Appendix A: Diet quality scores

Table A1. Original and modified Mediterranean Diet Score (MDS) and its scoring system(24)

|  |  |  |  |
| --- | --- | --- | --- |
| Food group | | Scoring\* | |
| Original MDS | Modified MDS |
| Cereals | Cereals | >median | 1 (else: 0) |
| Vegetables | Vegetables | >median | 1 (else: 0) |
| **Fruits and Nuts** | **Fruits** | >median | 1 (else: 0) |
| Legumes | Legumes | >median | 1 (else: 0) |
| Fish | Fish | >median | 1 (else: 0) |
| Meat | Meat | <median | 1 (else: 0) |
| Dairy products | Dairy products | <median | 1 (else: 0) |
| Ratio of unsaturated to saturated fats | Ratio of unsaturated to saturated fats | >median | 1 (else: 0) |
| Alcohol | Alcohol | 10-50 g/d for men | 1 (else: 0) |
| 5-25 g/d for women | 1 (else: 0) |

\*Except alcohol, scoring of each food group is based on population and sex-specific median.

Table A2. Original and modified Healthy Diet Score (HDS) and the cut-off values for scoring(25)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| HDS | | |  | HDS – modified based on current UK recommendations | | |
| Index item | Cut-off values | |  | Index item | Cut-off values | |
| Score 1 | Score 0 |  | Score 1 | Score 0 |
| Saturated fatty acids  (% energy intake) | 0-10 | >10 |  | Saturated fatty acids  (% energy intake) | 0-11a | >11 |
| Polyunsaturated fatty acids (% energy intake)\* | 6-10 | <6 or >10 |  | Polyunsaturated fatty acids (% energy intake) | 6b-10 | <6 or >10 |
| Protein (% energy intake) | 10-15 | <10 or >15 |  | Protein (% energy intake) | 9c-15 | <9 or >15 |
| Total carbohydrate  (% energy intake)\* | 50-70 | <50 or >70 |  | Total carbohydrate  (% energy intake) | 50d-70 | <50 or >70 |
| Dietary fibre (g)\* | 18-32 | <18 or >32 |  | Dietary fibre (g) | 18d-32 | <18 or >32 |
| Fruits and vegetables (g) | ≥400 | <400 |  | Fruits and vegetables (g) | ≥400e | <400 |
| Pulses and nuts (g)\* | ≥30 | <30 |  | Pulses (g) | ≥30 | <30 |
| Total non-milk extrinsic sugar (% total energy intake)\* | 0-10 | >10 |  | Total non-milk extrinsic sugar (% total energy intake) | 0-5d | >5 |
| Cholesterol (mg)\* | 0-245 | >245 |  | Trans-fatty acids  (% energy intake) | ≤2e | >2 |
| Fish (g)\* | ≥32 | <32 |  | Fish (g) | ≥40e | <40 |
| Red meat and meat processed products (g)\* | ≤90 | >90 |  | Oily fish (g) | ≥20e | <20 |
| Calcium (mg)\* | ≥700 | <700 |  | Red meat and meat processed products (g) | ≤70i | >70 |
|  |  |  |  | Calcium (mg) | ≥700c | <700 |
|  |  |  |  | Sodium (mg) | ≤2400c | >2400 |

\* Items based on advice on healthy eating as recommended by the UK Committee on Medical Aspects of Food Policy (COMA)(25)

*a* Based on NDNS Results from Years 5 and 6 (combined) of the Rolling Programme (2012/2013 – 2013/2014)(22,23), UK Government Dietary Recommendations by Public Health England (2016)(26), Cardiovascular Disease Outcomes Strategy by UK Department of Health (2013)(27) and Draft report: Saturated fats and health by Scientific Advisory Committee on Nutrition (SACN) 2018(29)

*b* Based on UK Government Dietary Recommendations by Public Health England (2016)(26)

*c* Based on UK Government Dietary Recommendations by Public Health England (2016)(26)

*d* Based on UK Government Dietary Recommendations by Public Health England (2016)(26) and Scientific Advisory Committee on Nutrition (SACN) Report 2015 on Carbohydrates and Health(30)

*e* Based on NDNS Results from Years 5 and 6 (combined) of the Rolling Programme (2012/2013 – 2013/2014)(22,23) and The Eatwell Guide by Public Health England (2016)(28)

**Appendix B: Associations between tree nut consumption (≥7.08 g) and CVD risk markers**

Table B1. Cardiovascular disease risk marker values in UK adults (≥19 y) based on NDNS 2008-2014, n = 4,738, in consumers of ≥7.08 g of tree nut snack and non-consumers.

|  |  |  |  |
| --- | --- | --- | --- |
| CVD risk marker | Valuea  (Estimated marginal mean (95% CI)) | | *P-*value |
| Consumers,  n=224 | Non-consumer,  n=4,514 |
| BMI (kg/m2)b, ϯ | 26.0 (24.4, 27.6) | 26.1 (24.8, 27.5) | 0.705 |
| WC (cm)c | 91.6 (88.3, 94.9) | 94.0 (91.2, 96.8) | 0.015\* |
| SBP (mmHg)d | 118.3 (114.5, 122.2) | 123.7 (120.5, 126.9) | <0.001\* |
| DBP (mmHg)d | 69.3 (66.5, 72.0) | 71.7 (69.4, 74.0) | 0.005\* |
| TC (mmol/l)e | 5.0 (4.6, 5.4) | 4.9 (4.5, 5.3) | 0.299 |
| TAG (mmol/l)f, ϯ | 1.1 (0.8, 1.4) | 1.1 (0.9, 1.4) | 0.424 |
| HDL-C (mmol/l)e | 1.5 (1.4, 1.7) | 1.5 (1.3, 1.6) | 0.053 |
| LDL-C (mmol/l)g | 2.9 (2.6, 3.3) | 2.9 (2.6, 3.2) | 0.531 |
| TC:HDL-Ce | 3.6 (3.1, 4.0) | 3.6 (3.2, 4.0) | 0.924 |
| CRP (mg/l)h, ϯ | 2.0 (1.4, 2.8) | 2.0 (1.5, 2.8) | 0.685 |

*a* Survey-adjusted GLM with a linear link function and predictors: age, sex, ethnicity, socio-economic and smoking status, alcohol and energy intakes was used.

ϯGeometric marginal means were presented due to non-normally distributed residual data.

Due to missing data, sample sizes were as follows: TNS-B consumer 110b, 186c, 162d, and 138e,g, 86f,h, non-consumers 1,747a, 3,308c, 2,620d, 2,268e, 1,251f, 2,231g, and 1,254h.