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folic acid

Encouraging periconceptional use of folic acid supplements

Why is this important?

Neural tube defects (NTD), which include spina bifida, encephalocele and anencephaly, result from failure of the spinal cord or brain to develop normally during early foetal development. The seriousness of these abnormalities is reflected by the fact that less than 40 per cent of those affected survive to birth. People born with an NTD, especially those with spina bifida, will experience lifelong disability.

In Australia, in 2001, the estimated birth prevalence (including stillbirths) of NTD was 0.6 per 1,000 births. The overall prevalence of NTD, which includes terminations of pregnancy, was 1.4 per 1,000 births [1]. The prevalence of NTD in Indigenous infants is almost twice that of non-Indigenous infants [2].

Research has shown that an adequate intake of folate in the periconceptional period has the capacity to prevent 70 per cent of all cases of NTD [3]. Many women of childbearing age are

unaware of this association and their dietary intake is below recommended levels.

Best available evidence

Guidelines recommend that women of childbearing age take 0.5mg of folic acid supplements daily for at least one month before pregnancy and three months into the pregnancy [3–5]. Women who are at high risk of having a baby with an NTD include those where a parent-to-be has spina bifida, has had a previous child with an NTD, has a close relative with an NTD, or where the woman has been treated for epilepsy. These women should take ten times the minimal dose (5mg of folic acid daily one month before pregnancy and three months into the pregnancy) [5].

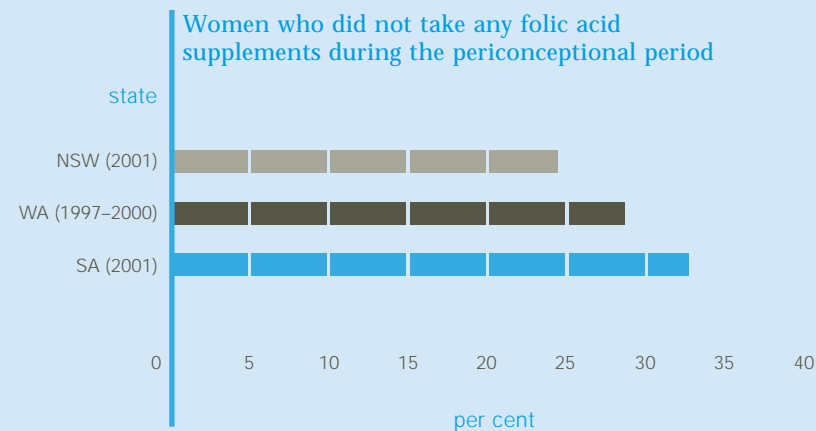
Since 1996, there has been a 35 to 45 per cent reduction in the incidence of NTD in Australia [1]. This decline is believed to have resulted from increased folate intake through the fortification of selected foods, and health

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promotion campaigns encouraging women to take folic acid supplements before and during early pregnancy. The fall in NTD has been confined to the non-Indigenous population [2, 6].

Current practice

In Australia, information about the protective effects of folate began to be promoted to clinicians in the early to mid-1990s [5]. Subsequently, a number of state-based campaigns aimed at raising community awareness were instigated [2,7,8]. Several studies conducted over 2000 and 2001 looked at awareness of the benefits of folate among women of childbearing age and mothers of young infants.



Sources: NSW Dept of Health (2002); Dal Grande E et al (2001); Bower C et al (2004)

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In New South Wales, Western Australia and South Australia approximately 62 to 63 per cent of those surveyed [9,10,11] were aware of the link between folate and NTD. In Victoria though, the figure was only 30 per cent [12].

The use of supplements in the periconceptional period also showed interstate variation. Data from Western Australia shows that only 30 per cent of women took adequate amounts of folic acid [10]. Higher figures of periconceptional supplement use were reported in South Australia [9] and New South Wales [11] (51 per cent and 48 per cent respectively), but the reports do not provide information on the adequacy of the dose. Across these studies, between a quarter and a third of pregnant women took no folic acid supplements during the periconceptional period.

Implications

- All women planning to become pregnant should take folic acid supplements, irrespective of their level of dietary folate intake. Consumption of foods rich in folate should also be encouraged.
- Given that 40 per cent, or more, of pregnancies are unplanned and public health messages are never completely effective, adequate supplementation for all pregnant women cannot be realised.
- The current strategy has not resulted in any reduction in NTD incidence in the Indigenous community, which has a rate twice that of the national average.
- Given the above, there is an urgent need for health promotion programs targeted to both the public and health professionals to encourage full implementation of recommendations on supplements [13].
- There is also an urgent need to give full consideration to a policy of mandatory fortification of a food staple with folic acid so that the benefit of folate is available to all women equally [14].



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