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Has the contribution of selected foods to intakes of energy, fat, saturated fat and sugar changed over time?

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Guidelines for a healthy balanced diet are based on evidence that they will help reduce obesity, type II diabetes, cardiovascular disease, cancer and improve dental health. The Revised Dietary Goals for Scotland[(1)] update the Scottish Dietary Targets set in 1996 to "indicate the direction of travel, and assist policy development, to reduce the burden of obesity and diet-related disease in Scotland" and to help to "facilitate improvements in the Scottish diet". Progress towards the Scottish Dietary Goals has been monitored since 2001 using a combination of surveys, but principally using Scottish food purchase data[(2)] collected annually by the Office for National Statistics. Since national and global food supplies are constantly evolving, it is important to verify the contribution different foods and drinks make to nutrient intake to ensure that the most important indicators are included in dietary goals and monitoring. Therefore, the purpose of this work was to explore any change in the contribution of different food categories to energy, fat, saturated fat and non-milk extrinsic sugars (NMES) intakes over time.

Annual household food purchase data from 2001 to 2015, for Scotland, from the UK Living Costs and Food Survey were analysed (in 3 year blocks) to estimate the contribution that different food categories made to intakes of energy, fat, saturated fat and NMES in the Scottish population. Adjustments were made for waste[(3)], and data were analysed using general linear models within the complex samples module of SPSS Version 25 (SPSS Inc., Chicago, IL, USA) weighting to the Scottish population and taking account of sampling methods.

The food categories that contributed most energy, fat, saturated fat and NMES are amongst those that are already monitored, and the top five contributors have remained unchanged between 2001–2003 and 2013–2015. However significant reductions were found in the percentage contribution of some of these top five contributors. Reductions were found between 2001–2003 and 2013–2015 in processed red meat (7.7% to 7.5%, $p = 0.004$), bread and rolls (8.9% to 6.7%, $p < 0.001$), and milk (6.5% to 5.3%, $p < 0.001$) contributions to energy intake; processed red meat (12.7% to 12.0%, $p = 0.002$ and 12.3% to 12.0%, $p = 0.001$) and milk (7.3% to 5.2%, $p < 0.001$ and 11.5% to 8.5%, $p < 0.001$) contributions to fat and saturated fat intake respectively, and sugar containing soft drinks (25.8% to 20.8%, $p < 0.001$) and sugar (15.7% to 13.3%, $p = 0.001$) contributions to NMES intake. Over the same time period sweet biscuits contributed less to saturated fat intake (7.9% to 7.7%, $p < 0.001$) and more to NMES intake (6.6% to 6.8%, $p = 0.007$), both in terms of absolute weight and percentage contribution, possibly as a result of re-formulation over the time period and the introduction of many lower fat (often higher sugar) biscuits into the market.

Whilst beneficial changes have been found in some of the top contributors to energy, fat, saturated fat and NMES, consumption of processed red meat, sugar containing soft drinks and sweet biscuits should be minimal. These three food categories are in the top five contributors to energy; processed red meat and sweet biscuits in the top five contributors to fat and saturated fat, and sugar containing soft drinks are the main contributor to NMES intake in the diet of the Scottish population. Reducing these three food categories alone has the potential to improve the diet of the Scottish population and offer a significant reduction in excess energy intake.

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