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## Inequalities in diet, obesity, physical activity and physical inactivity in children in Scotland in 2010

L. F. Masson<sup>1</sup>, J. I. Macdiarmid<sup>2</sup>, L. C. A. Craig<sup>1,2</sup>, W. Wills<sup>3</sup> and G. Mceill<sup>1,2</sup>

<sup>1</sup>Institute of Applied Health Sciences, University of Aberdeen, AB25 2ZD, <sup>2</sup>Rowett Institute of Nutrition and Health, University of Aberdeen, AB21 9SB and <sup>3</sup>Centre for Research in Primary and Community Care, University of Hertfordshire, AL10 9AB, UK

The 2010 Survey of Diet Among Children in Scotland continued the work of the 2006 Survey of Sugar Intake Among Children in Scotland<sup>(1)</sup> to monitor progress towards the Scottish Dietary Targets for non-milk extrinsic sugars (NMES) and saturated fatty acid (SFA) intakes in children. This analysis investigated inequalities in dietary intake, the prevalence of overweight and obesity, and levels of physical activity and inactivity in children in Scotland in 2010.

Children aged 3–16 years were randomly selected across Scotland using the HM Revenue and Customs Child Benefit Register. After an opt-out exercise, the Scottish Collaborative Group Food Frequency Questionnaire (FFQ) (<http://www.foodfrequency.org.uk>) was mailed to parents for completion by the parent and/or child (depending on the age of the child). Fieldwork was carried out between June and November 2010. Fieldworkers checked the FFQ, asked about time spent in physical activities and in front of a screen (television, computer or games console), and measured height and weight. Overweight including obesity was defined as BMI  $\geq$  85<sup>th</sup> percentile using the UK 1990 centile charts<sup>(2)</sup>. 1906 interviews were carried out and 1674 FFQs were available for dietary analysis (response rates 63% and 55% respectively). Analysis by level of deprivation used the 2009 version of the Scottish Index of Multiple Deprivation (SIMD)<sup>(3)</sup>.

In 2010, the prevalence of overweight including obesity increased with deprivation from 25% in the least deprived quintile to 38% in the most deprived quintile ( $p = 0.009$  for association). The mean time spent in front of a screen on an average day increased from 1.7 hours in the least deprived quintile to 2.2 hours in the most deprived quintile ( $p < 0.001$ ). However, the proportion of children who reported meeting physical activity recommendations was similar between SIMD quintiles ( $p = 0.914$ ). When expressed as a percentage of food energy, NMES intakes increased significantly with deprivation, but total fat and SFA intakes did not differ by SIMD quintile.

| Mean intake (% of food energy) | Scottish Index of Multiple Deprivation Quintile |                 |                 |                 |                                 | <i>p</i> (linear association) |
|--------------------------------|---|-----------------|-----------------|-----------------|---------------------------------|-------------------------------|
|                                | 5 <sup>th</sup> (least deprived)                | 4 <sup>th</sup> | 3 <sup>rd</sup> | 2 <sup>nd</sup> | 1 <sup>st</sup> (most deprived) |                               |
| NMES                           | 15.2  | 15.3            | 15.0            | 16.1            | 16.7                            | <b>0.001</b>                  |
| Total fat                      | 32.5  | 32.7            | 33.0            | 32.8            | 32.9                            | 0.214                         |
| SFA                            | 13.1  | 13.2            | 13.4            | 13.1            | 13.1                            | 0.967                         |

Inequalities in the prevalence of overweight and obesity in children have widened between 2006 and 2010 (1). Inequalities in NMES intake and sedentary activity also need to be addressed.

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1. Sheehy C, McNeill G, Masson LF *et al.* (2008) *Survey of Sugar Intake Among Children in Scotland* <http://www.food.gov.uk/scotland/scotnut/scotsug>
2. Cole T, Freeman JV & Preece MA. (1990) *Archives of Disease in Childhood* **73**, 25–29.
3. Scottish Government. (2009) *Scottish Index of Multiple Deprivation 2009: General Report*. Edinburgh, Scottish Government. <http://www.scotland.gov.uk/Publications/2009/10/28104046/0>