

Beneficial Health Practices Folic Acid Use and Awareness

Neural tube defects (NTD) are among the most serious birth defects that contribute to infant mortality and morbidity. Nationally, NTDs including anencephaly, spina bifida, and encephalocele are estimated to account for 2,660 infants born with a birth defect annually.⁵⁰ Research has shown that 50% to 70% of these NTDs can be prevented if women consume .4mg of folic acid daily before and during pregnancy. The United States Preventative Services Task Force (USPSTF) recommends that all women who are planning to or can potentially become pregnant take a daily supplement containing folic acid. According to the 2012 BRFSS, 35.9% of Arizona women of child-bearing age take a supplement containing folic acid (see **Figure 22A**).

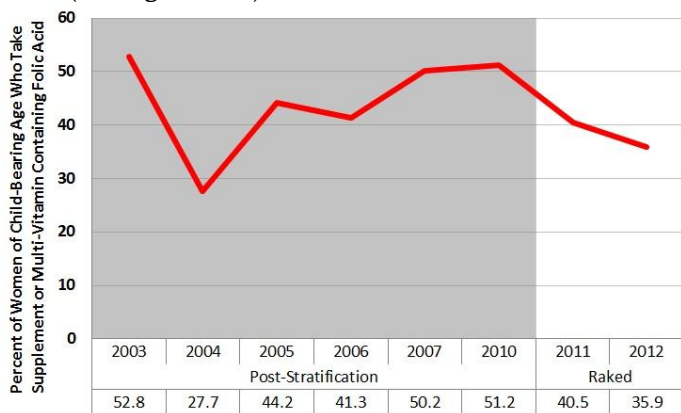


Figure 22A. Arizona 2003-2012 BRFSS female respondents of child-bearing age who take a supplement containing folic acid (not asked in 2008-2009). The change in the background color marks methodological changes. Trend comparisons across methodologies are not feasible.

The USPSTF recommends daily supplementation due to the fact that ~50% of all U.S. pregnancies are unplanned.⁵¹ According to the 2012 BRFSS data, 47.9% of women who are of child-bearing age knew that folic acid prevents birth defects. However, only 13.1% of women follow the USPSTF guideline of daily supplementation (see **Figure 22B**), demonstrating the need for fortification.

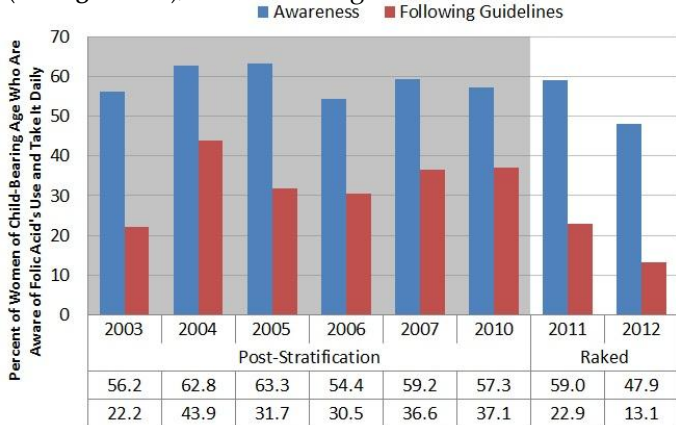


Figure 22B. Arizona 2003-2012 BRFSS female respondents of child-bearing age who knew that folic acid prevents birth defects and who took a folic acid supplement daily. The change in the background color marks methodological changes. Trend comparisons across methodologies are not feasible.

In 1996, the Food and Drug Administration (FDA) began requiring that specific flours, breads, and other grain be fortified with folic acid. The FDA expanded its mandate in 1998 to include other products that use enriched flour and corn flour. Breakfast cereal aside, the foods fortified with folic acid do not provide sufficient folic acid to meet the .4mg recommended; breakfast cereal contain .4mg of folic acid, but the other fortified foods only contain .1 mg per serving. Furthermore, imported corn meal and corn flour products are not required to follow FDA guidelines. Research has shown that Hispanic women are less likely to consume breakfast cereals and are more likely to purchase imported corn flour products.⁵² To obtain the appropriate sample size to stratify the data by race, the BRFSS data from 2003 through 2010 was combined. The data indicates that there is a racial disparity when assessing folic acid awareness and supplementation. Arizona Hispanic and American Indian women had significantly lower folic acid supplementation when compared to White Non-Hispanics. Furthermore, all minorities had a significantly lower percentage reporting folic acid awareness when compared to White Non-Hispanic women (see **Figure 22C**). The folic acid intake disparity due to diet is further compounded by the fact that Hispanic women are less likely to take a supplement containing folic acid and less aware of its health benefits.

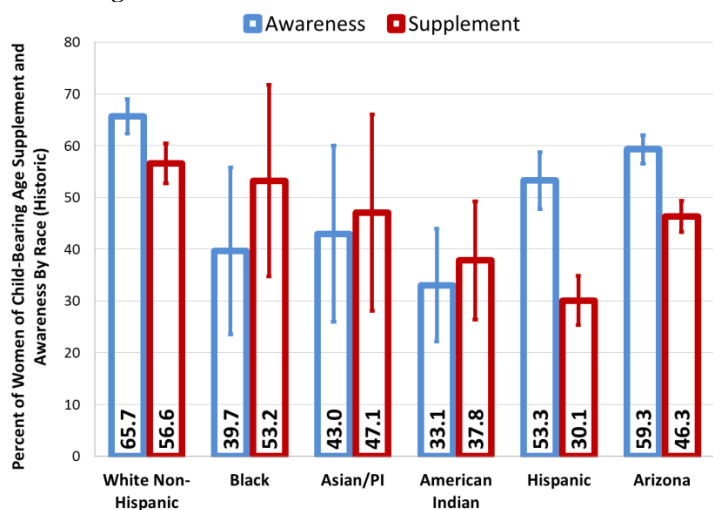


Figure 22C. Arizona 2003-2010 combined BRFSS data assessing female respondents of child-bearing age who knew that folic acid prevents birth defects and/or take a supplement by race.

The historic data also shows that the percent of women who take a folic acid supplement is significantly higher in women who are aware of its benefits, when compared to women who were unaware (see **Figure 22D**). The results indicate that there is a continued need for folic acid awareness education and promotion.

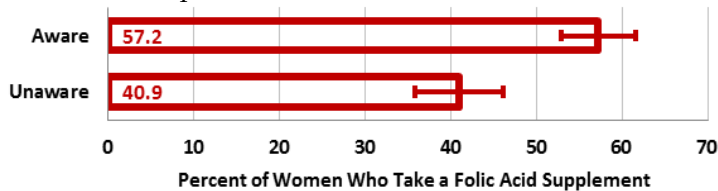


Figure 22D. Arizona 2003-2010 BRFSS female respondents of child-bearing age who take a folic acid supplement by awareness status.

50. U.S. Preventative Services Task Force. Folic Acid to Prevent Neural Tube. <http://www.uspreventiveservicestaskforce.org/uspstf/uspnrfof.htm#related>
 51. Centers for Disease Control. Birth Defect: Data & Statistics. <http://www.cdc.gov/ncbddd/>

52. Williams L, Rasmussen S, Flores A, Kirby R, Edmonds L. Decline in the Prevalence of Spina Bifida and Anencephaly by Race: 1995-2002. *Pediatrics* 2005; 116(580). doi 10.1542/peds.2005-0592