

Healthier Pregnancies, Better Lives

Key Points about Folic Acid Fortification and Prevention of Neural Tube Defects (NTDs)

Core Facts:

- 1.** The neural tube becomes each person's brain, spinal cord and central nervous system. It is completely formed (or malformed) by the end of the first month of pregnancy; that is, before most women even know they are pregnant.
- 2.** Neural tubes defects (NTDs) cause such lifelong disabilities as Spina Bifida. However, other adverse consequences are more common. These include miscarriages, stillbirths, neonatal deaths and therapeutic terminations (after pregnancy screening reveals an NTD).
- 3.** It was scientifically proven by the MRC Vitamin Study in 1991 that vitamin B9 (folic acid) prevents the vast majority of NTDs. This gold standard, international research study was led by Professor Sir Nicholas Wald. Decades of evidence have confirmed this connection between adequate folic acid (Vitamin B9) and the prevention of neural tube defects.
- 4.** While certain foods contain folates (the natural form of folic acid), it has been shown that even the healthiest diet is not enough to prevent NTDs. Low levels of folic acid (as in multivitamins) have a sub-optimal preventative effect.
- 5.** Because of how early in pregnancy the neural tube is formed (or malformed), a sufficient level of blood folates must be achieved pre-pregnancy and continued into the first trimester. Starting to take folic acid supplements after the first antenatal appointment has no benefit in preventing NTDs.
- 6.** Low blood folate levels pre-pregnancy strongly increase the risk of NTDs. Research also indicates low blood folate levels have other significant risks for older adults. Thus, folic acid fortification may have additional benefits unrelated to pregnancy.

Core UK Realities:

- 1.** The UK has been fortifying staple foods for more than half a century. These additives include Vitamin B1 (Thiamin) and Vitamin B3 (Niacin), plus Calcium and Iron. Vitamin B9 was not included originally because its ability to prevent NTDs was not yet known.
- 2.** Fortification of staple foods with folic acid has long been legislated and acted upon in more than 80 countries (including Canada, Australia and the USA), but not in the UK. Every country employing fortification has reduced the incidence of NTDs. No country has ever discontinued folic acid fortification.
- 3.** Advising people who can become pregnant to take folic acid supplements has been the UK's policy choice. While this benefitted those who took these supplements in advance of pregnancy, most people who could have benefited did not take them. Those who did tended to be of higher socioeconomic status. The unintended consequence is that the supplementation policy has widened UK health inequalities.
- 4.** The UK Government in 2021 – two years after its public consultation - announced it would take forward fortification . . . but with only one type of flour and a minimal level of folic acid. In September 2022, it launched another UK-wide consultation process. This consultation is open to everyone and ends on 23 November 2022. It can be accessed here: [Amending the Bread and Flour Regulations 1998 and the Bread and Flour Regulations \(Northern Ireland\) 1998](#)
- 5.** Food producers have generally not been opposed to folic acid fortification. After all, they have been producing fortified bread and other staple foods for more than fifty years. Adding one more B vitamin is not a technical or economic barrier. They only want to have a 'level playing field' where the same fortification requirements apply to all producers.

Fully effective fortification is the wisest, fairest, safest and least costly UK policy choice.

Core Recommendations:

- 1.** The UK Government should act without further delay to enact and implement fully effective folic acid fortification across the UK. That requires:
 - a) fortification of multiple staple foods; and,
 - b) a much higher level of folic acid than the UK Government suggests.

The first will enable the preventative benefits to be equitably distributed among all women, irrespective of their dietary restrictions and preferences. The second will make the difference between only 10-20% of pregnancies being protected from NTDs, versus an 80% preventative benefit with a safe, higher level of folic acid fortification.

At least 1mg of folic acid should be added to each 100g of flour and an equivalent amount added to rice and other grains. This would achieve the average blood folate level of the women who took a 4mg folic acid supplement in the original MRC Vitamin Study. That proved to be safe and successful in preventing NTDs. Fully effective folic acid fortification would finally end the great majority of NTD-caused harm and inequality that has continued unabated for decades.

- 2.** The scientific evidence is clear, extensive and unequivocal that meaningful fortification with folic acid – that is, multiple foods and an optimal folic acid level - is safe, effective, equitable, inexpensive and simple to implement. By contrast, the UK Government's proposed minimal/token policy (i.e., only one type of bread and a low level of folic acid fortification) is not acceptable and should not be accepted.

Only protecting 10-20% of the women and babies through a suboptimal UK folic acid fortification policy has no scientific basis. It will result in thousands of NTDs that could have been prevented. In turn, the high human and financial costs of NTDs – miscarriages, stillbirths, neonatal deaths, therapeutic terminations and birth defects – will persist.

It is important for all concerned to respond to the current UK-wide consultation before the 23 November 2022 deadline. Your voices and views matter.

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