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Letter to the Editor

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New Zealand breakfast cereals: are there sufficient low-sugar, low-sodium options?

Madam

We wish to respond to a letter by Gina Levy of Kellogg (Australia) Pty Ltd – Research and Technology, Australia entitled 'The New Zealand breakfast cereal category is dynamic and responsive to consumer preferences', published in *Public Health Nutrition*[1] in response to our published article 'The nutritional quality of New Zealand breakfast cereals: an update'[2]. We thank the author for her interest in our publication and will respond to several of her comments.

The above letter suggests a misrepresentation of the nutritional quality of breakfast cereals with our wording that many cereals can be 'energy-dense and nutritionally poor'. While we concur with Ms Levy that some ready-to-eat cereals contain moderate levels of natural and supplemental vitamins/minerals, as well as whole grains, nuts and seeds, our comment was in relation to the proportion of nutrients in these products and their alignment with the New Zealand recommended nutrient intakes from cereals. Many of the New Zealand breakfast cereals analysed for our original publication had up to 30 % of their energy content from sugar alone, with the Na content of some cereals being up to 350 mg per 100 g of product. With New Zealand currently having a very high prevalence of obesity[3], the 30 % sugar content of cereals, particularly those marketed towards children, is nutritionally poor, despite the fact that these cereals may offer whole grains as a primary carbohydrate source.

We acknowledge an ambiguity when we described a bowl of cereal as exceeding the recommended intakes for sugar and Na. We should have clarified that these levels can be exceeded when one considers the proportion of kilojoules and nutrients normally consumed in the breakfast meal alone. It is documented that many cereal eaters (both adults and children) regularly consume more than the manufacturer-declared serving size in one sitting[4,5] and that children will voluntarily eat more of a high-sugar cereal (up to twice the recommended serving size) compared with a lower-sugar alternative[6]. When looking at the mean sugar values of children's breakfast cereals in our New Zealand data set, the intake from double the recommended serving size, with 200 ml of milk, would equate to approximately 25 g sugar in one breakfast meal. Ms Levy acknowledged that a child's maximum sugar intake should be approximately 25 g/d (based on WHO recommendations that sugar should not exceed 10 % of daily energy intake[7]). Thus, a child's total recommended daily sugar allowance could be consumed in this one meal alone. The literature reports that increasing breakfast energy is associated with greater overall food intake in normal-weight and obese subjects, and that those who consume a large breakfast meal do not compensate by eating smaller meals later in the day[8]. Furthermore, it has been reported that children will readily consume lower-sugar cereals if offered to them[6,9] and our argument is that New Zealand manufacturers do not currently provide adequate low-sugar cereal options. Except for 'Biscuits and Bites', the mean sugar content of all breakfast cereal categories in 2017 was 20 % or more, suggesting that adults are also consuming a significant amount of sugar from their breakfast cereal meal (particularly when combined with milk and any added fruits or sugar).

The 'adequate intake' of Na has been shown to range from 200–400 mg in children aged 2–3 years, through to 460–960 mg in youth aged 14–18 years[10]. Thus, it is concerning that one 40 g serving of dry cereal can provide up to 200 mg Na, especially as Ministry of Health data report that Na from breakfast cereals accounts for only 6 % of the daily Na intake[11]. If those eating high-sugar cereals are indeed eating up to double the recommended serving size as suggested previously[6], then the Recommended Daily Intake (RDI) of Na for younger consumers is also being reached after consumption of the breakfast meal alone.

The Ministry of Health in New Zealand currently recommends that high-fat, -sugar and -salt (HFSS) foods and drinks should be consumed no more than once per week[10]. Yet, breakfast cereals are generally marketed as being foods that can be consumed on a daily basis. Certainly, not all New Zealand breakfast cereals would be termed a HFSS food based on their sugar, fat or Na content, but a large proportion would be based on our data collected in 2017. This is also concerning, as New Zealand television advertising shows proportionately twice as many breakfast cereals advertisements as Australia[12]. It is also a worry that promotional characters used to market cereals are more likely to feature on cereals calculated to be 'less healthy' when using Nutrient Profile Scoring Criterion scores[13].

We acknowledge Ms Levy's comments about a lack of data to support our statements about product reformulation, and this was noted as a limitation in our original publication. However, as we did not have access to individual product details from the original 2013 data set, we were unable to determine whether specific product

reformulations had taken place. Despite this, we suggest that the lack of change seen at the category level in our data is still indicative that little has been done at a manufacturer level to reduce the content of sugar and Na of many breakfast cereals. We agree with Ms Levy that there have been new products and brands entering the breakfast cereal category during the last 5 years, and suggest a more robust study should be undertaken to evaluate whether existing products have had their nutritional profiles altered in recent years in an attempt to align with suggested New Zealand RDI. Interestingly, Ms Levy focused on one particular in-house cereal example (Nutri-Grain®) and reported that the manufacturer (Kellogg's) has reduced the sugar content of this product. However, the data sourced to support this claim are from an Australian website and no evidence has been provided that this change has also occurred in the New Zealand product. Furthermore, Nutri-Grain has previously been criticised by the Obesity Policy Coalition for its level of sugar, being the highest of ten children's cereals surveyed[14], suggesting that this one product alone may have been targeted for reformulation. The reformulated Nutri-Grain product discussed in the letter still contains 26·7 % sugar, so the reformulation has not fully redressed the issue of excessive sugar in the cereal. Further, Ms Levy did not provide any information that other cereals had been reformulated in recent years (either Kellogg's or any other brand) and a search of both the Internet and published literature could not identify any other information or press releases about cereal companies in New Zealand reducing their sugar content.

We would like to acknowledge that we misrepresented that there is no regulation of food labelling in New Zealand and thank Ms Levy for clarifying this point. However, the emphasis of this statement in the original publication was on the lack of regulation of product formulation and promotion of breakfast cereals. Currently, there is little control of the nutritional quality of breakfast cereals in New Zealand and this appears to be largely manufacturer-driven in response to customer demand. However, it is our belief that manufacturers should take some responsibility for the provision of healthier breakfast cereals (including cereals with a lower sugar content), particularly as the published literature demonstrates that consumers will still readily purchase and consume such products.

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Lynne Chepulis[1] and Gael Mearns[2]

[1]Waikato Medical Research Centre
University of Waikato
Hillcrest 3216
Hamilton, New Zealand
Email: lynnec@waikato.ac.nz

[2]School of Clinical Sciences
Auckland University of Technology
Auckland, New Zealand

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