

Folic acid may reduce some childhood cancers

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Folic acid fortification of foods may reduce the incidence of the most common type of kidney cancer and a type of brain tumors in children, finds a new study by Kimberly J. Johnson, PhD, assistant professor at the Brown School at Washington University in St. Louis, and Amy Linabery, PhD, postdoctoral fellow at the University of Minnesota.

Incidence reductions were found for Wilms' tumor, a type of [kidney cancer](#), and primitive neuroectodermal tumors (PNET), a type of [brain cancer](#).

Since 1998, the U.S. [Food and Drug Administration](#) has mandated [fortification](#) of foods with folic acid because earlier studies show that prenatal consumption of folic acid significantly reduces the incidence of [neural tube defects](#) in babies.

"Our study is the largest to date to show that folic acid fortification may also lower the incidence of certain types of childhood cancer in the United States," Johnson says.

The study, published in the current issue of *Pediatrics*, examined the incidence of [childhood cancer](#) pre- and post-mandated folic acid fortification.

"We found that Wilms' tumor rates increased from 1986 to 1997 and decreased thereafter, which is an interesting finding since the downward change in the trend coincides exactly with folic acid fortification,"

Johnson says.

"PNET rates increased from 1986 to 1993 and decreased thereafter. This change in the trend does not coincide exactly with folic acid fortification, but does coincide nicely with the 1992 recommendation for women of childbearing age to consume 400 micrograms of folic acid daily."

Study authors used the 1986-2008 data from the National Cancer Institute's Surveillance, Epidemiology, and End Results Program (SEER), which has collected information on cancer cases in various areas of the U.S. since 1973. The study involved 8,829 children, from birth to age four, diagnosed with cancer.

"Declines in Wilms' tumors and PNETs in children were detected by multiple analyses of the data," Johnson says.

"Importantly, the reduced rates of Wilms' tumors also were found in a smaller study conducted in Ontario, Canada, that was published in 2011.

"More research is needed to confirm these results and to rule out any other explanations."

Julie A. Ross, PhD, professor and director of the Division of Pediatric Epidemiology & Clinical Research in the Department of Pediatrics at the University of Minnesota, was a study co-author.

Johnson notes that one concern countries face as they are deciding whether or not to fortify foods to reduce neural tube defects in newborns is the possibility that fortification may cause unintended harm, such as causing new cancers or pre-cancerous lesions.

"Here, we are showing that folic acid fortification does not appear to be

increasing rates of childhood cancers, which is good news," she says.

Provided by Washington University in St. Louis

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