

# Daily folic acid supplementation remains important for prevention of birth defects

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Despite the mandatory addition of folic acid to enriched grain products in the United States, many women still do not consume adequate amounts of this important vitamin, according to an editorial written by

Laura E. Mitchell, Ph.D., professor in the Department of Epidemiology, Human Genetics and Environmental Sciences at The University of Texas Health Science Center at Houston (UTHealth) School of Public Health.

Mitchell was invited to write the editorial for *JAMA Pediatrics*, which published it today during Folic Acid Awareness Week and January's Birth Defects Prevention Month. The editorial ran in conjunction with a new report from the U.S. Preventive Services Task Force (USPSTF), which was also published today in *JAMA*, the *Journal of the American Medical Association*.

When taken prior to and during early pregnancy, folic acid is known to reduce the risk of having a child affected with a neural tube defect. Neural tube defects include anencephaly, a condition in which a baby is born without parts of the brain and skull, and spina bifida, which occurs when the spinal cord and the bones surrounding the spine do not form properly. In the United States, approximately 1,200 pregnancies are affected by anencephaly and 1,500 babies are born with spina bifida each year, according to the Centers for Disease Control and Prevention (CDC).

Women who are planning or capable of pregnancy should take a daily supplement containing 0.4 to 0.8 mg (400 to 800  $\mu$ g) of folic acid to reduce their risk of having a pregnancy affected by a neural tube defect, according to the USPSTF recommendation, which was first issued in 2009.

"Since neural tube defects occur in the first few weeks of pregnancy, it is important for women to be taking the recommended amount of folic acid before they become pregnant. Because approximately one-half of pregnancies in the United States are unplanned, the USPSTF recommendation holds for all reproductive-age women, whether or not they are planning a pregnancy, so that all pregnancies benefit from this

preventive measure," Mitchell said.

Although the USPSTF recommendation on folic acid supplementation has not changed since the task force's prior report in 2009, the current report considered new evidence obtained after mandatory folic acid fortification of the country's food supply. The United States Food and Drug Administration (FDA) mandated folic acid fortification of grain products, such as enriched flour and bread, in January 1998.

However, data from the National Health and Nutrition Examination Survey indicate that even with fortification, nearly a quarter of all reproductive-age women have folate levels that are sub-optimal to prevent neural tube defects. Further, women who do not take folic acid supplements are approximately three times more likely to have sub-optimal folate levels compared to women who take supplements.

"Even in the era of mandatory folic acid fortification of the food supply, taking a daily supplement remains a critical strategy for women to make sure they are receiving enough folic acid," Mitchell said.

Although the USPSTF's recommendation about folic acid supplementation has been in place since 2009, the proportion of women who follow the recommendations remains low. Even among women with intended pregnancies, fewer than half take a daily folic acid supplement prior to pregnancy.

To help reduce the proportion of women with an inadequate intake of folic acid, the FDA announced in 2016 that they would allow folic acid fortification of corn masa flour, which is used in foods such as tortillas, tacos, tortilla chips and tamales. The addition of folic acid to corn masa flour specifically targets Hispanic women since they have a higher risk of neural tube defects than non-Hispanic women, tend to have lower blood folate levels and consume fewer of the traditionally fortified

foods.

In the editorial, Mitchell suggests that the current popularity of wearable devices and smartphone-based self-trackers may provide opportunities to develop and disseminate messages aimed at further increasing the proportion of women who follow the USPSTF folic acid recommendation. She also supports the National Preconception Health and Healthcare Initiative, a new public-private campaign to promote preconception health, which she believes has the potential to drive broad system changes that will help increase awareness of and receptiveness to health information, including the USPSTF recommendation on folic acid supplements.

**More information:** *JAMA*, [DOI: 10.1001/jama.2016.19438](https://doi.org/10.1001/jama.2016.19438)

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