

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Cross-sectional survey of the amount of sugars and energy in cakes and biscuits on sale in the UK for the evaluation of the sugar reduction programme
AUTHORS	Hashem, Kawther; He, Feng; Alderton, Sarah; MacGregor, Graham

VERSION 1 – REVIEW

REVIEWER	Jessica Grieger Robinson Research Institute and Adelaide Health and Medical Sciences, University of Adelaide, Adelaide, AUSTRALIA
REVIEW RETURNED	27-Sep-2017

GENERAL COMMENTS	<p>This paper investigates the amount of dietary energy and sugar in cakes and biscuits from supermarkets in the UK. While the paper is fairly well written and the study is interesting and provides information on the nutrient profile in a large number of food items, the paper is let down by a lack of broader understanding on the application of the results and the feasibility of actually changing the food supply via a reduction in sugar. Additional comments for each section are below.</p> <p>Introduction: Overall the introduction is too long and is focused on industry based information rather than highlighting the health issues related to high sugar consumption. Line 21: Do you mean UK recommendations? Line 23: When you mention under reporting, is this on all foods or just energy dense foods, and are there references to support under reporting in children?</p> <p>Methods: Exclusion criteria-does this include self-serve bakery items?</p> <p>Results: The results are very long and wordy. There are many brands of cakes and biscuits that are not found outside the UK which can make for difficult interpretation and whether reporting on such brands really adds to the paper. Perhaps more importantly, it might be better to just report on the number of foods that would fall under the different red labels and compare sugar/energy content to amber labelled products and how these might fit within the sugar reduction program? Please be clear on what you mean when you say "within the same type of cake".</p>
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	<p>Do you mean chocolate cakes but from different brands?</p> <p>Discussion: The purpose of this study is to identify which products could potentially be used in the sugar reduction program. However, in the first few lines of the discussion, it states that "this study showed that levels of sugar and energy of products can be reduced"...this is incorrect as despite lower sugar in some products, they could have much higher salt and fat, dried fruit or artificial sweeteners to compensate for taste. These nutrients need to be taken into consideration when reformulating foods as it is likely that you will need to replace the sugar with something, rather than just a strict elimination of sugar and therefore energy.</p> <p>It is essential that you look at dietary modelling studies to identify logistically how reductions in sugar might impact food/nutrient intake and even health outcomes. It is insufficient to only report on food technology studies to show that it can be done.</p> <p>There are a lot of claims in the discussion for how changes could be made but the feasibility has not been taken into account. What about other attempts in reducing sugar such as taxing foods?</p> <p>Limitations: Line 35 states vegetables in the same sentence as sugar. What sugars are in vegetables?</p> <p>Conclusions: The conclusions are too simplistic and a greater understanding on the feasibility of actually reducing sugar in these foods and the overall impact of its taste and palatability as well as potential changes in food consumption (i.e. following consumption of lower energy foods) needs to be taken into account.</p>
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REVIEWER	Meera Kweon Pusan National University, South Korea
REVIEW RETURNED	18-Oct-2017

GENERAL COMMENTS	<p>The study was well planned and executed. It provided very useful information on baseline data of the cakes and biscuits market in the UK to enhance the sugar reduction program. As the authors described on limitations of the current study, it would be wonderful to connect the energy source from fat, too, in addition of sugar because some products were high sugars content, but low energy and others were vice versa. Sugars and fats are usually used for improving product attributes such as geometry, texture, taste, and flavors in cakes and biscuits. Analyzing relationship between sugar content as well as fat content and energy content will be helpful to suggest some possible solutions for making acceptable-taste products while reducing sugars and fats contents.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Jessica Grieger

Institution and Country: Robinson Research Institute and Adelaide Health and Medical Sciences, University of Adelaide, Adelaide, AUSTRALIA Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below

This paper investigates the amount of dietary energy and sugar in cakes and biscuits from supermarkets in the UK. While the paper is fairly well written and the study is interesting and provides information on the nutrient profile in a large number of food items, the paper is let down by a lack of broader understanding on the application of the results and the feasibility of actually changing the food supply via a reduction in sugar. Additional comments for each section are below.

Introduction:

Overall the introduction is too long and is focused on industry based information rather than highlighting the health issues related to high sugar consumption.

Response: Since this paper is aimed at documenting the current sugar and energy levels for evaluating the sugar reduction programme, we feel we need to add the policy context to the reformulation programme in the introduction. However, we have shortened the introduction and also added a paragraph to explain the health issues with high sugar consumption.

Line 21: Do you mean UK recommendations?

Response: Yes, we have now clarified this.

Line 23: When you mention under reporting, is this on all foods or just energy dense foods, and are there references to support under reporting in children?

Response: Yes on all foods but some studies suggest that underreporting is higher on unhealthy foods.

Yes the references includes study to support underreporting in children.

Methods:

Exclusion criteria-does this include self-serve bakery items?

Response: In the UK, self-serve bakery does not contain nutrition labelling so yes we excluded those products. We have clarified this.

Results:

The results are very long and wordy. There are many brands of cakes and biscuits that are not found outside the UK which can make for difficult interpretation and whether reporting on such brands really adds to the paper.

Response: We have taken out the individual products mentioned.

Comment: Perhaps more importantly, it might be better to just report on the number of foods that would fall under the different red labels and compare sugar/energy content to amber labelled products and how these might fit within the sugar reduction program?

Response: We don't feel this type of breakdown would add much to the paper, indeed it may make it even more wordy, particularly since 97% of cakes and 73% of biscuits would receive red label. However, we have added the red label mark to the figures to show the proportion of different types of cakes and biscuits that would fall under and above the red label.

Comment: Please be clear on what you mean when you say "within the same type of cake". Do you mean chocolate cakes but from different brands?

Response: Yes, that is what we mean. E.g. among all the Battenbergs etc.

Discussion:

The purpose of this study is to identify which products could potentially be used in the sugar reduction program. However, in the first few lines of the discussion, it states that "this study showed that levels of sugar and energy of products can be reduced"...this is incorrect as despite lower sugar in some products, they could have much higher salt and fat, dried fruit or artificial sweeteners to compensate for taste. These nutrients need to be taken into consideration when reformulating foods as it is likely that you will need to replace the sugar with something, rather than just a strict elimination of sugar and therefore energy.

Response: Yes, we agree to some extent with this. However, this is the reason why we are reporting on total energy and variation within energy content. The variation illustrates that there are similar products on the market with lower levels of total energy. As you know total energy will take into account the amount of energy from not just sugar but also fat and dried fruit. Also, artificial sweeteners such as aspartame and stevia are not allowed to be used in bakery products across the EU so the reductions in energy or variation in energy is unlikely to be due to the addition of artificial sweeteners. https://www.fdf.org.uk/corporate_pubs/Reformulation-Guide-Sugars-Aug2016.pdf Finally, due to the UK salt reduction programme we are told by retailers that any changes to recipes do not involve increasing salt levels.

Comment: It is essential that you look at dietary modelling studies to identify logistically how reductions in sugar might impact food/nutrient intake and even health outcomes. It is insufficient to only report on food technology studies to show that it can be done.

Response: We recently conducted a systematic review on sugar reformulation. As far as we are aware modelling studies show that sugar reformulation will reduce sugar intake and improve health outcomes (due to be published). However, it is important to stress that these studies rely on many assumptions. Also our study is related to documenting and evaluating the UK sugar reduction programme, which is the first of its kind, in theory it should work but we are yet to see in practice. We added the following sentence and references to explain how modelling studies suggest that sugar reformulation can reduce sugar intake and improve health outcomes.

Comment: Indeed, evidence from modelling studies suggests that sugar reformulation programmes can potentially reduce sugar intake and improve health outcomes.(34-38)

Comment: There are a lot of claims in the discussion for how changes could be made but the feasibility has not been taken into account. What about other attempts in reducing sugar such as taxing foods?

In the first instance the variation in sugar and energy content of similar products suggests it is feasible but there are of course potential product development costs on industry which could hinder feasibility.

Response: Yes, we can certainly discuss taxing foods too but again the aim of the paper is to publish data to monitor the UK sugar reduction programme through reformulation.

Limitations:

Line 35 states vegetables in the same sentence as sugar. What sugars are in vegetables?

Response: Yes, there are naturally occurring sugars in vegetables and on the UK nutrition labelling system those types of sugars will be included in the total sugars on a label. It will be a very small contribution but will be included nevertheless.

Conclusions:

The conclusions are too simplistic and a greater understanding on the feasibility of actually reducing sugar in these foods and the overall impact of its taste and palatability as well as potential changes in food consumption (i.e. following consumption of lower energy foods) needs to be taken into account.

Response: We agree with the reviewer that all of these are very important aspects and should be considered in the sugar reduction programme. However, our data would not allow us to draw conclusions on these areas. Instead our conclusion is based on our data, which clearly indicate that it is feasible to reduce sugar content in cakes and biscuits.

Reviewer: 2

Reviewer Name: Meera Kweon

Institution and Country: Pusan National University, South Korea Please state any competing interests or state 'None declared': 'None declared'

Please leave your comments for the authors below

The study was well planned and executed. It provided very useful information on baseline data of the cakes and biscuits market in the UK to enhance the sugar reduction program. As the authors described on limitations of the current study, it would be wonderful to connect the energy source from fat, too, in addition of sugar because some products were high sugars content, but low energy and others were vice versa. Sugars and fats are usually used for improving product attributes such as geometry, texture, taste, and flavors in cakes and biscuits. Analyzing relationship between sugar content as well as fat content and energy content will be helpful to suggest some possible solutions for making acceptable-taste products while reducing sugars and fats contents.

Response: Fat is also an important contributor to energy content of products so we have included the data on total energy content to cover sugar, fat and protein content in cakes and biscuits. This paper is aimed at publishing the baseline data and not discussing the relationship between fat and sugar, while we are keen to look into this in the future. As previously mentioned, the variation in sugar and energy content of similar products suggests that there are already acceptable-taste products available to consumers.

VERSION 2 – REVIEW

REVIEWER	Jessica Grieger Robinson Research Institute, and Adelaide Medical School, University of Adelaide, Adelaide 5005, Australia
REVIEW RETURNED	12-Dec-2017
GENERAL COMMENTS	Most of my comments were included in this version which I feel has suitably added clarity to the manuscript.