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**Statistical press notice: National Diet and Nutrition Survey in Northern Ireland: results from years 1, 2, 3 and 4 combined (2008-2012)**

Today, the Food Standards Agency in Northern Ireland (FSA in NI) published the combined results from four years of the National Diet and Nutrition Survey Rolling Programme (NDNS RP) 2008-2012 for Northern Ireland, as an Official Statistic.

This is the first time that representative data for Northern Ireland from the NDNS RP has been available, as it is recognised that Northern Ireland has to catch up with its nutritional surveillance work, particularly longitudinal data and Northern Ireland-specific data.

The NDNS data will inform dietary surveillance in Northern Ireland; measure against the performance indicators published in the Obesity Prevention Strategy; assist in evaluating existing policies; and set future, evidence-based policy direction.

The National Diet and Nutrition Survey (NDNS) estimates food consumption, nutrient intake and nutritional status of the general population aged 18 months upwards living in the UK. The report presents NDNS results for Northern Ireland and provides key comparisons with the UK NDNS published by Public Health England on 14 May 2014 covering the same time period.<sup>i</sup> This was followed by the Scotland report for the equivalent time period, released as an Official Statistic by FSA in Scotland (FSAS) in September 2014.

The NDNS comprises an interview, a four-day food and drink diary as well as collection and analysis of blood and urine samples. The UK NDNS was funded jointly by FSA and the Department of Health in England until 2010 and it is now jointly funded by Public Health England (PHE) and the FSA<sup>ii</sup>.

As the FSA in Northern Ireland (FSA in NI) has responsibility for monitoring the diet of the population in Northern Ireland, it commissioned additional recruitment for NDNS RP. This Northern Ireland boost has been co-funded by three partners: the FSA in NI; the Department of Health, Social Services and Public Safety (DHSSPS); and the Food Safety Promotion Board (*safefood*).<sup>iii</sup>

Recruitment in Northern Ireland was boosted to 200 participants per year for four years (2008/09-2011/12), in order to achieve representative dietary health data specific for Northern Ireland.

Work for NDNS years 1-4 was carried out by a consortium of three organisations: National Centre for Social Research (NatCen Social Research), MRC Human Nutrition Research (HNR) and the University College London Medical School (UCL).<sup>iv</sup>

The Northern Ireland report covers the same topics as the main UK report <sup>v</sup>, including food consumption, the use of dietary supplements, intakes of energy, macronutrients, vitamins, minerals, salt intake and biochemical measures of nutritional status.

The report also includes the heights, weights, blood pressure and socio-demographic characteristics of the participants. Results for food consumption, nutrient intake and nutritional status are compared with UK Dietary Reference Values (DRVs) and are mostly presented for five age groups: 1½–3 years; 4-10 years; 11-18 years; 19-64 years; 65 years and over. They are split by sex in most cases except the youngest age group and people aged 65 years and over.

Fieldwork was carried out between 2008 and 2012 with an overall response rate of 64%. The analyses of food consumption and nutrient intake are based on 982 individuals (470 adults and 512 children). The blood sample analyses are based on 264 adults and 101 children.

## Main findings

- **Fruit and vegetable** consumption in Northern Ireland was significantly lower than in the UK as a whole. 82% of adults, 77% of older adults and 96% of children aged 11 to 18 years in Northern Ireland did not meet the five-a-day recommendation.
- Mean intakes of **non-starch polysaccharide (NSP)** were significantly lower than those in the UK as a whole and for adults, were below the recommended level of 18g per day.
- Mean consumption of **oil-rich fish** was well below the recommended one, 140g portion per week and significantly lower than in the UK as a whole.
- Mean consumption of **red and processed meat** for men and boys aged 11 to 18 years exceeded the current maximum recommendation for adults.
- Mean intakes of **saturated fat** exceeded recommendations in all age groups and were similar to or slightly higher than mean intakes in the UK as a whole.
- A third of adults aged 19 to 64 years in Northern Ireland had low blood levels of **vitamin D**, a higher proportion than in the UK as a whole.
- The **lowest income group** had lower fruit and vegetable consumption than those in the highest income group. They also had lower intakes of NSP and some vitamins and minerals.

## Food and Nutrients

- **Fruit and vegetables** The number of portions of fruit and vegetables consumed per day and the proportion of participants meeting the 5-a-day recommendation increases with age, but was lower for all age/sex sub-groups in Northern Ireland, compared with the UK.
- **NSP** Mean intake of NSP was lower in all age/sex groups in Northern Ireland compared with the UK, with mean intakes were significantly lower for boys and girls aged 4 to 10 years and men aged 19 to 64 years in Northern Ireland compared with the UK.
- **Oil-rich fish** The consumption of oily fish was lower in all age/sex groups in Northern Ireland, compared with the UK and well below the recommended weekly portion.
- **Total fat** In two age groups, (men aged 19 to 64 and girls aged 4 to 10 years) the mean intake of total fat as a % of food energy was significantly higher in Northern Ireland compared with the UK.
- **Saturated fat** Mean saturated fat intake as a % of food energy was higher in both men and women aged 19 to 64 years in Northern Ireland (13.1%) compared with the UK (12.6%).
- **Trans fat** Mean intake of trans fatty acids met the DRV (no more than 2% food energy); providing between 0.6% and 0.8% of food energy for all age groups.
- **Vitamin D** There was evidence of low vitamin D status in all age/sex groups in both NI and the UK as a whole, with a higher proportion of all age/sex groups in Northern Ireland (except those aged 65 years and over) having a 25-OHD concentration below 25nmol/L at the time of venepuncture. Low vitamin D status has implications for bone health, including the risk of rickets and osteomalacia.
- **Income and area deprivation** There was some evidence of differences in the intake of foods and nutrients by income and deprivation<sup>vi</sup>, particularly for fruit and vegetables with lower intakes in lower income/ deprived groups. There were no clear differences for energy intake or macronutrients except for NSP which was lower across all age groups in the lowest income/most deprived groups. In the lower income/deprived groups, there was statistical significance in some age groups with lower intakes of iron, vitamin C, vitamin D and folate.
- **Non-milk extrinsic sugars** Mean intake of NMES (no more than 11% food energy) exceeded the DRV in all age groups, except in men and women aged 50 to 64 years and those aged 65 and over.
- **Alcohol:** 50% of men and 41% of women aged 19 to 64 years reported consuming alcohol over the four-day diary period. On average, men in this age group who consumed alcohol during the four-day diary period obtained 10.7% of energy intake from alcohol, while women in this age group obtained 6.9%.
- **Marker foods** Consumption of 'marker foods'<sup>vii</sup> (sugary, fizzy drinks and squashes; chips and fried foods and meat products) with the exception of confectionery - tended to be higher in the lowest income/ most deprived

groups. Overall, the consumption of these identified 'marker foods' tended to be higher in Northern Ireland compared to the UK.

- **Salt** Mean salt intake – based on 24 hour urinary sodium excretion – was higher than the maximum recommended intake for those aged 11 to 18 and adults aged 19 to 64 years. In the 19 to 64 age bracket, the mean salt intake was 9.2g/day for men and 7.2g for women. For children aged 11 to 18, mean salt intake was 6.4g/day with 52% of collections containing more than the equivalent of 6g/day of salt, the maximum recommended intake for their age group.
- **Iron** There was evidence of iron-deficiency anaemia (as indicated by low haemoglobin concentrations) and low iron stores (plasma ferritin) in 4.2% of adult women in Northern Ireland, a similar proportion to the UK as a whole. In girls aged 4 to 10 years and women aged 19 to 64 years, mean iron intake was significantly lower in Northern Ireland compared to the UK, with 50% of girls having intakes below the lowest level of iron requirements.
- **Folate** Mean intake of folate was significantly lower in girls aged 4 to 18 years and in men and women aged 19 to 64 years in Northern Ireland compared with the UK. The survey also measured blood levels of folate to assess folate status. However, these results have been delayed due to problems with the laboratory analysis and are now expected by the end of March 2015.
- **Blood lipids** In the 19 to 64 age group, 1% had elevated concentrations of serum total cholesterol (more than 7.8mmol/L), indicating a severe risk of cardiovascular disease. 22.9% of those adults aged 65 and over had an elevated risk (between 6.5 and 7.8mmol/L); and 35.4% of adults aged 19 to 64 years were at marginal risk of cardiovascular disease (between 5.2 and 6.4mmol/L)
- **Dietary supplements** 24% of adults aged 19 to 64 years (17% of men, 31% of women) and 40% of adults aged 65 years and over reported taking at least one dietary supplement during the four-day diary recording period.
- **Changes over time** This is the first time that a representative sample from Northern Ireland has been recruited for the NDNS. Therefore, it is not possible to compare results with previous NDNS surveys from Northern Ireland. Data from previous NDNS surveys in the 1990s suggests that UK intakes of saturated fat and NMEs have fallen, while fibre intakes have increased in some age groups in the UK. Changes are most marked in young children and least so in the 11 to 18 years age group. These differences should be treated with caution due to methodological differences between the NDNS surveys over time.

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<sup>i</sup> National Diet and Nutrition Survey: results from Years 1 to 4 (combined) of the rolling programme for 2008 and 2009 to 2011 and 2012

<https://www.gov.uk/government/publications/national-diet-and-nutrition-survey-results-from-years-1-to-4-combined-of-the-rolling-programme-for-2008-and-2009-to-2011-and-2012>

<sup>ii</sup> Responsibility for nutrition policy in England and Wales transferred from FSA to Health Departments in 2010. Management of NDNS also transferred to the Department of Health in England at that time. From 1 April 2013, responsibility for the survey transferred to Public Health England, an operationally autonomous executive agency of DH.

<sup>iii</sup> FSA in NI, DHSSPS and *safefood* have funded boosts in Years 1 to 4 and 6-9

<sup>iv</sup> For Year 6 and onwards, the consortium comprises NatCen and HNR

<sup>v</sup> UK refers to the UK NDNS RP which includes England, Scotland, NI and Wales. The Northern Ireland sample includes core and boost participants. The UK sample also includes the core and boost participants from Northern Ireland. In the UK data, the Northern Ireland cases were weighted down to represent the proportion of participants that the Northern Ireland core participants represent in the UK NDNS RP survey population.

<sup>vi</sup> Households were ranked by equivalised income and by Northern Ireland Multiple Deprivation Measure (NIMDM) and grouped into three tertiles. Statistical comparisons were undertaken for intakes of key foods and nutrients by tertiles of equivalised income or NIMDM within each sex-combined age group. Tertile 3 (the highest income or lowest deprivation) was used as the reference category.

<sup>vii</sup> There are five 'marker foods' identified by The Obesity Prevention Strategy for Northern Ireland. These are: fruit and vegetables; sugary, fizzy drinks and squashes; confectionery; chips and other fried foods; and meat products. Marker foods allow food categories which are of public health interest to be monitored. Consumption of three out of the five 'marker foods' groups (not confectionery or fruit and vegetables) tended to be higher in the lower income/most deprived groups in Northern Ireland.