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MORBIDITY AND MORTALITY WEEKLY REPORT

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Knowledge and Use of Folic Acid by Women of Childbearing Age — United States, 1997

Each year in the United States, approximately 4000 pregnancies are affected by spina bifida and anencephaly. Babies born with spina bifida usually survive, often with serious disability, but anencephaly is invariably fatal. The B vitamin folic acid can reduce the occurrence of spina bifida and anencephaly by at least 50% when consumed daily before conception and during early pregnancy. In 1992, the Public Health Service (PHS) recommended that all women of childbearing age who are capable of becoming pregnant consume 400 µg of folic acid daily (1). Folic acid can be obtained from multivitamins or certain other supplements and from some fortified breakfast cereals. It is found naturally in orange juice, green leafy vegetables, and beans; however, it is difficult to obtain the recommended 400 µg daily through diet alone. This report summarizes findings from a survey conducted during January and February 1997 that indicate modest increases since 1995 in knowledge about and consumption of folic acid among U.S. women aged 18–45 years and highlights the need for additional public health efforts to take full advantage of this prevention opportunity.

In 1997, the March of Dimes contracted The Gallup Organization to conduct a random-digit-dialed telephone survey of a proportionate, stratified national sample of 2001 women aged 18–45 years to assess knowledge about folic acid and use of vitamin supplements. The participation rate was 50%. Statistical estimates were weighted to reflect the total population of women aged 18–45 years in the contiguous United States residing in households with telephones. The margin of error for estimates based on the total sample size is plus or minus two percentage points. The questionnaire and methods used in 1997 were identical to those used in a 1995 survey (2).

Overall, 30% of nonpregnant women (i.e., women who were not pregnant at the time of the survey) reported taking daily a multivitamin supplement containing folic acid; 19% of nonpregnant women aged <25 years reported taking vitamin supplements daily, compared with 33% of nonpregnant women aged ≥25 years. Among women who had had a pregnancy during the 2 years preceding the 1997 survey, 23% reported taking a daily vitamin containing folic acid before pregnancy.

A total of 66% of respondents said “yes” to the question “Have you ever heard or read anything about folic acid?”; 22% said they had heard of the PHS recommendation about folic acid. Of the survey respondents who knew about folic acid, 36% reported magazines and newspapers as the source of their knowledge about folic acid,

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22% reported radio and television, and 15% reported a health-care provider. Of women who were familiar with folic acid, 16% reported knowing that folic acid helps to prevent birth defects and 9% that folic acid should be taken before pregnancy. Twenty-two percent of women who had heard of folic acid knew that green leafy vegetables are good sources of folic acid, 8% knew that broccoli is a good source, and 16% knew that orange juice is a good source.

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Editorial Note: The 1995 Gallup Organization–March of Dimes survey found a relatively low awareness of folic acid and of the PHS recommendation, illustrating the need for educational strategies to inform more women about the benefits of folic acid. One such strategy, the March of Dimes “Think Ahead” campaign conducted from June 1995 through January 1997, encouraged women to take 400 µg folic acid daily to reduce their risk for giving birth to a child with birth defects. The campaign included print and television public service advertising, outdoor and transit advertising, posters, and information printed on grocery bags and fast-food tray liners. In addition, the March of Dimes collaborated with the vitamin supplement and citrus industries that delivered folic acid and birth defects-prevention messages on product packaging, in-store displays, and paid print and television advertising. Because the survey in 1997 used the same methods as the survey in 1995, comparisons of the results from the two surveys provide rough measures of the effectiveness of educational campaigns conducted since the 1995 survey.

Overall, 30% of nonpregnant women reported taking a multivitamin containing folic acid on a daily basis in 1997, compared with 25% in 1995. Among women who had a pregnancy during the 2 years preceding the survey, the percentage who reported taking a daily vitamin containing folic acid before pregnancy increased only from 20% to 23%. Moreover, nonpregnant women aged <25 years were least likely to consume a multivitamin daily, with only 19% reporting that they did. These findings highlight the need for additional educational efforts targeted toward women aged <25 years, who account for approximately 39% of all births in the United States.

Awareness of folic acid has increased since 1995 among women of childbearing age: more women had heard or read about folic acid in 1997 than in 1995 (66% compared with 52%), and more women had heard about the PHS recommendation (22% compared with 15%) (2). Awareness that folic acid helps prevent birth defects increased among all respondents, from 5% in 1995 to 11% in 1997, and the proportion of women who knew that folic acid should be taken before pregnancy increased from 2% in 1995 to 6% in 1997.

The proportion of respondents reporting magazines and newspapers as the source of their knowledge about folic acid was similar in 1997 as in 1995. However, of all respondents, the proportion reporting radio and television increased from 6% in 1995 to 14% in 1997. This finding may be attributable to increased presentation of information about folic acid in the broadcast media (e.g., through television advertising campaigns and public service advertising) about the benefits of folic acid. There was little change in the percentage of respondents who reported their health-care provider as their source of information. To increase knowledge of and awareness about the bene-

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fits of folic acid, many state health departments are developing and implementing programs to encourage health-care providers to educate their patients.

In both the 1995 and 1997 surveys, when asked to name a food that is a good source of folic acid, approximately half of the women who had heard of folic acid were unable to do so. However, in 1997, 16% of those who had heard of folic acid identified orange juice as a good source, an increase from 6% in 1995. This increase is possibly a result of extensive advertising done by the citrus industry during the winter of 1996–97.

The findings described in this report are subject to at least one important limitation. The response rate for this telephone survey was low (50%, the same as for the 1995 survey). Knowledge and behavior patterns of nonparticipants may have been different from those of participants: participating women were more highly educated than the total U.S. population; therefore, the prevalence of use of vitamin supplements may have been higher among these women than among U.S. women in general because vitamin usage correlated positively with education (3).

The survey confirms the need for more public education strategies to increase awareness of the benefits of folic acid among women of childbearing age. However, the small behavioral change in comparison with the somewhat larger increase in awareness suggests that there may be a lag time between increased awareness and behavioral change. Further study is needed to identify effective approaches to increasing folic acid consumption and to evaluate approaches being used.

Further surveys will be needed to clarify reasons for the difference in the percentage of women who had had a pregnancy during the previous 2 years and who had taken vitamins before pregnancy (23%) and the percentage of nonpregnant women who reported taking vitamins (30%). A similar difference was observed in the 1995 survey.

In March 1996, the Food and Drug Administration issued regulations (4) requiring that folic acid be added to enriched cereal grain products, such as flours, corn meals, pasta, and rice, by January 1998. In addition, breakfast cereals can be fortified with up to 400 µg folic acid per serving; dietary supplements also can provide recommended levels of folic acid. These foods and their varying folic acid contents allow women of childbearing age several options for meeting the recommended daily intake of folic acid. Women should select diets with sufficient folic acid—either by following dietary guidelines for eating fortified breads and cereals or by using folic acid-containing breakfast cereals or dietary supplements. Educational programs are needed for women of childbearing age about the benefits of folic acid and the options for achieving adequate daily intakes.

References

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