

When screening is still not enough

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In Britain over 90% of pregnancies with neural tube defects (NTDs) are detected and subsequently terminated through antenatal screening programmes.¹ There are an estimated 1170 affected pregnancies per year in the UK of which 980 are diagnosed prenatally and terminated. Screening has proven to be highly effective, but the success conceals a major failure.

It is now 15 years since conclusive evidence was published that taking folic acid prior to becoming pregnant and in early pregnancy reduces the risk of having an NTD pregnancy.² Since 1992 the Department of Health has recommended that all women who could become pregnant should be advised to take 400 µg folic acid per day as a medicinal or food supplement prior to conception until the 12th week of pregnancy in order to prevent the occurrence of an NTD pregnancy.³ This would prevent around a half of affected pregnancies. A higher dose of folic acid (4 mg) could prevent around four-fifths.⁴

Despite the widespread publicity campaigns to inform women of the need to take a folic acid supplement before becoming pregnant, the Health Survey of England in 2002 showed that only 36% of women did so.⁵ There are estimated to be over 1100 NTD pregnancies in the UK per year, a prevalence which has not fallen since the 1990s.¹ The prevalence of affected pregnancies in other European countries that have not introduced mandatory fortification of flour with folic acid has also remained relatively constant, while the NTD rate has fallen in those countries that have introduced mandatory fortification.⁶⁻⁹

In 2000 the UK government nutrition committee (COMA) concluded that universal folic acid fortification of flour at 240 µg per 100g would reduce the prevalence of NTD pregnancies.¹⁰ At this level of fortification around one quarter of affected pregnancies would be prevented – around one per day in the UK.

The UK government did not decide to fortify flour, perhaps for several reasons. Antenatal screening programmes for NTD pregnancies are so successful that only around 190 affected births occur each year and the 980 terminations are perhaps not considered as 'important'.¹ These 190 births are balanced against a public health measure that will affect the whole population. It was also incorrectly thought that fortification might 'mask' vitamin B12 deficiency in the population. This was because originally B12 deficiency was not distinguished from folate deficiency and patients with vitamin B12 deficiency were treated with folic acid. Some of the patients became worse and it was wrongly assumed that this was due to the folic acid. In fact, folic acid did not exacerbate the disease; it was simply that the B12 deficiency became worse because it was not treated with B12.¹¹ Nowadays vitamin B12 deficiency

can be distinguished from folic acid deficiency and treated appropriately with B12 supplements.¹²

On 23 November 2005, the Scientific Advisory Committee on Nutrition (SACN) released a report recommending that mandatory fortification of flour with folic acid should be introduced in the UK.¹³ The Food Standards Agency and health ministers will be considering this advice over the next few months. They should recommend the implementation of flour fortification without further delay. It is surely wrong for antenatal screening and selective abortion to be an acceptable substitute for primary prevention when primary prevention is so simple and inexpensive.

Nine years after the publication of conclusive evidence that folic acid reduces the risk of NTD pregnancies,² an editorial in this *Journal* entitled 'When screening is not enough' indicated the urgency for a national fortification programme.¹⁴ That was six years ago and over this time more than 300 women per year have needlessly had affected pregnancies. Screening is still not enough.

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