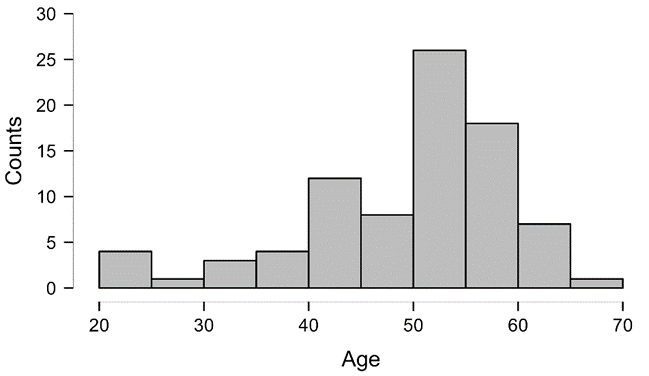
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**Figure S1.** Hstogram of subjects’ age

**Table S1.** Main food groups and food items included in the estimation of the daily dietary polyphenol intake of the overweight/obese participants. Based on the average results of the food items consumed by the participants (as analysed by the DIAL software for assessing diets and food calculations) coupled with the content of total polyphenols in the Phenol Explorer database.

|  |  |
| --- | --- |
| Food group | Main food items included |
| Cereals and derivatives | Bread (white, grain, rye), breakfast cereals (bran, muesli, oat), wheat flour (refined, whole grain), pasta (normal, whole grain), rice (boiled), oat, maize. |
| Oils and olives | Olive oil (refined, virgin, extra virgin), sunflower seed oil, olives (green), peanut butter. |
| Vegetables | Onion (white), lettuce (green), aurugula, asparagus, tomato (normal, cherry), spinach, globe artichokes, cucumber, zucchini, pumpkin, eggplant, Swiss chard leaves, endive, green beans, common cabbage green, sweet pepper (red, green), carrots, broccoli, cauliflower, celeriac, Brussel sprouts, capers, sweet potato (raw). |
| Fruits and derivatives | Apple, banana (raw), apricot (fruit, jam), pineapple, pear (peeled), orange, fig, peach, kiwi, lemon, mango, plum, tangerine, pomegranate, strawberry (fruit, jam), watermelon, honeydew melon, grapefruit, quince, guava, grape (green, raisin), bilberry, red raspberry (fruit, jam), avocado, custard apple. |
| Processed | Tomato sauce, ketchup, mayonnaise, cakes, cookies (normal, whole grain), potato chips snacks, vegetable mix (stew, cream). |
| Condiments | Cinnamon, pepper spice (black, white), vinegar, saffron, turmeric (dried), ginger (dried), cumin, nutmeg, cloves, anise herb (dried). |
| Herbs | Garlic (fresh), parsley (fresh), oregano (dried). |
| Tubers | Potato (boiled). |
| Alcoholic drinks | Beer, wine (red, white, rose), rum. |
| Cocoa and derivatives | Cocoa powder, chocolate (milk, dark). |
| Infusions | Tea (green), German camomile tea. |
| Legumes | Lentils, chickpeas, common bean (white). |
| Nuts | Almonds, walnuts, hazelnuts (raw), chestnuts, pistachio, peanut (roasted), sunflower seeds, cashew nut (raw), macadamia, brazil nuts. |
| Juices | Orange (pure juice), lemon juice from concentrate), pineapple (pure juice). |
| Soy and derivatives | Soybean sprout (raw), soy sauce, soy yogurt, soy milk. |

**Notes**: Food items not found in the database and therefore excluded from the analysis: generic infusion, sesame seeds, flax seeds, mushrooms, honey, leeks, bay leaves, paprika, rice, almond and oat drinks, green peas, quinoa, beetroot, mustard, khaki, Wakame seaweed, Christmas desserts (nougat, marzipan), palm oil, pickled cucumber, lamb's lettuce vegetables.

**Table S2.** Distribution of the daily dietary intake of (poly)phenols across the main food sources analysed (data attained from 24h dietary recalls analysed by DIAL and Phenol Explorer database).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | *N*  (% of consumers) | Mean ± SD  (mg/day) | Median (IQR)  (mg/day) | [Min, Max]  (mg/day) | CV(%) |
| Cereals and derivatives | 81 (100) | 138.1 ± 67.6 | 136.4 (88.9) | [1.0, 330.5] | 49.0 |
| Oils and olives | 80 (98.8) | 15.6 ± 11.5 | 12.8 (8.6) | [1.0, 73.7] | 73.3 |
| Vegetables | 80 (98.8) | 119.4 ± 111.7 | 90.3 (99.9) | [5.8, 472,5] | 93.6 |
| Fruits and derivatives | 74 (91.4) | 293.2 ± 207.0 | 217.9 (311.8) | [1.3, 743.4] | 70.6 |
| Processed | 71 (87.7) | 48.9 ± 74.3 | 26.8 (39.2) | [2.2, 465.3] | >100 |
| Condiments | 64 (79.0) | 21.6 ± 51.7 | 3.8 (8.2) | [0.2, 330.3] | >100 |
| Herbs | 62 (76.5) | 2.8 ± 6.4 | 1.0 (1.6) | [0.2, 41.2] | >100 |
| Tubers | 61 (75.3) | 49.0 ± 37.2 | 40.2 (48.0) | [4.5, 179.8] | 75.9 |
| Alcoholic drinks | 52 (64.2) | 131.3 ± 145.6 | 89.9 (166.9) | [0.4, 322.1] | >100 |
| Cocoa and derivatives | 46 (56.8) | 371.0 ± 387.0 | 239.2 (312.5) | [14.5, 1645.6] | >100 |
| Infusions | 45 (55.6) | 99.0 ± 63.7 | 82.3 (77.7) | [1.7, 247.4] | 64.4 |
| Legumes | 31 (38.3) | 504.5 ± 714.9 | 29.3 (1026.5) | [1.0, 3079.9] | >100 |
| Nuts | 28 (34.6) | 216.6 ± 285.1 | 124.2 (259.5) | [2.6, 1398.0] | >100 |
| Juices | 24 (29.6) | 42.0 ± 38.5 | 43.6 (50.9) | [2.7, 157.6] | 91.5 |
| Soy and derivatives | 20 (24.7) | 31.5 ± 36.4 | 18.9 (28.2) | [0.1, 118.2] | >100 |

*N* = Sample size of consumers of that food source. Percentage of participants that consume that food source in comparison with the total sample population included in the analysis (n=81).

**Table S3.** MEDAS score and classification of participants according to their adherence to MD.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Total** | | **Men** | | **Women** | |  |
| **Mean**  **± SD** | **Median**  **(IQR)** | **Mean**  **± SD** | **Median (IQR)** | **Mean**  **± SD** | **Median (IQR)** | ***P* value** |
| **MEDAS score** | 7.4 ± 1.8 | 7.0 (2.0) | 7.0 ± 1.7 | 7.0 (2.0) | 7.7 ± 1.8 | 8.0 (2.0) | 0.059 |
| **Classification according to the cut-off vales of adherence to MD** | | | | | | | |
|  | **Total** | **Men** | | **Women** | | **X2** | ***P* value** |
| **Low adherence to MD** | 10 (12.7%) | 5 (15.6%) | | 5 (10.6%) | | 0.833 | 0.659 |
| **Moderate adherence to MD** | 59 (74.6%) | 24 (75.0%) | | 35 (74.5%) | |
| **High adherence to MD** | 10 (12.7%) | 3 (9.4%) | | 7 (14.9%) | |

MEDAS: Mediterranean Diet Adherence Screener. MD: Mediterranean Diet. MEDAS score is presented as mean ± standard deviation (SD), median and interquartile range (IQR) in parenthesis. Subjects’ classifications into three ranges of adherences to MD are presented as absolute frequency and relative frequency expressed as percentage in parenthesis. X2 is the value of Chi-Squared test.

**Table S4.** Distribution of overweight and obesity grade I and II in participants.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Total** | **Men** | **Women** | **X2** | ***P* value** |
| Overweight | 36 (42.9%) | 12 (34.3%) | 24 (49.0%) | 1.812 | 0.404 |
| Obesity grade I | 42 (50.0%) | 20 (57.1%) | 22 (44.9%) |
| Obesity grade II | 6 (7.1%) | 3 (8.6%) | 3 (6.1%) |

Data are presented as absolute frequency and relative frequency expressed as percentage in parenthesis.

**Table S5.** Components of Metabolic Syndrome and distribution of metabolic syndrome between participants.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Total** | | **Men** | | **Women** | |  |
| **Mean**  **± SD** | **Median**  **(IQR)** | **Mean**  **± SD** | **Median (IQR)** | **Mean**  **± SD** | **Median (IQR)** | ***P* value** |
| WC | 96.0 ± 11.5 | 94.7 (15.4) | 102.2 ± 11.1 | 103.9 (15.1) | 91.5 ± 9.5 | 91.6 (10.8) | <0.001 |
| FBG | 93.1 ± 11.3 | 92 (12.5) | 92.3 ± 12.0 | 91 (11.5) | 93.7 ± 11.0 | 93 (13.3) | 0.586 |
| TG a | 127.7 ± 68.1 | 111 (52) | 144.8 ± 80.6 | 121 (61.5) | 115.3 ± 55.0 | 104.5 (50) | 0.091 |
| HDL a | 61.6 ± 17.0 | 56 (26) | 54.3 ± 16.1 | 51 (14) | 66.9 ± 15.8 | 68 (23.3) | <0.001 |
| SBP a | 126.2 ± 18.6 | 124.7 (25.1) | 130.5 ± 14.2 | 130.7 (18.7) | 123.2 ± 20.8 | 121.3 (25.0) | 0.01 |
| DBP a | 84.8 ± 10.9 | 82.0 (14.8) | 86.9 ± 11.1 | 87.3 (18.6) | 83.3 ± 10.6 | 80.7 (12.7) | 0.110 |
| **Classification according to the International Diabetes Federation for the European population** | | | | | | | |
|  | **Total** | **Men** | | **Women** | | **X2** | ***P* value** |
| Metabolic Syndrome | 29 (34.5%) | 15 (42.9%) | | 14 (28.6%) | | 1.843 | 0.175 |
| Healthy | 55 (65.5%) | 20 (57.1%) | | 35 (71.4%) | |

Quantitative data are presented as mean ± standard deviation (SD), median and interquartile range (IQR) in parenthesis. The letter a) indicates data that does not follow a normal distribution. Categorical data are presented as absolute frequency and relative frequency expressed as percentage in parenthesis. X2 is the value of Chi-Squared test. WC: Waist circumference; FBG: Fasting Blood Glucose; TG: Triglycerides; HDL: High Density Lipoprotein; SBP: Systolic Blood Pressure; DBP: Diastolic Blood Pressure.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S6.** Total explained variance from principal components analysis of the diet. | | | | | | | | | |
| **Components** | **Eigenvalues** | | | **Squared charge extraction sums** | | | **Rotation sums of charges squared** | | |
| **Total** | **% of variance** | **accumulate** | **Total** | **% of variance** | **accumulate** | **Total** | **% of variance** | **accumulate** |
| 1 | 6.125 | 51.040 | 51.040 | 6.125 | 51.040 | 51.040 | 4.388 | 36.569 | 36.569 |
| 2 | 1.618 | 13.483 | 64.523 | 1.618 | 13.483 | 64.523 | 2.490 | 20.749 | 57.317 |
| 3 | 1.258 | 10.487 | 75.010 | 1.258 | 10.487 | 75.010 | 2.123 | 17.692 | 75.010 |
| 4 | 0.967 | 8.057 | 83.066 |  |  |  |  |  |  |
| 5 | 0.549 | 4.576 | 87.643 |  |  |  |  |  |  |
| 6 | 0.420 | 3.503 | 91.146 |  |  |  |  |  |  |
| 7 | 0.364 | 3.033 | 94.179 |  |  |  |  |  |  |
| 8 | 0.273 | 2.275 | 96.454 |  |  |  |  |  |  |
| 9 | 0.210 | 1.752 | 98.206 |  |  |  |  |  |  |
| 10 | 0.158 | 1.318 | 99.524 |  |  |  |  |  |  |
| 11 | 0.045 | 0.377 | 99.901 |  |  |  |  |  |  |
| 12 | 0.012 | 0.099 | 100.000 |  |  |  |  |  |  |
| Extraction method: principal component analysis. | | | | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Components** | | |
| **1** | **2** | **3** |
| Proteins a | **0.859** | 0.157 | 0.138 |
| Lipids | **0.832** | 0.265 | 0.349 |
| MUFA a | **0.821** | 0.286 | 0.155 |
| Energy intake | **0.761** | 0.323 | 0.515 |
| Dietary cholesterol | **0.752** | -0.065 | -0.104 |
| SFA a | **0.731** | 0.109 | 0.552 |
| PUFA a | **0.627** | 0.335 | 0.131 |
| Total polyphenol intake a | 0.113 | **0.883** | 0.033 |
| Fibre | 0.254 | **0.814** | 0.089 |
| Intrinsic sugars | 0.117 | **0.755** | 0.159 |
| Added sugars a | 0.012 | 0.011 | **0.893** |
| Carbohydrates | 0.347 | 0.263 | **0.727** |
| Eigenvalues | 6.125 | 1.618 | 1.258 |
| Percentage of total variance | 51.040 | 13.483 | 10.487 |

**Table S7.** Component rotated array from PCA of the diet, eigenvalues, and percentage of total variance from each factor.

Extraction method: principal component analysis. Rotation method: Varimax with Kaiser normalization. The rotation has converged in 4 iterations. Letter a) indicated variables that were transformed using natural logarithms (Ln) in order to achieve a normal distribution before introducing them into the PCA.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S8.** Total explained variance from PCA of anthropometric, body composition and biochemical measurements. | | | | | | | | | | |
| **Components** | **Eigenvalues** | | | **Squared charge extraction sums** | | | **Rotation sums of charges squared** | | | |
| **Total** | **% of variance** | **accumulate** | **Total** | **% of variance** | **accumulate** | **Total** | **% of variance** | **accumulate** |
| 1 | 4.268 | 30.487 | 30.487 | 4.268 | 30.487 | 30.487 | 3.844 | 27.457 | 27.457 |
| 2 | 3.717 | 26.552 | 57.039 | 3.717 | 26.552 | 57.039 | 3.494 | 24.959 | 52.416 |
| 3 | 2.260 | 16.143 | 73.183 | 2.260 | 16.143 | 73.183 | 2.176 | 15.546 | 67.962 |
| 4 | 1.357 | 9.695 | 82.878 | 1.357 | 9.695 | 82.878 | 2.088 | 14.915 | 82.878 |
| 5 | 0.684 | 4.886 | 87.764 |  |  |  |  |  |  |
| 6 | 0.521 | 3.720 | 91.484 |  |  |  |  |  |  |
| 7 | 0.469 | 3.348 | 94.832 |  |  |  |  |  |  |
| 8 | 0.282 | 2.018 | 96.850 |  |  |  |  |  |  |
| 9 | 0.194 | 1.385 | 98.235 |  |  |  |  |  |  |
| 10 | 0.165 | 1.177 | 99.412 |  |  |  |  |  |  |
| 11 | 0.055 | 0.390 | 99.802 |  |  |  |  |  |  |
| 12 | 0.015 | 0.109 | 99.911 |  |  |  |  |  |  |
| 13 | 0.012 | 0.086 | 99.997 |  |  |  |  |  |  |
| 14 | 0.000 | 0.003 | 100.000 |  |  |  |  |  |  |
| Extraction method: principal component analysis. | | | | | | | | | | |

**Table S9.** Component rotated array from PCA of anthropometric, body composition and biochemical measurements, eigenvalues, and percentage of total variance from each factor.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Components** | | | |
| **1** | **2** | **3** | **4** |
| % Body fat | **0.975** | -0.068 | -0.010 | 0.068 |
| % Muscle mass | **-0.944** | 0.113 | 0.020 | -0.109 |
| Visceral fat area | **0.934** | 0.178 | 0.121 | -0.031 |
| SUMM 6 skinfolds a | **0.803** | -0.018 | -0.247 | -0.120 |
| BMI | **0.639** | **0.503** | 0.191 | -0.153 |
| TG a | 0.013 | **0.934** | 0.123 | 0.136 |
| VLDL a | 0.013 | **0.933** | 0.118 | 0.133 |
| HDL a | 0.092 | **-0.808** | -0.037 | 0.365 |
| HOMA-IR a | 0.193 | **0.665** | 0.207 | -0.159 |
| DBP a | 0.010 | 0.114 | **0.918** | 0.076 |
| SBP | 0.012 | 0.179 | **0.905** | 0.095 |
| Waist/hip ratio | -0.173 | **0.551** | **0.565** | -0.066 |
| Total cholesterol | 0.013 | -0.072 | 0.062 | **0.986** |
| LDL | -0.039 | -0.029 | 0.077 | **0.921** |
| Eigenvalues | 4.268 | 3.717 | 2.260 | 1.357 |
| Percentage of total variance | 30.487 | 26.552 | 16.143 | 9.695 |

Extraction method: principal component analysis. Rotation method: Varimax with Kaiser normalization. The rotation has converged in 5 iterations. Letter a) indicated variables that were transformed using natural logarithms (Ln) in order to achieve a normal distribution before introducing them into the PCA.

|  |
| --- |
| **Table S10.** Total explained variance from PCA of diet, anthropometric, body composition and biochemical measurements. |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Components** | **Eigenvalues** | | | **Squared charge extraction sums** | | | **Rotation sums of charges squared** | | | |
| **Total** | **% of variance** | **accumulate** | **Total** | **% of variance** | **accumulate** | **Total** | **% of variance** | **accumulate** |
| 1 | 6.736 | 25.908 | 25.908 | 6.736 | 25.908 | 25.908 | 5.159 | 19.844 | 19.844 |
| 2 | 4.394 | 16.902 | 42.810 | 4.394 | 16.902 | 42.810 | 3.957 | 15.221 | 35.065 |
| 3 | 3.431 | 13.195 | 56.006 | 3.431 | 13.195 | 56.006 | 3.807 | 14.642 | 49.706 |
| 4 | 2.439 | 9.379 | 65.384 | 2.439 | 9.379 | 65.384 | 2.241 | 8.621 | 58.327 |
| 5 | 1.700 | 6.540 | 71.925 | 1.700 | 6.540 | 71.925 | 2.160 | 8.309 | 66.636 |
| 6 | 1.310 | 5.040 | 76.965 | 1.310 | 5.040 | 76.965 | 2.145 | 8.249 | 74.884 |
| 7 | 1.172 | 4.508 | 81.472 | 1.172 | 4.508 | 81.472 | 1.713 | 6.588 | 81.472 |
| 8 | 0.828 | 3.185 | 84.657 |  |  |  |  |  |  |
| 9 | 0.661 | 2.542 | 87.199 |  |  |  |  |  |  |
| 10 | 0.619 | 2.382 | 89.581 |  |  |  |  |  |  |
| 11 | 0.494 | 1.901 | 91.482 |  |  |  |  |  |  |
| 12 | 0.382 | 1.471 | 92.953 |  |  |  |  |  |  |
| 13 | 0.351 | 1.351 | 94.304 |  |  |  |  |  |  |
| 14 | 0.342 | 1.317 | 95.621 |  |  |  |  |  |  |
| 15 | 0.248 | 0.956 | 96.576 |  |  |  |  |  |  |
| 16 | 0.229 | 0.882 | 97.458 |  |  |  |  |  |  |
| 17 | 0.196 | 0.752 | 98.210 |  |  |  |  |  |  |
| 18 | 0.130 | 0.501 | 98.711 |  |  |  |  |  |  |
| 19 | 0.118 | 0.452 | 99.164 |  |  |  |  |  |  |
| 20 | 0.088 | 0.337 | 99.501 |  |  |  |  |  |  |
| 21 | 0.054 | 0.206 | 99.707 |  |  |  |  |  |  |
| 22 | 0.043 | 0.164 | 99.871 |  |  |  |  |  |  |
| 23 | 0.014 | 0.055 | 99.926 |  |  |  |  |  |  |
| 24 | 0.013 | 0.050 | 99.976 |  |  |  |  |  |  |
| 25 | 0.006 | 0.023 | 99.999 |  |  |  |  |  |  |
| 26 | 0.000 | 0.001 | 100.000 |  |  |  |  |  |  |
| Extraction method: principal component analysis. | | | | | | | | | | |

**Table S11**. Component rotated array from PCA of diet, anthropometric, body composition and biochemical measurements, eigenvalues, and percentage of total variance from each factor.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Components** | | | | | |  |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| Lipids | **0.942** | -0.058 | -0.037 | -0.105 | 0.065 | 0.115 | 0.128 |
| MUFA a | **0.875** | -0.022 | 0.040 | 0.023 | 0.026 | 0.194 | 0.006 |
| SFA a | **0.841** | -0.022 | -0.033 | -0.125 | 0.052 | 0.001 | 0.376 |
| Energy intake | **0.837** | -0.169 | -0.025 | -0.030 | 0.034 | 0.240 | 0.410 |
| Proteins a | **0.788** | -0.199 | 0.124 | 0.236 | 0.054 | 0.164 | 0.172 |
| PUFA a | **0.757** | -0.059 | -0.172 | -0.113 | 0.235 | 0.123 | -0.157 |
| Dietary cholesterol | **0.594** | -0.081 | 0.337 | 0.375 | -0.134 | 0.088 | 0.057 |
| % Body fat | -0.068 | **0.967** | -0.094 | 0.070 | 0.014 | -0.053 | -0.061 |
| % Muscle mass | 0.050 | **-0.935** | 0.149 | -0.089 | -0.013 | 0.082 | 0.120 |
| Visceral fat area | -0.145 | **0.924** | 0.179 | 0.010 | 0.129 | -0.042 | -0.001 |
| SUMM 6 skinfolds a | -0.088 | **0.786** | -0.007 | -0.076 | -0.278 | -0.038 | 0.032 |
| BMI | -0.132 | **0.642** | **0.553** | -0.061 | 0.147 | 0.036 | 0.164 |
| TG a | 0.012 | -0.006 | **0.884** | 0.102 | 0.128 | -0.135 | -0.179 |
| VLDL a | 0.009 | -0.007 | **0.882** | 0.098 | 0.125 | -0.139 | -0.186 |
| HDL a | 0.017 | 0.102 | **-0.824** | 0.315 | -0.005 | 0.067 | -0.119 |
| HOMA-IR a | 0.063 | 0.168 | **0.674** | -0.124 | 0.159 | -0.056 | -0.112 |
| Waist/hip ratio | -0.043 | -0.167 | **0.626** | 0.048 | **0.534** | 0.147 | 0.115 |
| CT | -0.002 | 0.051 | -0.125 | **0.931** | 0.098 | -0.070 | -0.151 |
| LDL | -0.022 | 0.011 | -0.051 | **0.922** | 0.091 | -0.036 | -0.024 |
| SBP | 0.087 | 0.011 | 0.219 | 0.090 | **0.897** | 0.015 | 0.002 |
| DBP a | 0.166 | 0.008 | 0.190 | 0.076 | **0.885** | 0.006 | -0.090 |
| Intrinsic sugars | 0.160 | 0.025 | -0.043 | 0.095 | 0.046 | **0.828** | 0.265 |
| Total polyphenol intake a | 0.240 | -0.051 | -0.155 | -0.054 | -0.020 | **0.824** | -0.075 |
| Fibre a | 0.379 | -0.255 | -0.121 | -0.283 | 0.077 | **0.681** | -0.092 |
| Carbohydrates | 0.417 | -0.198 | -0.049 | -0.047 | -0.059 | 0.258 | **0.740** |
| Added sugars a | 0.231 | 0.075 | -0.213 | -0.133 | -0.030 | -0.064 | **0.717** |
| Eigenvalues | 6.736 | 4.394 | 3.431 | 2.439 | 1.700 | 1.310 | 1.172 |
| Percentage of total variance | 25.908 | 16.902 | 13.195 | 9.379 | 6.540 | 5.040 | 4.508 |

Extraction method: principal component analysis. Rotation method: Varimax with Kaiser normalization. The rotation has converged in 7 iterations. Letter a) indicated variables that were transformed using natural logarithms (Ln) in order to achieve a normal distribution before introducing them into the PCA.

**Table S12.** Total explained variance from PCA of diet, anthropometric, body composition, biochemical and physical activity measurements.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Components** | **Eigenvalues** | | | **Squared charge extraction sums** | | | **Rotation sums of charges squared** | | | |
| **Total** | **% of variance** | **accumulate** | **Total** | **% of variance** | **accumulate** | **Total** | **% of variance** | **accumulate** |
| 1 | 6.728 | 23.201 | 23.201 | 6.728 | 23.201 | 23.201 | 5.151 | 17.764 | 17.764 |
| 2 | 4.500 | 15.516 | 38.717 | 4.500 | 15.516 | 38.717 | 3.955 | 13.639 | 31.403 |
| 3 | 3.762 | 12.973 | 51.689 | 3.762 | 12.973 | 51.689 | 3.851 | 13.278 | 44.680 |
| 4 | 2.458 | 8.477 | 60.167 | 2.458 | 8.477 | 60.167 | 2.410 | 8.312 | 52.992 |
| 5 | 2.232 | 7.698 | 67.864 | 2.232 | 7.698 | 67.864 | 2.386 | 8.227 | 61.219 |
| 6 | 1.611 | 5.554 | 73.418 | 1.611 | 5.554 | 73.418 | 2.197 | 7.575 | 68.795 |
| 7 | 1.428 | 4.926 | 78.344 | 1.428 | 4.926 | 78.344 | 2.107 | 7.265 | 76.060 |
| 8 | 1.160 | 3.999 | 82.343 | 1.160 | 3.999 | 82.343 | 1.822 | 6.283 | 82.343 |
| 9 | 0.927 | 3.195 | 85.538 |  |  |  |  |  |  |
| 10 | 0.909 | 3.134 | 88.672 |  |  |  |  |  |  |
| 11 | 0.627 | 2.163 | 90.835 |  |  |  |  |  |  |
| 12 | 0.536 | 1.847 | 92.683 |  |  |  |  |  |  |
| 13 | 0.467 | 1.611 | 94.294 |  |  |  |  |  |  |
| 14 | 0.344 | 1.185 | 95.479 |  |  |  |  |  |  |
| 15 | 0.262 | 0.905 | 96.383 |  |  |  |  |  |  |
| 16 | 0.222 | 0.766 | 97.149 |  |  |  |  |  |  |
| 17 | 0.193 | 0.666 | 97.816 |  |  |  |  |  |  |
| 18 | 0.170 | 0.585 | 98.400 |  |  |  |  |  |  |
| 19 | 0.129 | 0.446 | 98.846 |  |  |  |  |  |  |
| 20 | 0.087 | 0.299 | 99.145 |  |  |  |  |  |  |
| 21 | 0.072 | 0.249 | 99.394 |  |  |  |  |  |  |
| 22 | 0.062 | 0.215 | 99.608 |  |  |  |  |  |  |
| 23 | 0.045 | 0.154 | 99.762 |  |  |  |  |  |  |
| 24 | 0.033 | 0.114 | 99.876 |  |  |  |  |  |  |
| 25 | 0.025 | 0.087 | 99.963 |  |  |  |  |  |  |
| 26 | 0.006 | 0.020 | 99.983 |  |  |  |  |  |  |
| 27 | 0.003 | 0.011 | 99.995 |  |  |  |  |  |  |
| 28 | 0.001 | 0.005 | 99.999 |  |  |  |  |  |  |
| 29 | 0.000 | 0.001 | 100.000 |  |  |  |  |  |  |
| Extraction method: principal component analysis. | | | | | | | | | | |

**Table S13**. Component rotated array from PCA of diet, anthropometric, body composition, biochemical and physical activity measurements. Eigenvalues, and percentage of total variance from each factor.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Components** | | | | | | | |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |
| Lipids | **0.911** | 0.015 | -0.021 | -0.176 | -0.030 | 0.103 | 0.173 | 0.140 |
| Energy intake | **0.866** | 0.030 | -0.094 | -0.049 | 0.125 | 0.020 | 0.229 | 0.374 |
| MUFA a | **0.864** | 0.065 | 0.002 | -0.040 | 0.007 | 0.036 | 0.203 | 0.066 |
| Proteins a | **0.821** | 0.047 | -0.129 | 0.239 | 0.143 | 0.191 | 0.040 | 0.087 |
| SFA a | **0.808** | 0.034 | -0.016 | -0.225 | 0.035 | 0.079 | 0.007 | 0.359 |
| PUFA a | **0.672** | -0.077 | -0.077 | -0.069 | -0.019 | 0.290 | 0.264 | -0.232 |
| Dietary cholesterol | **0.605** | 0.322 | -0.050 | 0.353 | 0.130 | -0.187 | -0.025 | -0.305 |
| TG a | 0.051 | **0.852** | -0.129 | 0.061 | -0.075 | 0.197 | -0.106 | -0.083 |
| VLDL a | 0.046 | **0.847** | -0.129 | 0.059 | -0.074 | 0.197 | -0.108 | -0.089 |
| HDL a | -0.025 | **-0.811** | 0.169 | 0.336 | 0.154 | 0.021 | 0.020 | -0.067 |
| BMI a | -0.013 | **0.630** | 0.573 | -0.052 | 0.109 | 0.079 | 0.050 | 0.080 |
| Waist/hip ratio | 0.030 | **0.619** | -0.209 | -0.129 | 0.109 | 0.514 | 0.119 | 0.089 |
| HOMA-IR a | 0.081 | **0.612** | 0.221 | -0.382 | 0.033 | 0.035 | 0.027 | 0.048 |
| % Body fat | -0.068 | -0.224 | **0.936** | 0.132 | -0.072 | 0.024 | -0.030 | 0.011 |
| Visceral fat area | -0.096 | 0.103 | **0.934** | 0.004 | -0.042 | 0.140 | -0.042 | -0.010 |
| % Muscle mass | 0.070 | 0.287 | **-0.909** | -0.148 | 0.081 | -0.037 | 0.024 | -0.014 |
| SUMM 6 skinfolds | -0.049 | 0.048 | **0.754** | 0.062 | -0.170 | -0.390 | 0.061 | -0.081 |
| CT | -0.061 | -0.210 | 0.141 | **0.920** | 0.103 | 0.130 | -0.031 | 0.003 |
| LDL | -0.065 | -0.107 | 0.148 | **0.908** | -0.002 | 0.063 | 0.035 | 0.103 |
| METs a | 0.033 | -0.073 | -0.080 | 0.084 | **0.949** | -0.065 | 0.020 | 0.033 |
| Average steps per day a | 0.118 | -0.295 | -0.001 | 0.090 | **0.833** | 0.004 | 0.085 | 0.013 |
| TEE | 0.102 | 0.393 | -0.258 | -0.109 | **0.741** | -0.117 | -0.110 | -0.036 |
| DBP a | 0.277 | 0.208 | 0.105 | 0.145 | -0.128 | **0.844** | -0.018 | -0.132 |
| SBP | 0.136 | 0.275 | -0.010 | 0.107 | -0.089 | **0.839** | 0.154 | 0.006 |
| Total polyphenol intake a | 0.207 | -0.007 | -0.007 | 0.063 | -0.014 | 0.027 | **0.857** | -0.054 |
| Intrinsic sugars | 0.170 | -0.104 | 0.104 | 0.069 | -0.005 | 0.049 | **0.777** | 0.278 |
| Fibre | 0.413 | -0.032 | -0.195 | -0.252 | 0.090 | 0.124 | **0.674** | -0.050 |
| Added sugars a | 0.183 | -0.021 | 0.034 | 0.081 | -0.068 | -0.006 | 0.037 | **0.864** |
| Carbohydrates | **0.494** | 0.038 | -0.117 | 0.028 | 0.191 | -0.162 | 0.152 | **0.687** |
| Eigenvalues | 6.728 | 4.500 | 3.762 | 2.458 | 2.232 | 1.611 | 1.428 | 1.160 |
| Percentage of total variance | 23.201 | 15.516 | 12.973 | 8.477 | 7.698 | 5.554 | 4.926 | 3.999 |

Extraction method: principal component analysis. Rotation method: Varimax with Kaiser normalization. The rotation has converged in 8 iterations. Letter a) indicated variables that were transformed using natural logarithms (Ln) in order to achieve a normal distribution before introducing them into the PCA.