

12th November 2019

Folic Acid Fortification

New Zealand College of Midwives

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The New Zealand College of Midwives is the professional organisation for midwifery. Our members are employed and self-employed and collectively represent over 90% of the practising midwives in this country. There are approximately 3,000 midwives who hold an Annual Practising Certificate (APC). These midwives provide maternity care to, on average, 60,000 women and babies each year. New Zealand has a unique and efficient maternity service model which centres care around the needs of the woman and her baby.

Midwives undertake a four-year equivalent undergraduate degree to become registered followed by a first year of practice program that includes full mentoring by senior midwives. The undergraduate curriculum meets all international regulatory and education standards. Midwives are authorised prescribers in relation to their Scope of Practice as determined by the Midwifery Council.

Midwives provide an accessible and primary health care service for women in the community within a continuity of carer model as Lead Maternity Carers. Midwives can also choose to work within secondary and tertiary maternity facilities, providing essential care to women with complex maternity needs.

The College offers information, education and advice to women, midwives, district health boards, health and social service agencies and the Ministry of Health regarding midwifery and maternity issues. Midwives interface with a multitude of other health professionals and agencies to support women to achieve the optimum outcome for their pregnancies, health and wellbeing

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Ministry for Primary Industries (MPI)

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Folic Acid Fortification

The New Zealand College of Midwives (the College) welcomes the opportunity to provide feedback on the proposed options for folic acid fortification consultation process.

Provision of pre-conceptual care to women is within the midwifery scope of practice and midwives currently advise women to take folic acid supplementation pre-conceptually and in the first trimester of pregnancy in order to reduce the risk of neural tube defects. Because neural tube defects occur very early on in pregnancy, mandatory fortification is largely aimed at those women who are unaware of their early pregnancies. Not all women will be consuming products made with fortified flour, and even with supplements and fortification the incidence of NTDs will not be eliminated completely. However, mandatory fortification may have a significant impact on the reduction of rates of NTDs and the College agrees that this is an effective public health strategy which we can support.

The College feedback is below. Although we generally support mandatory fortification we have raised some questions in this feedback.

1. Mandatory fortification is likely to provide major benefits to populations who may be less likely to use supplements. In terms of addressing health inequities the College would like to see more work in the area of public health regarding supplements and, more specifically, consultation with Māori and Pasifika communities about experiences of the barriers to using these recommended supplements. It is necessary to develop a well-designed and systematic programme to inform the public and promote supplements which will prevent more NCDs than food fortification.

2. Although the College generally supports mandatory fortification we have some concerns about the potential for exceeding the recommended dosage of folic acid. Points 3-7 below represent relevant research we have noted in this area.
3. Schrott et al. question whether there could be unintended consequences of continuing folic acid supplementation on outcomes in children and they suggest that children born to women who received extended folic acid supplementation should be followed in terms of their cognitive and social development.¹
4. Caffrey et al. looked at gene specific DNA methylation in newborns in a study that aimed to investigate the effect of folic acid supplementation during trimesters two and three on DNA methylation in cord blood of key epigenetically controlled genes. The RCT study presented evidence that continued folic acid supplementation after the first trimester of pregnancy affected DNA methylation of specific genes in the offspring, including those related to the brain.²
5. Schrott et al. also suggest that we do not fully understand the consequences of population-level fortification from food-enrichment programs, and that there is “conflicting evidence about the role that increased folic acid supplementation plays in colon cancer risk, which may be particularly relevant given the potential for reduced DNA methylation in an excess of folate.”
6. If mandatory folic acid fortification goes ahead the College would like to see independent monitoring and surveillance mechanisms put into place, which assess the potential risks and benefits associated with mandatory fortification. Without this monitoring an evaluation of the consequences of this change will not be possible.
7. Although Schrott et al. and Caffrey et al. are concerned with supplementation dosages in pregnancy after the first trimester, rather than the amounts likely to be received through food fortification, the College is interested in understanding this issue in more depth and would welcome further information related to this point.
8. The College notes that a supplement of 400µg/day of folic acid appears to provide continued benefit of reduced incidence of NTD whilst also protecting against the risk of exceeding recommended upper intake levels.^{3 4 5}

¹ Schrott, R., & Murphy, S. K. (2018). Folic acid throughout pregnancy: too much? *Am J Clin Nutr*, 107(4):497-498

² Caffrey, A., Irwin, R. E., McNulty, H., Strain, J. J., Lees-Murdock, D. J., McNulty, B. A., Ward, M., Walsk, C. P., Pentieva, K. (2018). Gene-specific DNA methylation in newborns in response to folic acid supplementation during the second and third trimesters of pregnancy: epigenetic analysis from a randomized controlled trial. *The American Journal of Clinical Nutrition*, 107(4):566–575.

³ Capel, I., & Corcoy, R. (2007). What Dose of Folic Acid Should Be Used for Pregnant Diabetic Women? *Diabetes Care*, 30 (7) e63; DOI: 10.2337/dc07-0200

⁴ Chitayat, D., Matsui, D., Amitai, Y., Kennedy, D., Vohra, S., Rieder, M., & Koren, G. (2016). Folic acid supplementation for pregnant women and those planning pregnancy. *Journal of Clinical Pharmacology*, 56(2):170–175. doi:10.1002/jcph.616

⁵ De-Regil, L., Peña-Rosas, J., Fernández-Gaxiola, A. C., & Rayco-Solon, P. (2015). Effects and safety of periconceptional oral folate supplementation for preventing birth defects. *Cochrane Database of Systematic Reviews*, Issue 12. Art. No.: CD007950. DOI: 10.1002/14651858.CD007950.pub3

9. The College also notes that other countries recommend a dosage of 400µg/day.^{6 7 8}
- Therefore, we suggest that this work on the fortification of food with folic acid should be accompanied by a review of the recommended supplemental dosage of 800 µg /day as part of pre-conceptual care, and for pregnant women in the first trimester, in Aotearoa New Zealand. This will require an urgent review of the dosage of funded tablets.
10. The College considers that mandatory labelling of fortified products is essential and we support the exclusion of organic foods from the mandatory regulations.

Conclusion

The College generally supports the mandatory fortification of all non-organic wheat flour, whether milled in Aotearoa New Zealand or imported from overseas. Our accompanying concerns have been outlined in the points above. If mandatory folic acid fortification goes ahead, independent monitoring and surveillance mechanisms to assess the associated potential risks and benefits will be essential.

Regardless of the option chosen, information needs to be well communicated to the public and also to health professionals who provide care to pregnant women.

If the status quo is maintained and the voluntary fortification option is chosen, there will be a need for public health strategies to raise awareness of dietary sources of folic acid, and the importance of folic acid consumption as a means of reducing the rates of neural tube defects.

Ngā mihi

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New Zealand College of Midwives

⁶ Centers for Disease Control and Prevention <https://www.cdc.gov/ncbddd/folicacid/about.html>

⁷ NHS UK <https://www.nhs.uk/common-health-questions/pregnancy/why-do-i-need-folic-acid-in-pregnancy/>

⁸ Government of Canada <https://www.canada.ca/en/public-health/services/pregnancy/folic-acid.html>

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