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Tulare County

Agriculture and Natural Resources



Prepared by: _____

FOLIC ACID AND NEURAL TUBE DEFECTS

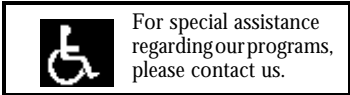
Neural tube defects, including spina bifida, occur in approximately 1 per 1000 births in the United States and contribute significantly to infant death and disability. Spina bifida is a congenital defect in the walls of the spinal canal caused by the lack of union between the laminae of the vertebrae. As a result of this deficiency the membranes of the cord are pushed through the opening, forming a tumor.

Folic acid taken before and during pregnancy can significantly reduce the incidence of neural tube defects. Two recent studies in different regions of the U.S. show less babies born with neural tube defects, presumed to be due to more women increasing folic acid before and during pregnancy.

One study focused on a high-risk region in South Carolina from 1992-1998. Patient education and counseling was provided to women who had previously delivered babies with neural tube defects. In addition, a public awareness campaign about the importance of folic acid was targeted to all women of childbearing age through brochures, television and radio public service announcements, billboards, and posters. The rate of neural tube defects dropped from approximately 2 to 1 case in 1000 births, mostly due to fewer cases of spina bifida. During this same time period the percentage of women taking folic acid before pregnancy increased from 8% to 35%.

Another study reported the results of an intervention along the Texas-Mexico border from 1993 to 1998. The women who enrolled in the study had already delivered a baby with a neural tube defect. They

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received counseling before and during their pregnancies. They also received multivitamins with folic acid. Of 148 subsequent pregnancies, 89% took folic acid before conception. Only one baby was born with a neural tube defect. Notably, one woman had refused counseling and folic acid supplements.

These studies suggest that increasing folic acid in the diet through education, counseling, and the use of supplements can reduce the risk of neural tube defects in high-risk populations. The American Academy of Pediatrics has released its policy statement of the use of folic acid for prevention of neural tube defects. They recommend that all women of child-bearing age should consume 400 micrograms of synthetic folic acid a day from supplements or fortified foods, *in addition to* the amount of folate naturally occurring in foods. Women with previous pregnancies affected by neural tube defects should take up to 4000 micrograms of folic acid a day beginning one month before conception and continuing throughout the first trimester.

What are good dietary sources of folic acid? Dark leafy green vegetables, citrus fruits and juices, yeast, bread, and beans, as well as fortified breakfast cereals are the best sources of this vitamin. Try to include some of these foods in your diet each day.

Source: Maternal and Infant Nutrition Briefs, January/February 2001.

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