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Dietary recommendations for reducing free sugar intakes: A pilot study investigating effects following advice to substitute sweet high-sugar foods with different alternatives

K. M. Appleton¹, A. D. Bielat¹, D. J. Guy¹, N. Karami¹ and L. R. Boxall¹

¹Department of Psychology, Faculty of Science and Technology, Bournemouth University, Bournemouth, UK

The World Health Organization (WHO) currently recommends reducing free sugar intakes for health benefits⁽¹⁾. Appropriate strategies to achieve these recommendations for the general public, however, remain unclear. While the WHO target is based on nutrients⁽¹⁾, food-based guidelines are currently recommended for public health⁽²⁾, and practical advice in the form of food substitutions may facilitate dietary change^(1,2).

Recommendations for reducing free sugar intakes based on nutrients (N, N = 61), nutrients and foods (NF, N = 60), and nutrients, foods, and food substitutions (NFS, N = 63) were recently investigated in a large randomized controlled trial⁽³⁾. As a percentage of total energy intake (TEI), free sugar intakes reduced over 12 weeks following all three types of dietary advice, resulting in mean (s.e.) reductions of: Group N: 2.5 (0.8) %TEI; Group NF: 3.3 (0.8) %TEI; and Group NFS: 3.1 (0.7) %TEI; compared with no change (1.2 (0.8) %TEI) in the control group (N = 58). Few differences between the three different types of advice however, were found. The pilot study presented here aimed to extend this original study through the additional investigation of three different types of dietary advice based on food substitutions.

For this pilot study, a total of 72 UK adults with >5%TEI from free sugars at baseline, were randomized to receive dietary advice to reduce free sugar intakes by: a) replacing sweet high-sugar foods with sweet-tasting low-sugar alternatives, e.g. fruit and low-calorie sweeteners (Group ST, N = 24); b) replacing sweet high-sugar foods with non-sweet-tasting low-sugar alternatives, e.g. herbs, spices and nuts (Group T, N = 24); and c) replacing sweet high-sugar foods with plain low-sugar alternatives, e.g. plain rice-cakes (Group NT, N = 24). The advice was based on current NHS guidance and provided once. Participants were then followed for 4 (and 12) weeks, and between-group differences were investigated.

Free sugar intakes reduced in all three groups over 4 weeks ($F(1,69) = 26.17$, $p < 0.01$), with effect sizes comparable to those in the original study (mean (s.e.)): Group ST: 2.4 (1.2) %TEI; Group T: 3.8 (1.3) %TEI; Group NT: 3.3 (1.2) %TEI. No differences were found between groups ($F(2,69) = 0.56$, $p = 0.61$). Similar results were also found in a subset of participants who continued in the study for 12 weeks (N = 29) ($F(1,26) = 12.38$, $p < 0.01$; group x time interaction $F(2,26) = 1.07$, $p = 0.39$) (mean (s.e.)): Group ST: 2.3 (0.7) %TEI; Group T: 5.2 (1.3) %TEI; Group NT: 2.3 (1.2) %TEI.

Our findings confirm those of the original study – that the provision of dietary advice to reduce free sugar intakes can result in reduced free sugar intakes in willing volunteers, but the exact nature of the advice provided seems less important.

Acknowledgments

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References

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