Many pregnant women in Canada are consuming supplemental folic acid at levels exceeding recommendations, but they may not be meeting the recommended level of intake for choline - according to CHILd data.

Folic acid and choline work together to support early fetal brain growth and prevent severe birth defects.

Folic acid, a synthetic form of the B-vitamin folate: lowers the risk of neural tube defects, which are serious conditions affecting the baby's brain and spinal cord (such as spina bifida); helps form healthy red blood cells; and supports rapid tissue growth during early pregnancy.

Choline helps develop the baby's brain, spinal cord, and memory functions and, paired with folic acid, it supports related cellular and neurological pathways.

CANADIAN GUIDELINES

In Canada, daily folic acid supplementation of 400 micrograms is recommended for women of child-bearing age and for pregnant women at low risk for neural tube defects.

Prenatal supplements in Canada typically contain higher doses of folic acid, in the range of 600–1000 micrograms. The upper tolerable intake level for folic acid is 1000 micrograms/day.

For this study, published in [Applied Physiology, Nutrition, and Metabolism](#), researchers analyzed folic

acid supplement use and dietary folate intakes in the second trimester of pregnancy in 2,996 women participating in CHILd. They also assessed the women's Vitamin B12 and choline intake because of the metabolic relationship of these elements to folate.

EXCESS FOLIC ACID, NOT ENOUGH CHOLINE

The researchers found that most participants (71.6%) were consuming a daily prenatal supplement: 28% percent reported consuming a folic acid supplement and of these, 45.3% had daily supplemental folic acid intakes above the upper tolerable intake level of 1000 micrograms (mg)/day. Only 3.8% of women reported not taking a prenatal supplement or a folic acid supplement. Average daily dietary total folate intake among the participants was 575 mg dietary folate equivalents/day. Most also met the recommended intake for vitamin B12 from diet alone.

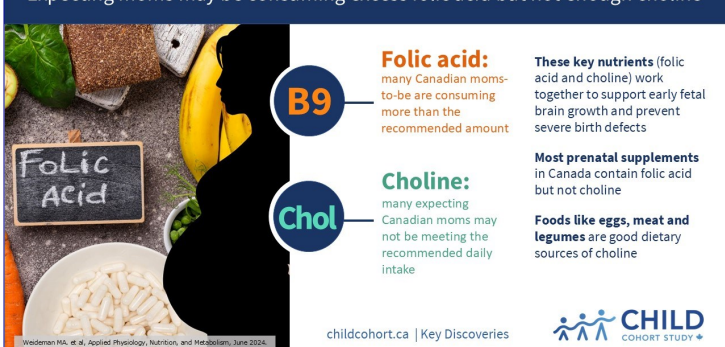
In contrast, only 24.8% of women met the dietary choline recommendation (average intake 450 mg/day), with an average intake of 375 mg/day.

DIETARY SOURCES OF CHOLINE

In Canada, prenatal supplements typically contain folic acid and vitamin B12, but many do not contain choline. Pregnant women typically need to meet their choline intake needs from foods like eggs, meat, and legumes.

Given the crucial role of these nutrients in healthy fetal development, this study suggests that educational efforts on meeting prenatal dietary recommendations, targeting expecting moms and their primary caregivers, may be valuable.

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B9 **Folic acid:** many Canadian moms-to-be are consuming more than the recommended amount

Chol **Choline:** many expecting Canadian moms may not be meeting the recommended daily intake

These key nutrients (folic acid and choline) work together to support early fetal brain growth and prevent severe birth defects

Most prenatal supplements in Canada contain folic acid but not choline

Foods like eggs, meat and legumes are good dietary sources of choline

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Wendeman MA, et al. Applied Physiology, Nutrition, and Metabolism. June 2024.