**Supplementary Table 1**. GHGEs for each food item used in the EHU12/24 study obtained from a literature review performed using PubMed

|  |  |  |
| --- | --- | --- |
| Food type | Food item(References)a | GHGE(kg eCO2/kg of food) |
| Fruits | Citrus fruits(54)b,c | 1·58 |
| Dried fruits(54)b,c | 1·15 |
| Fruit juices(54)b,c | 1·26 |
| Other fruits(54)b,c | 1·34 |
| Preserved fruit(54)b,c | 1·19 |
| Vegetables | Fried tomato sauce(55)b,c | 1·47 |
| Garlic(54)b,c | 0·94 |
| Garnish vegetables(54)b,c | 1·84 |
| Green beans(54)b,c | 1·94 |
| Onion(54)b,c | 0·94 |
| Salad(54)b,c | 1·99 |
| Spicy: Chillies and peppers, dry(56)b,c | 1·65 |
| Vegetable mixed dishes: Soups(54)b,c | 0·36 |
| Starchy foods | Bread(4) | 1·47 |
| Breakfast cereals(17)b,c | 3·42 |
| Legumes(54)b,c | 0·56 |
| Pasta(54)b,c | 0·49 |
| Mixed starch and meat dishes: Pizza, croquettes and empanadillas(57) | 2·50 |
| Potatoes(54)b,c | 0·54 |
| Rice(54)b,c | 1·31 |
| Whole breakfast cereals(17)b,c | 3·42 |
| Whole wheat bread(54)b,c | 1·29 |
| Cheese | Low-energy cheeses such as white cheese(54)b,c | 2·15 |
| Other cheeses(54)b,c | 13·5 |
| Milk and dairy foods | Cream(54)b,c | 3·28 |
| Dairy desserts(54)b,c | 2·50 |
| Semi-skimmed milk(54)b,c | 1·61 |
| Skimmed milk(54)b,c | 1·61 |
| Skimmed yogurt(57) | 1·33 |
| Whole milk(4) | 1·00 |
| Whole yogurt(54)b,c | 2·50 |
| Red meat and deli meat | Bacon(55)b,c | 9·93 |
| Cold meat such as ham, chorizo, Iberian spicy sausage and mortadella(54)b,c | 7·26 |
| Mincemeat(54)b,c | 20·6 |
| Red meat(54)b,c | 25·6 |
| Sausages, foie-gras and pâté(55)b,c | 8·01 |
| Eggs and white meat | Chicken(54)b,c | 7·04 |
| Eggs(54)b,c | 6·06 |
| Fish and shellfish | Blue fish(54)b,c | 6·83 |
| Shellfish(54)b,c | 18·0 |
| White fish(54)b,c | 4·44 |
| Sweets and salted snacks | Biscuits(57) | 2·50 |
| Chocolate(57) | 1·00 |
| Chocolate bread(55)b,c | 2·50 |
| Cream or chocolate biscuits(57) | 2·50 |
| Cream or chocolate cakes(54)b,c | 2·09 |
| Honey(54)b,c | 1·03 |
| Processed baked goods(55)b,c | 2·41 |
| Snack bags(54)b,c | 2·64 |
| Sugar(54)b,c | 0·96 |
| Sweets(57) | 2·60 |
| Whole wheat biscuits(57) | 2·50 |
| Oil and fat | Butter(54)b,c | 26·6 |
| Corn oil(57) | 2·29 |
| Margarine(57) | 1·75 |
| Mayonnaise(58)b,c | 2·05 |
| Olive oil(54)b,c | 2·35 |
| Sunflower oil(54)b,c | 1·24 |
| Alcoholic drinks | Alcohol aperitifs(54)b,c | 1·13 |
| Beer(54)b,c | 0·46 |
| Cider(54)b,c | 1·13 |
| Distilled beverages(54)b,c | 1·13 |
| Wine(54)b,c | 1·13 |
| Non-alcoholicbeverages | Coffee and tea(54)b,c | 0·47 |
| Low-energy drinks(57) | 1·00 |
| Soy drinks(57) | 0·43 |
| Sugary drinks(54)b,c | 0·47 |
| Nuts | Nuts(54)b,c | 2·93 |

GHGE, greenhouse gas emissions.

aThe food items are arranged alphabetically within each food type.

bCorrection factor (0·1 kg eCO2/kg of food)corresponding to home transport proposed by Nilsson & Lindberg(59) and Sonesson*et al*.(60) was applied.

cCorrection factors corresponding to consumer-level waste proposed by FAO(61) were applied when that was not included in the study used as a source of information.

**SupplementaryTable 2**. Nutrient and alcohol intakes in the study population: students of the University of the Basque Country (UPV/EHU), EHU12/24 study

|  |  |  |
| --- | --- | --- |
| Variables | Totala(n = 26,165) | AMDR(41) |
| Mean | SD |
| Proteins (%TEI) | 15·17 | 2·71 | 10-15 |
| Carbohydrates (%TEI) | 38·72 | 5·61 | 50-60 |
| Lipids (%TEI) | 39·08 | 6·57 | 30-35 |
| SFA (%TEI) | 13·06 | 3·04 | < 7-8 |
| MUFA (%TEI) | 16·77 | 4·08 | 20 |
| PUFA (%TEI) | 6·06 | 2·52 | 5 |
| Linoleic acid (%TEI) | 4·90 | 2·39 | 3 |
| α-linolenic acid (%TEI) | 0·59 | 0·23 | 1-2 |
| Cholesterol (mg/d) | 314·73 | 199·81 | < 300 |
| Fibre (g/d) | 23·43 | 9·62 | > 22-25(women)> 30-35(men) |
| Alcohol (g/d) | 9·14 | 8·98 | 10(women)20(men) |

AMDR, acceptable macronutrient distribution range; SD, standard deviation; TEI, total energy intake; SFA, saturated fatty acids; MUFA, monounsaturated fatty acids; PUFA, polyunsaturated fatty acids.

aSurvey results were weighted using the weighting coefficients provided by the UPV/EHU.

**SupplementaryTable 3**. Percentages of participants classified into the same or opposite category and agreement between the two diet-quality assessments (HEI-2010 and MDS) in the study population: students of the University of the Basque Country (UPV/EHU), EHU12/24 study

|  |  |  |
| --- | --- | --- |
|  | HEI-2010 | Kappa coefficient |
| Needs improvementa | Goodb |  |
| n | % | n | % |  |
| Total sample (n = 26,165)c |  |  |  |  |
| MDSLow adherenced | 13,164 | 50·3 | 1,608 | 6·1 |  |
| High adherencee | 6,563 | 25·1 | 4,830 | 18·5 |  |
| Total | 19,727 |  | 6,438 |  | 0·332 |
| Men (n = 10,607)c |  |  |  |  |
| MDSLow adherenced | 6,089 | 57·4 | 580 | 5·5 |  |
| High adherencee | 2,461 | 23·2 | 1,477 | 13·9 |  |
| Total | 8,550 |  | 2,057 |  | 0·319 |
| Women (n = 15,558)c |  |  |  |  |
| MDSLow adherenced | 7,074 | 45·5 | 1,028 | 6·6 |  |
| High adherencee | 4,102 | 26·4 | 3,354 | 21·6 |  |
| Total | 11,176 |  | 4,382 |  | 0·328 |

HEI, Healthy Eating Index; MDS, MedDietScore.

a51-80 points (no participant scored less than 51) ; b> 80 points; cSurvey results were weighted using the weighting coefficients provided by the UPV/EHU; d0-34 points; e> 34 points.

**SupplementaryTable 4**. Factors associated with higher scores for HEI-2010 and MDS in the study population: students of the University of the Basque Country (UPV/EHU), EHU12/24 study

|  |  |  |
| --- | --- | --- |
|  | HEI-2010 | MDS |
| Model 1a | Model 2b | Model 1a | Model 2b |
| OR | 95% CI | *P* | OR | 95% CI | *P* | OR | 95% CI | *P* | OR | 95% CI | *P* |
| Parents’ educational level |  |  |  |  |  |  |  |  |  |  |  |  |
|  University studies | 1·01 | 0·96, 1·06 | NS |  |  |  | 0·93 | 0·89, 0·98 | \*\* | 0·93 | 0·89, 0·98 | \*\* |
| CRI |  |  |  |  |  |  |  |  |  |  |  |  |
| ≤1·0 | 1·22 | 1·16, 1·28 | \*\*\* | 1·22 | 1·16, 1·28 | \*\*\* | 1·00 | 0·95, 1·05 | NS |  |  |  |
| BF classification |  |  |  |  |  |  |  |  |  |  |  |  |
|  Non-excess  | 0·78 | 0·73, 0·84 | **\*\*\*** | 0·78 | 0·73, 0·84 | **\*\*\*** | 1·31 | 1·23, 1·41 | **\*\*\*** | 1·32 | 1·23, 1·41 | **\*\*\*** |

CI, confidence interval; CRI, crowding index; HEI, Healthy Eating Index; MDS, MedDietScore; OR, odds ratio; NS, no significant; BF, body fat.

aEffect of each variable adjusted only by sex in both diet quality indices and by daily energy intake (kcal/d) only in the MDS; bFinal multivariate model included all variables associated with HEI-2010 and MDS in the simple model (*P* < 0·001) also adjusted by sex in both diet quality indices and by daily energy intake (kcal/d) only in the MDS.

\**P* < 0·05; \*\*\**P* < 0·001.

**SupplementaryTable 5**. GHGE associated with food consumption in the study population: students of the University of the Basque Country (UPV/EHU), EHU12/24 study; and of those consuming low- and high-GHGE diets

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Food groups | Total(n = 26,165)a | Low-GHGE dietb(n = 5,207)a | High-GHGE dietb(n = 5,217)a | *Pc,d* |
| % total GHGE |
| Mean | SD | Mean | SD | Mean | SD |
| Fruit and vegetables | 19·18 | 12·02 | 19·65 | 15·35 | 20·90 | 11·47 | \*\*\* |
| Starchy foods | 4·82 | 2·63 | 6·79 | 3·63 | 3·25 | 1·59 | \*\*\* |
| Cheese | 3·33 | 4·28 | 3·72 | 4·72 | 2·47 | 2·64 | \*\*\* |
| Milk and dairy products | 12·14 | 7·05 | 12·38 | 7·89 | 10·40 | 5·19 | \*\*\* |
| Red meat and deli meat | 28·23 | 13·34 | 22·09 | 12·56 | 33·60 | 13·45 | \*\*\* |
| Eggs and white meats | 11·52 | 5·90 | 10·75 | 5·44 | 12·59 | 6·65 | \*\*\* |
| Fish and shellfish | 9·57 | 5·69 | 8·33 | 5·71 | 10·37 | 6·20 | \*\*\* |
| Sweets and salted snacks | 5·28 | 3·50 | 8·64 | 4·38 | 2·71 | 1·83 | \*\*\* |
| Oil and fat | 2·22 | 2·31 | 3·04 | 2·43 | 1·33 | 1·41 | \*\*\* |
| Non-alcoholic drinks | 2·50 | 3·11 | 3·04 | 3·75 | 1·69 | 1·86 | \*\*\* |
| Alcoholic drinks | 1·55 | 1·74 | 2·13 | 2·31 | 0·87 | 1·15 | \*\*\* |

GHGE, greenhouse gas emissions.

aSurvey results were weighted using the weighting coefficients provided by the UPV/EHU; bLow-GHGE diets are defined as those in the lowest quintile of GHGE (kg eCO2/1000 kcal per day). High-GHGE diets are defined as those in the highest quintile of GHGE per 1000 kcal per day; cDetermined by Mann–Whitney *U* test;dDifferences in food group contributions to total diet-associated GHGE.

\*\*\**P* < 0·001.