

- ## Healthy Diet May Cut Risk of Birth Defects

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Women who ate a low-fat, fiber-rich diet in the year before becoming pregnant had a significantly lower risk of having children with certain serious birth defects, a new study found. The research, led by doctors at Stanford University School of Medicine, is believed to be the first large study to look at birth-defect risk and the overall quality of women's diets. The bulk of research on food and birth defects has studied one nutrient at a time.

The study showed that women who ate healthy diets before they became pregnant gave birth to fewer infants with two of the most common birth defects: neural-tube defects, or malformations of the brain and spinal cord, and orofacial clefts, often marked by a deformed lip.

Suzan Carmichael, one of the study authors and an associate professor of pediatrics at Stanford, said diet quality in the year before becoming pregnant is important since birth defects typically occur in the first month of pregnancy, before most women realize they are pregnant. The study was published online Monday in the Archives of Pediatrics & Adolescent Medicine.

Previous studies have found that folic acid, a B vitamin, can help protect against neural-tube defects, Dr. Carmichael said. Since 1998, U.S. food manufacturers have been required to add folic acid to cereal, bread and other fortified grain products. But folic acid hasn't prevented all neural-tube defects, which include anencephaly, a fatal brain defect, and spina bifida, which is an opening in the spinal column that can cause partial paralysis of the legs as well as urinary and bowel problems. Researchers are looking to see if other factors play a role in the development or prevention of birth defects.

Dr. Carmichael said the research team focused on about 10,000 women with estimated due dates from October 1997 through

2005 who were participating in the National Birth Defects Prevention Study. That larger study, funded by the Centers for Disease Control and Prevention, started in 1996 and has been tracking women and babies in 10 states.

The Stanford study included 3,411 women whose fetuses or infants had a neural-tube defect or a cleft lip or palate, and 6,147 women with healthy infants. The women filled out detailed questionnaires about food and beverage intake in the year before they became pregnant.

Researchers analyzed the diet information using two methods for scoring overall diet quality. One score measures how well the diet matches a Mediterranean pattern, which is a diet focused on fruits, vegetables, whole grains, seafood and healthy fats such as olive oil.

The second score tracks how well a diet adheres to U.S. Dietary Guidelines, which emphasize low-fat, fiber-rich foods, including lots of fruits and vegetables, and low intake of processed foods. Both scoring systems awarded high scores for consumption of fruits and vegetables and low scores for foods that deliver large amounts of saturated fats, such as red meat or butter, for example.

The women in the study were ranked by diet score then divided into four comparison groups. The study found women with the highest diet scores were 36% to 51% less likely to have a fetus or infant with anencephaly, the brain defect, compared with women with the least healthy diet scores.

Women with the highest diet-quality scores also were 24% to 34% less likely to have an infant with cleft lip, depending on which diet-scoring method was used.

Researchers also found that higher diet quality lowered the risk of spina bifida and cleft palate but that difference wasn't as strong as seen with the other two types of birth defects.

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