

Reducing the incidence of Spina Bifida and related conditions resulting from neural tube defects

House of Lords, Oral Question

Wednesday 12 September

About the BMA

The BMA is a professional association and trade union representing and negotiating on behalf of all doctors and medical students in the UK. It is a leading voice advocating for outstanding health care and a healthy population. It is an association providing members with excellent individual services and support throughout their lives.

The BMA believes fortifying flour with folic acid (vitamin B9) is an important, cost-effective public health measure to reduce the risk of NTDs (neural tube defects) occurring in pregnancy. This would help the Government to deliver its goal to ensure every child gets the best possible start in life.

The policy has overwhelming support from the SACN (Scientific Advisory Committee on Nutrition), FSA (Foods Standards Agency), UK Chief Medical Officers, and across the UK – including public statements¹ from the administrations in Wales and Scotland.

We urge Peers to press for a timeline regarding a UK-wide decision about this important public health policy.

Key points

- NTDs are birth defects of the brain, spine or spinal cord. They are one of the leading causes of infant mortality worldwide.² There is substantial evidence that increased intake of folic acid, a water-soluble B vitamin, reduces the risk of NTDs occurring in pregnancy.
- Many women don't take folic acid during the critical first 28 days of pregnancy, for reasons outlined below. The BMA supports the mandatory fortification of flour with folic acid as an important public health measure to reduce the risk of common birth defects – in line with the Government's commitment to promote good pre-conception health.³
- There is widespread support across Scotland, Wales and Northern Ireland for this measure. A joint-letter from the health ministers for Scotland and Wales to the UK's Secretary of State for Health and Social care called for a UK-wide policy. The BMA urges the UK Government to act without further delay.

Background

Prevalence of NTDs

NTDs, such as spina bifida and anencephaly, are a result of the neural tube failing to close properly in the early days of embryonic development (approximately 28 days post-conception). When the

¹ Joint-letter from Welsh and Scottish administrations to UK Health & Social Care Secretary of State, Dec 2017:

<https://news.gov.scot/news/folic-acid-in-flour-1>

² Copp AJ & Greene NDE (2016) Neural Tube Defects. *eLS*: 1-12

³ Letter from Lord Prior as Parliamentary Under-Secretary of State for Health to Lord Rooker on the *Bread and Flour Regulations (Folic Acid) Bill* (13 July 2016)



spine and nervous system do not develop properly in this way, it can result in severe disability and morbidity.

Doctors are concerned about the number of pregnancies in the UK that continue to be affected by NTDs; they are one of the leading causes of infant mortality worldwide. Their prevalence has remained largely consistent over the last 20 years, with the UK continuing to have some of the highest levels of NTDs in Europe.⁴

Mandatory folic acid fortification

Official guidance

The critical period for ensuring adequate folate levels is during the first 28 days of pregnancy to ensure that the spine and nervous system develop properly. Official NHS guidance recommends that all women who are pregnant, or could become pregnant, “*should take a daily 0.4mg (400 micrograms) folic acid supplement from the time [they] stop using contraception until the 12th week of pregnancy*”.⁵

The SACN (Scientific Advisory Committee on Nutrition) has recommended mandatory folic acid fortification as the most effective way of increasing folate acid intake of women most at risk of NTD-affected pregnancies.⁶ Flour is an appropriate vehicle for fortification in the UK because a large proportion of the population regularly consumes flour-based products, which are already fortified with calcium, thiamine, iron and niacin.

Safeguard 1: controls on fortification by the food industry

In the UK, the FSA has set a guidance level of 1mg per day of folic acid for adults; the BMA is aware that extremely large dosages (more than 15mg) can result in digestive problems, insomnia, skin reactions and seizures. However, provided women receive advice on using supplements, and there are appropriate controls on mandatory and voluntary fortification of flour in the food industry,⁷ there is no evidence to suggest a mandatory folic acid fortification programme would cause any harm.

Safeguard 2: guidance for women

The introduction of mandatory fortification of flour with folic acid would need to be accompanied by advice for women of child bearing age who do not consume any flour-based products. These women may include those with coeliac disease and gluten sensitivity, some individuals with irritable bowel syndrome, and those on gluten free or carbohydrate free diets.

The use of flour-based products for mandatory folic acid fortification is supported by the SACN, FSA, UK Chief Medical Officers, and devolved administrations.

BMA support for mandatory folic acid fortification

The BMA recommends fortification over supplementation for a number of reasons:

- some women in the UK are unaware of the benefits of increasing folic acid intake when planning to conceive a child;
- there is poor compliance with advice to take folic acid pre-conceptually;
- and as many as half of all pregnancies are unplanned.⁸

⁴ European Monitoring of Congenital Anomalies: http://www.eurocat-network.eu/content/EUROCAT%20STAT%20Mon%20Report_web12_2_18.pdf

⁵ NHS Choices, ‘[Vitamins and Minerals—B Vitamins and Folic Acid](#)’ (accessed 05 July 2016)

⁶ Scientific Advisory Committee on Nutrition (2017) Update on folic acid – July 2017. London: The Stationary Office.

⁷ i.e. ensuring individuals do not exceed 1mg per day

⁸ Scientific Advisory Committee on Nutrition (2011) Paper for discussion: timing of folic acid supplementation for prevention of neural tube defects (NTDs). London: Scientific Advisory Committee on Nutrition.

As a result, the first time many women see a health practitioner for advice about their pregnancy is beyond the 28 days post-conception that it takes for an NTD to develop, which is too late.

Compelling evidence from the United States,⁹ Canada¹⁰ and Chile¹¹ (where mandatory fortification programmes have been introduced) has shown that fortification can be effective at reducing the rate of NTDs by approximately 25 to 50 per cent.

The Government's pre-conception health strategy

The Government has spoken of its ambition to promote good pre-conception health of parents to make sure every child gets the best start in life. Recognising that many parents “*make few preparations*” to improve their health before pregnancy, and many pregnancies are unplanned, it has previously written: “*a more proactive approach which promotes good preconception health, to reduce the risk of poor pregnancy outcomes...should be adopted*”.¹²

An independent expert advisory committee to Government, the COT (committee on toxicity in chemicals in food, consumer products and the environment),¹³ has stated that “*each year there are a number of avoidable NTD-affected pregnancies*” because not all women use folic acid in supplements, and many pregnancies are unplanned.

UK wide approach

As a component of the ‘Welfare Foods’ policy, the decision to implement this public health measure in England, Wales and Northern Ireland is reserved by the UK’s Department of Health – hence, progress cannot be achieved across the UK without Westminster’s support. Scotland was given autonomy over this matter when the policy was devolved through the Scotland Act 2016; however, a Scotland-only policy would have practical and cost implications.

In recognition of the “*compelling case for action across the UK to reduce NTD incidence*”, the health ministers for Scotland and Wales have written to the UK’s Secretary of State.¹⁴ They urge the UK Government to “*press ahead*” with the policy and “*agree a uniform approach to the introduction of legislation across the UK*”.

The BMA would like to see mandatory fortification of flour with folic acid implemented, UK-wide, without further delay. It is an important public health measure, which has widespread support, and would help the Government to achieve its ambition to give every child the best start in life. We know that health promotion in isolation can have limited effectiveness and, therefore, needs to be supported by this type of regulatory policy.

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⁹ Centers for Disease Control and Prevention (2015) Spina bifida and anencephaly before and after folic acid mandate –United States, 1995-2011. Morbidity and Mortality Weekly Report 64(01): 1-5.

¹⁰ Ami N, Bernstein M, Boucher F et al (2016) Folate and neural tube defects: the role of supplements and food fortification. *Paediatric child health* 21(3): 145-149.

¹¹ Cortes F, Mellado C, Pardo RA et al (2012) Wheat flour fortification with folic acid: changes in neural tube defects rates in Chile. *American Journal of Medical Genetics* 158: 1885-90.

¹² Department of Health letter to Lord Rooker, July 2016: http://data.parliament.uk/DepositedPapers/Files/DEP2016-0626/Letter_to_Lord_Rooker_Folic_acid_debate.pdf

¹³ Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment, minutes of the meeting held in March 2018: <https://cot.food.gov.uk/sites/default/files/draftcotminutesmarch2018.pdf>

¹⁴ Joint-letter from Welsh and Scottish administrations to UK Health & Social Care Secretary of State, Dec 2017: <https://news.gov.scot/news/folic-acid-in-flour-1>