

Food fortification – a valuable option in a “junk” food society

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- Today's diet.
- Fortification – Definition & prevalence.
- Kellogg's fortification policy.
- Evidence of impact of fortified foods in the population. (Iron & Folic Acid).
- Conclusions. Is Fortification necessary?

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Do we have a Junk food Society?

- Illness through nutrient deficiency is rare.
- Abundance and availability of nutritious foods.
- Life expectancy better than ever.
- Fruit & veg consumption increasing.
- Salt intake decreasing.
- Awareness & engagement of food and health increasing.
- The diet has changed substantially.



- Obesity and associated diseases.
- Inadequate physical exercise.
- Explosion in eating out and less home cooking/structured family meals.

Junk Food = food that is high in calories but low in nutritional content

Junk Food = food that is unhealthy but is quick and easy to eat.

Perception of "junk food" varies

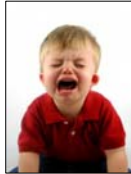
Are the diets of British adults adequate in micronutrients?

- **Minerals** : Fe, Ca, Mg, Zn are close to RNI
- **Iron levels among women are especially low**
- **Vitamins**: Folate and Riboflavin are of possible concern

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Are the diets of British Children adequate?

- Iron deficiency is the most commonly reported nutritional disorder during early childhood in the UK.
- The NDNS of British children found that 1/8 toddlers to be anaemic.
- NDNS data indicate that a significant proportion of young women have average calcium intakes below Lower Reference Nutrient Intakes (8% of women aged 19-24 years and 6% of women aged 25-34 years)



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What is fortification?

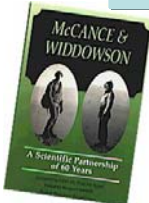
- Fortification is the addition of nutrients to a food to levels above those normally present in that food.
- Restoration is the replacement of nutrients lost during some stage of food production or distribution.

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Prevalence of fortified foods



66 % of consumers in Ireland consume fortified foods but Fortified foods only provide 1.3% of the energy in the diet



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Kellogg's & Fortification



- Kellogg's policy to fortify food where there is a demonstrable shortage in the diet or history of use.
- Kellogg's began fortifying cereal in the 1950's with Special K. Low calorie diets require more nutrient density.
- Kellogg's began fortifying with folic acid in the UK in 1980's at the request of MAFF.

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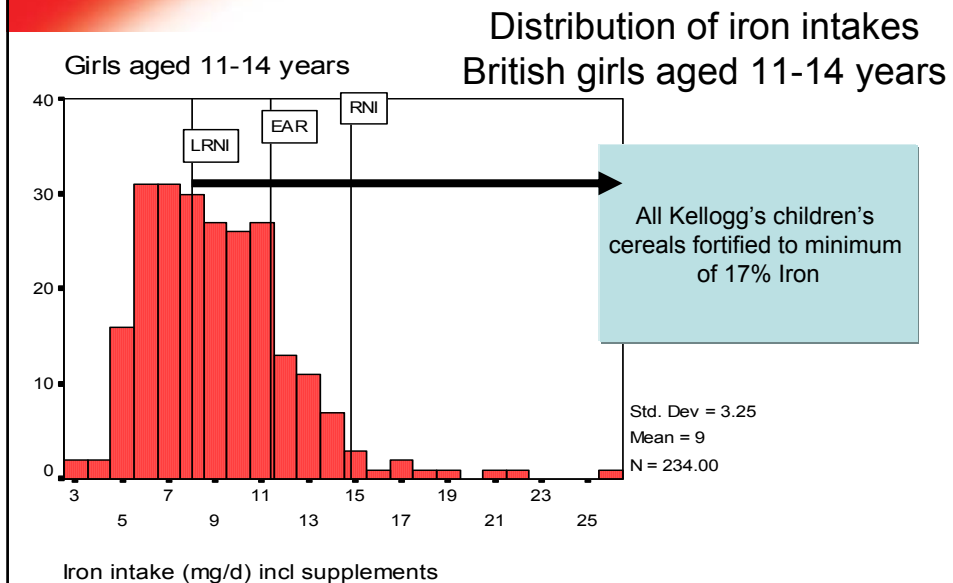
Kellogg's & Fortification: Special K

- Target market people following a low calorie diet.
- Fortification profile is tailored to meet a low calorie diet.
- Special K is fortified with 6 B vitamins, vit D, Vit C and iron.

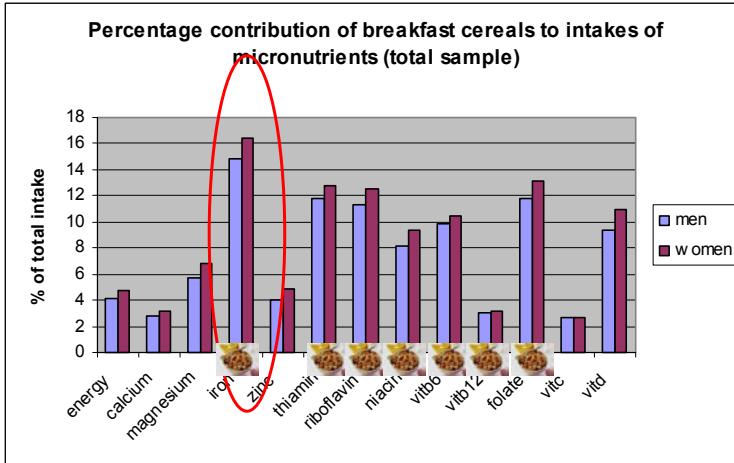


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Kellogg's & Fortification: Iron



Impact of Fortification



Cereals contribute less than 5% of the energy but 15% of total iron, and ~10% of B1, B2, B6, folate and vitamin D

Impact of Fortification

- *“Voluntary fortification of breakfast cereals with folic acid is currently making an important contribution towards folate intakes in lower intake groups and without it there would be a rise in the number of cases of NTD-affected pregnancies if it were not replaced with mandatory fortification.”*

Impact: Independent peer reviewed evidence

- 66% of Irish consumers eat fortified food.
- Increasing consumption of FF is associated with a lower percentage of food energy intake from total fat, and a higher percentage of food energy intake from total carbohydrate.
- It appears that FF consumption is a marker of both better dietary quality and healthy lifestyle behaviours.

Analysis of the impact of fortified food consumption on overall dietary quality in Irish adults

Triona Joyce, Evelyn M. Hannon, Mairead Kiely and Albert Flynn*

Irish Universities Nutrition Alliance at the Department of Food and Nutritional Sciences, University College Cork, Cork, Republic of Ireland

Received 28 June 2007 - Revised 7 April 2008 - Accepted 15 April 2008 - First published online 17 July 2008

Children Who Consume Breakfast Cereal are More Likely to Meet Targets.

Public Health Nutrition 6(8), 815-820

DOI: 10.1079/PHN2003493

Micronutrient intakes, micronutrient status and lipid profiles among young people consuming different amounts of breakfast cereals: further analysis of data from the National Diet and Nutrition Survey of Young People aged 4 to 18 years

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Submitted 19 February 2003; Accepted 28 May 2003



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A world without fortification??

Cuskelly et al *American Journal of Clinical Nutrition*, Vol. 70,
No. 2, 234-239, August 1999

The American Journal of Clinical Nutrition



Study

Folic acid–fortified foods removed from the diets of women consumed such foods at least once weekly (consumers).

Results

Reduced availability of fortified foods had profound effect on nutrient status in 12 weeks.

Conclusion:

- This magnitude of change in folate status in women is predicted to have a significant, although not optimal, effect in preventing neural tube defects.

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The Future of Fortification

- Excess calorie intake is one problem which needs to be addressed.
- As calorie intake decreases, less opportunity to take in micronutrients.
- Nutrient density is becoming ever more important.

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Is Food Fortification Necessary?

A significant proportion of the population are at high risk
for nutritional deficiency for 1 or more nutrients

Children who eat fortified breakfast cereals are more likely to
reach nutrient targets and less likely to have deficiencies.

YES

Fortification (including voluntary) can, and does,
make a significant contribution to mitigating this risk

Foods fortified with folic acid can even save lives

In today's increasingly obese society, overall
calorie intake needs to decline.

Fortified foods help to ensure we meet the nutrient targets.

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