Supplementary Material S1: Nutrients of interest in dietary surveys.

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| --- | --- | --- | --- |
| **Macronutrients** | **RNI** | **Micronutrients** | **RNI** |
| Energy (MJ and kcal) | N/A | Folic acid (μg) | Minimum |
| Carbohydrates (g and %Energy (E)) | Target | Vitamin B12 (μg) | Minimum |
| Sugars (g) | Maximum | Vitamin D (μg) | Target |
| Sucrose (g) | Maximum | Calcium (mg) | Minimum |
| Starches (g) | N/A | Potassium (mg) | Minimum |
| Fiber (g) | Target | Sodium (mg) | Maximum |
| Total fat (g) | Maximum | Iron (mg) | Minimum |
| Saturates (g) | Maximum | Iodine (μg) | Minimum |
| Monounsaturated fatty acids (MUFA) (g) | N/A | Zinc (mg) | Minimum |
| Polyunsaturated fatty acids (PUFA) (g) | Target |  |  |
| Trans Fatty Acids (TFAs) (g) | Maximum |  |  |
| Protein (g) | Target |  |  |
| Omega fatty acids (g) | Target |  |  |

Supplementary Material S2: Diet-related characteristics of adult TFA consumers in the DNFCS 2007-10 and the UK NDNS 2010/11-2011/12.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Top 10% TFA adults (aged 19-64) as % food energy** | DNFCS 2007-10 | | | | NDNS RP 2010/11 to 2011/12 (years 3 & 4) | | | |
| Total  Numbers  N=1933  (Weighted N=2870) | Top 10% TFA as % food energy  N=188  (Weighted N=286) | Remaining 90%  N=1745  (Weighted  N=2583) | p value | Total  Numbers  N=848  (Weighted N=1277) | Top 10% TFA as % food energy  N=88  (Weighted N=130) | Remaining 90%  N=760  (Weighted  N=1147) | p value |
| Intake |  | Mean (sd) | Mean (sd) |  |  | Mean (sd) | Mean (sd) |  |
| Trans fatty acid g |  | 3.28 (1.20) | 1.29 (0.68) | <0.001 |  | 1.93 (0.59) | 0.95 (0.46) | <0.001 |
| Trans fatty acid intake  % of total energy |  | 1.22 (0.33) | 0.48 (0.19) | <0.001 |  | 0.95 (0.21) | 0.46 (0.17) | <0.001 |
| Trans fatty acid intake  % of food energy |  | 1.26 (0.32) | 0.50 (0.19) | <0.001 |  | 1.00 (0.20) | 0.49 (0.17) | <0.001 |
| Total energy kcal |  | 2444 (728) | 2403 (817) | 0.5 |  | 1853 (556) | 1827 (556) | 0.7 |
| Food energy kcal |  | 2365 (666) | 2303 (744) | 0.3 |  | 1762 (514) | 1735 (519) | 0.7 |
| Fat intake %FEb |  | 38.0 (5.8) | 34.2 (6.6) | <0.001 |  | 39.0 (4.5) | 33.8 (6.1) | <0.001 |
| Saturated fat %FEb |  | 15.5 (3.3) | 12.7 (3.0) | <0.001 |  | 16.8 (3.2) | 12.0 (2.9) | <0.001 |
| Sugarsc %FEb |  | 19.6 (6.6) | 20.2 (7.2) | 0.3 |  | 10.2 (5.7) | 12.2 (6.5) | 0.01 |
| Vitamin C mg/1000kcal FEb |  | 43.3 (29.9) | 46.3 (31.9) | 0.3 |  | 39.5 (21.9) | 46.9 (37.1) | 0.02 |
| Vitamin D µg/1000kcal FEb |  | 1.6 (0.8) | 1.6 (1.0) | 0.8 |  | 1.5 (1.2) | 1.6 (1.1) | 0.3 |
| Vitamin E mg/1000kcal FEb |  | 5.9 (2.3) | 6.0 (2.4) | 0.4 |  | 4.6 (1.3) | 5.6 (2.4) | <0.001 |
| Percentage consuming |  | % consumers | % consumers |  |  | % consumers | % consumers |  |
| Beef d | 579 | 32.2% | 31.0% | 0.8 | 514 | 63.4% | 58.2% | 0.4 |
| Lamb | 38 | 3.4% | 1.7% | 0.1 | 123 | 34.3% | 12.2% | <0.001 |
| Burger | 180 | 7.6% | 9.4% | 0.4 | 105 | 10.3% | 14.4% | 0.3 |
| Sausages | 890 | 44% | 46.5% | 0.5 | 319 | 33.5% | 37.9% | 0.5 |
| Butter | 379 | 30.1% | 18.6% | <0.001 | 266 | 52.8% | 28.5% | <0.001 |
| Cream | 327 | 33.9% | 15.9% | <0.001 | 167 | 26.8% | 19.5% | 0.1 |
| Whole milk | 99 | 7.2% | 5.0% | 0.2 | 167 | 25.8% | 18.7% | 0.1 |
| Ice cream | 270 | 13.5% | 14.5% | 0.7 | 157 | 15.2% | 19.8% | 0.3 |
| Crisps & savoury snack | 768 | 36.9% | 38.7% | 0.6 | 477 | 33.3% | 51.5% | 0.003 |
| Biscuits | 1052 | 52.0% | 55.4% | 0.4 | 522 | 54.1% | 61.1% | 0.3 |
| Buns, cakes, pastries | 1078 | 84.6% | 53.9% | <0.001 | 411 | 54.3% | 49.1% | 0.4 |
| Cheese | 1609 | 86.2% | 82.8% | 0.3 | 531 | 83.1% | 61.7% | <0.001 |
| Battered/coated/fried fish | 54 | 2.6% | 2.8% | 0.5 | 186 | 23.4% | 23.7% | 1.0 |
| Chips/fried potato etc. | 729 | 40.4% | 37.5% | 0.5 | 528 | 58.6% | 64.1% | 0.4 |
| Chocolate/confectionary | 1300 | 68.6% | 67.0% | 0.7 | 349 | 42.2% | 41.8% | 1.0 |
| Dairy desserts | 549 | 33.8% | 28.3% | 0.1 | 335 | 25.8% | 40.2% | 0.02 |

T tests were used to determine p value for differences in intake, and chi squared tests for % consumers

a Regression analyses adjusted for age and gender

b Diet only, does not include supplements/supplementation

c Dutch survey shows results for all mono and disaccharides, UK NDNS shows Non-milk extrinsic sugars.

d Beef, lamb and processed red meat consumption includes composite dishes in the NDNS RP.

**Supplementary Material S3: Difference in consumed portion size and on-pack serving size and estimated nutritional difference.**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Food subgroup** | **Mean consumed portion size and on-pack serving-size (g)** | | | | | | **Nutritional difference between consumed portion size and on-pack serving-size\*\*** | | | | |
| **Consumed portion size** | **On-pack serving-size** | **95% CI** | | **% Difference** | **p-value** | **Energy (kcal)** | **Total sugar (g)** | **Total fat (g)** | **Saturated fat (g)** | **Salt (g)** |
| **Cakes** | | | | | | | | | | | |
| **TOTAL** | **71** | **61** | **59** | **62** | **16%** | **<0.001** | **34** | **2.5** | **1.5** | **0.8** | **0.04** |
| Eclairs | 76 | 47 | 32 | 62 | 60% | <0.001 | 109 | 5.2 | 7.9 | 4.6 | 0.09 |
| Pastries | 106 | 69 | 64 | 75 | 53% | <0.001 | 134 | 6.9 | 7.2 | 3.7 | 0.19 |
| Croissant | 74 | 50 | 46 | 55 | 47% | <0.001 | 100 | 2.4 | 5.4 | 3.1 | 0.23 |
| Doughnut | 76 | 57 | 50 | 65 | 33% | <0.001 | 69 | 3.6 | 3.6 | 1.7 | 0.11 |
| Scones, Pancakes & Sweet Dough | 70 | 54 | 50 | 58 | 30% | <0.001 | 53 | 3.5 | 1.8 | 0.8 | 0.14 |
| Fruit cake & Malt Loaf | 69 | 55 | 50 | 59 | 26% | <0.001 | 49 | 5.8 | 1.2 | 0.5 | 0.04 |
| Bars & Slices | 45 | 36 | 34 | 38 | 26% | <0.001 | 39 | 3.6 | 1.7 | 0.8 | 0.04 |
| Chocolate Cake & Gateau | 75 | 62 | 58 | 66 | 21% | <0.001 | 52 | 4.3 | 2.5 | 1.1 | 0.05 |
| Muffins & Cupcakes | 70 | 61 | 56 | 66 | 15% | <0.001 | 37 | 3.0 | 1.8 | 0.4 | 0.04 |
| Teacakes | 64 | 57 | 50 | 63 | 12% | 0.03 | 20 | 1.4 | 0.3 | 0.1 | 0.04 |
| Other buns, cakes, pastries & fruit pie | 57 | 52 | 30 | 74 | 10% | 0.6 | 25 | 2.4 | 1.1 | 0.8 | 0.02 |
| Tart | 71 | 73 | 68 | 78 | -3% | 0.4 | -7 | -0.5 | -0.4 | -0.2 | -0.01 |
| Fruit Pie (inc. mince) | 96 | 95 | 90 | 101 | 1% | 0.8 | 3 | 0.2 | 0.1 | 0.1 | 0.00 |
| Cake & Gateau Non-Chocolate | 50 | 60 | 55 | 64 | -16% | <0.001 | -38 | -3.6 | -1.5 | -0.6 | -0.03 |
| Swiss Roll | 59 | 93 | 60 | 127 | -37% | 0.05 | -125 | -9.1 | -4.5 | -2.4 | -0.15 |
| **Biscuits** | | | | | | | | | | | |
| **TOTAL** | **33** | **24** | **19** | **29** | **27%** | **0.003** | **39** | **2.4** | **1.5** | **0.7** | **0.07** |
| Jaffa cakes | 39 | 16 | 10 | 21 | 149% | <0.001 | 87 | 12.1 | 2.0 | 1.1 | 0.03 |
| Savoury biscuits plain | 29 | 17 | 15 | 19 | 69% | <0.001 | 50 | 0.5 | 1.4 | 0.5 | 0.16 |
| Filled non-chocolate | 34 | 22 | 19 | 25 | 53% | <0.001 | 55 | 3.9 | 2.2 | 1.2 | 0.06 |
| Unfilled uncoated | 29 | 19 | 17 | 22 | 51% | <0.001 | 47 | 2.7 | 1.8 | 0.8 | 0.08 |
| Filled chocolate | 33 | 24 | 22 | 26 | 36% | <0.001 | 47 | 3.4 | 2.2 | 1.3 | 0.04 |
| Unfilled coated and/or inclusions | 33 | 28 | 26 | 30 | 18% | <0.001 | 24 | 1.7 | 1.1 | 0.6 | 0.06 |
| Cereal bar | 33 | 28 | 26 | 31 | 16% | <0.001 | 20 | 1.7 | 0.6 | 0.2 | 0.02 |
| Cookies & flapjack | 47 | 40 | 37 | 44 | 16% | <0.001 | 33 | 2.1 | 1.6 | 0.8 | 0.04 |
| Short biscuits | 26 | 24 | 20 | 28 | 9% | 0.4 | 10 | 0.5 | 0.5 | 0.3 | 0.01 |
| Savoury biscuits flavoured | 23 | 23 | 21 | 24 | 0% | 0.6 | 0 | 0.0 | 0.0 | 0.0 | 0.00 |
| **Chocolate** | | | | | | | | | | | |
| **TOTAL** | **40** | **32** | **31** | **33** | **26%** | **<0.001** | **41** | **4.0** | **2.3** | **1.3** | **0.02** |
| Coated nuts/fruit | 84 | 42 | 36 | 47 | 101% | <0.001 | 205 | 19.0 | 10.8 | 4.9 | 0.13 |
| Chocolate with additions | 45 | 27 | 25 | 30 | 66% | <0.001 | 97 | 8.3 | 5.9 | 3.2 | 0.03 |
| Mars type bar | 48 | 37 | 35 | 39 | 28% | <0.001 | 53 | 5.6 | 2.5 | 1.3 | 0.06 |
| Honeycomb/crunch | 35 | 31 | 28 | 33 | 15% | <0.001 | 21 | 2.1 | 1.1 | 0.7 | 0.01 |
| Crème filled | 38 | 30 | 27 | 34 | 26% | <0.001 | 40 | 4.3 | 2.1 | 1.2 | 0.02 |
| Milk chocolate | 35 | 32 | 30 | 34 | 10% | 0.008 | 16 | 1.6 | 0.9 | 0.6 | 0.01 |
| Caramel | 34 | 32 | 29 | 35 | 6% | 0.3 | 10 | 1.1 | 0.5 | 0.3 | 0.01 |
| Truffles | 26 | 24 | 21 | 27 | 9% | 0.2 | 11 | 0.9 | 0.7 | 0.4 | 0.00 |
| Sugar coated | 39 | 34 | 30 | 38 | 15% | 0.01 | 25 | 3.1 | 1.2 | 0.7 | 0.01 |
| Wafer bar | 31 | 31 | 28 | 33 | 0% | 0.7 | 0 | 0.0 | 0.0 | 0.0 | 0.00 |
| Dark chocolate | 32 | 30 | 27 | 33 | 6% | 0.2 | 11 | 0.7 | 0.8 | 0.5 | 0.00 |
| White chocolate | 31 | 33 | 29 | 38 | -7% | 0.3 | -11 | -1.1 | -0.6 | -0.4 | -0.01 |
| **Crisps** | | | | | | | | | | | |
| **TOTAL** | **45** | **31** | **30** | **32** | **44%** | **<0.001** | **69** | **0.9** | **3.8** | **0.6** | **0.20** |
| Popcorn | 86 | 34 | 31 | 38 | 151% | <0.001 | 240 | 11.0 | 10.2 | 2.5 | 0.48 |
| Nuts | 77 | 38 | 36 | 39 | 105% | <0.001 | 238 | 3.0 | 19.1 | 3.0 | 0.19 |
| Potato crisps crinkle | 39 | 30 | 29 | 32 | 28% | <0.001 | 45 | 0.2 | 2.6 | 0.3 | 0.14 |
| Tortilla chips | 46 | 34 | 31 | 36 | 37% | <0.001 | 59 | 0.3 | 2.9 | 0.3 | 0.14 |
| Potato snack shapes & puffed | 26 | 24 | 23 | 25 | 8% | <0.001 | 10 | 0.1 | 0.5 | 0.1 | 0.04 |
| Potato and veg crisps std | 31 | 29 | 28 | 30 | 6% | <0.001 | 10 | 0.1 | 0.5 | 0.1 | 0.03 |
| High fat bar snacks | 27 | 31 | 28 | 34 | -12% | 0.01 | -19 | -0.1 | -0.9 | -0.3 | -0.09 |
| Corn and maize snacks | 25 | 26 | 24 | 27 | -2% | 0.3 | -5 | 0.0 | -0.2 | -0.1 | -0.02 |

\* Consumed portion size data was derived from the NDNS 2008-2014 dataset and the on-pack serving size from a commercial UK database (2013).

\*\* This was calculated using back-of-pack per 100g nutrition information from the commercial database and finding the average per serve value from all products for each nutrient, using first the on-pack serving size and then the consumed portion size from the NDNS. The difference in the nutritional content between the consumed and the on-pack nutrition per serve was calculated by subtracting one from the other.