

Study links low carbohydrate intake to increased risk of birth defects

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Women who are pregnant or planning to become pregnant may want to avoid diets that reduce or eliminate carbohydrates, as they could increase the risk of having babies with neural tube birth defects, according to a new study from the University of North Carolina at Chapel Hill.

The study will be published in the journal *Birth Defects Research* on Jan. 25 and it found that [women](#) with low carbohydrate intake are 30 percent more likely to have babies with [neural tube defects](#), such as spina bifida (malformations of the spine and spinal cord) and anencephaly (absence of major portions of the brain and skull), that can lead to lifelong disability and infant death, when compared with women who do not restrict their carbohydrate intake.

This is the first study to evaluate the relationship between low carbohydrate intake and having children with [neural tube defects](#).

"We already know that maternal diet before and during early pregnancy plays a significant role in fetal development. What is new about this study is

its suggestion that low carbohydrate intake could increase the risk of having a baby with a neural tube [defect](#) by 30 percent. This is concerning because [low carbohydrate diets](#) are fairly popular," said Tania Desrosiers, PhD, MPH, and research assistant professor of epidemiology at the UNC Gillings School of Global Public Health, who led the study. "This finding reinforces the importance for women who may become pregnant to talk to their health care provider about any special diets or eating behaviors they routinely practice."

Folic acid is an essential nutrient that minimizes the risk of neural tube defects. More than 20 percent of women in the U.S. have blood folate concentrations below the recommended level to reduce risk of neural tube defects. For this reason, in 1998 the Food and Drug Administration began requiring that folic acid be added to enriched grain products. Desrosiers and her study collaborators found that dietary intake of folic acid among women with restricted carbohydrate intake was less than half of other women.

The Centers for Disease Control and Prevention recommends that all women who may become pregnant take a daily multivitamin with at least 400 micrograms of folic acid every day before and during pregnancy. However, because [almost half of all pregnancies in the U.S. are unplanned](#), many women do not initiate folic acid supplementation until later in pregnancy, after a neural tube defect may have occurred. This makes fortified foods an important source of [folic acid](#) for women who may become pregnant.

More information: Tania A. Desrosiers et al, Low carbohydrate diets may increase risk of neural tube defects, *Birth Defects Research* (2018). [DOI: 10.1002/bdr2.1198](#)

Provided by University of North Carolina at Chapel

Hill

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