**Supplementary Material**

Supplementary Appendix S1: Example of search strategy on PubMed:

**1st strategy**: all terms for the exposure, separated with the Boolean operator “OR”, and all terms for the outcome, separated with the Boolean operator “OR”:

**PubMed:** (almonds OR Brazil nuts OR cashew nuts OR cashews OR hazelnuts OR macadamia nuts OR macadamia OR pecans OR pine nuts OR pistachios OR walnuts OR peanuts OR tree nuts OR sunflower seeds OR pumpkin seeds OR Cucurbitaceae seeds OR flax seeds OR flaxseeds) AND (prediab\* OR (risk AND diabetes) OR hyperglyc\* OR (fasting AND plasma AND glucose) OR (impaired AND fasting AND glucose) OR (oral AND glucose AND tolerance AND test) OR (impaired AND glucose AND tolerance) OR glucose intolerance OR haemoglobin A1c OR glycated haemoglobin OR insulin resist\*)

**2nd strategy:** one term for the exposure at a time, and all terms for the outcome, separated with the Boolean operator “OR”:

**PubMed:** almonds AND (prediab\* OR (risk AND diabetes) OR hyperglyc\* OR (fasting AND plasma AND glucose) OR (impaired AND fasting AND glucose) OR (oral AND glucose AND tolerance AND test) OR (impaired AND glucose AND tolerance) OR glucose intolerance OR haemoglobin A1c OR glycated haemoglobin OR insulin resist\*)

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| **Supplementary Table 1.** Nutrient composition of commonly consumed nuts | | | | | | | | | | | | |
|  | Almondsa | Brazil nutsb | Cashewsc | Hazelnutsa | Macadamiasa | | Peanutsd | | Pecansa | Pine nutse | Pistachiosa | Walnutsa |
| Energy (kcal) | 579 | 659 | 553 | 628 | 718 | 567 | | 691 | | 673 | 560 | 654 |
| Water (g) | 4.41 | 3.42 | 5.20 | 5.31 | 1.36 | 6.50 | | 3.52 | | 2.28 | 4.37 | 4.07 |
| Total fat (g) | 49.93 | 67.10 | 43.85 | 60.75 | 75.77 | 49.24 | | 71.97 | | 68.37 | 45.32 | 65.21 |
| SFA (g) | 3.802 | 16.134 | 7.783 | 4.464 | 12.061 | 6.279 | | 6.180 | | 4.899 | 5.907 | 6.126 |
| MUFA (g) | 31.551 | 23.879 | 23.797 | 45.652 | 58.877 | 24.426 | | 40.801 | | 18.764 | 23.257 | 8.933 |
| PUFA (g) | 12.329 | 24.399 | 7.845 | 7.920 | 1.502 | 15.558 | | 21.614 | | 34.071 | 14.380 | 47.174 |
| Protein (g) | 21.15 | 14.32 | 18.22 | 14.95 | 7.91 | 25.80 | | 9.17 | | 13.69 | 20.16 | 15.23 |
| Carbohydrates (g) | 21.55 | 11.74 | 30.19 | 16.70 | 13.82 | 16.13 | | 13.86 | | 13.08 | 27.17 | 13.71 |
| Total sugars (g) | 4.35 | 2.33 | 5.91 | 4.34 | 4.57 | 4.72 | | 3.97 | | 3.59 | 7.66 | 2.61 |
| Total dietary fibers (g) | 12.5 | 7.5 | 3.3 | 9.7 | 8.6 | 8.5 | | 9.6 | | 3.7 | 10.6 | 6.7 |
| Minerals (mg) |  |  |  |  |  |  | |  | |  |  |  |
| Calcium, Ca | 269 | 160 | 37 | 114 | 85 | 92 | | 70 | | 16 | 105 | 98 |
| Iron, Fe | 3.71 | 2.43 | 6.68 | 4.70 | 3.69 | 4.58 | | 2.53 | | 5.53 | 3.92 | 2.91 |
| Magnesium, Mg | 270 | 376 | 292 | 163 | 130 | 168 | | 121 | | 251 | 121 | 158 |
| Phosphorus, P | 481 | 725 | 593 | 290 | 188 | 376 | | 277 | | 575 | 490 | 346 |
| Potassium, K | 733 | 659 | 660 | 680 | 368 | 705 | | 410 | | 597 | 1025 | 441 |
| Sodium, Na | 1 | 3 | 12 | 0 | 5 | 18 | | 0 | | 2 | 1 | 2 |
| Zinc, Zn | 3.12 | 4.06 | 5.78 | 2.45 | 1.30 | 3.27 | | 4.53 | | 6.45 | 2.20 | 3.09 |
| Vitamins (mg) |  |  |  |  |  |  | |  | |  |  |  |
| Vitamin C, total ascorbic acid | 0.0 | 0.7 | 0.5 | 6.3 | 1.2 | 0.0 | | 1.1 | | 0.8 | 5.6 | 1.3 |
| Thiamin | 0.205 | 0.617 | 0.423 | 0.643 | 1.195 | 0.640 | | 0.660 | | 0.364 | 0.870 | 0.341 |
| Riboflavin | 1.138 | 0.035 | 0.058 | 0.113 | 0.162 | 0.135 | | 0.130 | | 0.227 | 0.160 | 0.150 |
| Niacin | 3.618 | 0.295 | 1.062 | 1.800 | 2.473 | 12.066 | | 1.167 | | 4.387 | 1.300 | 1.125 |
| Vitamin B6 | 0.137 | 0.101 | 0.417 | 0.563 | 0.275 | 0.348 | | 0.210 | | 0.094 | 1.700 | 0.537 |
| Folate, DFE (μg) | 44 | 22 | 25 | 113 | 11 | 240 | | 22 | | 34 | 51 | 98 |
| Vitamin A, RAE (μg) | 0 | 0 | 0 | 1 | 0 | 0 | | 3 | | 1 | 26 | 1 |
| Vitamin A (IU) | 2.0 | 0 | 0 | 20 | 0 | 0 | | 56 | | 29 | 516 | 20 |
| Vitamin E (a-tocopherol) | 25.63 | 5.65 | 0.90 | 15.03 | 0.54 | 8.33 | | 1.40 | | 9.33 | 2.86 | 0.70 |
| Vitamin K (phylloquinone) (μg) | 0.0 | 0.0 | 34.1 | 14.2 | - | 0.0 | | 3.5 | | 53.9 | - | 2.7 |
| Phytosterols (mg) |  |  |  |  |  |  | |  | |  |  |  |
| Stigmasterol | 4 | 6 | 0 | 1 | 0 | - | | 3 | | 0 | 5 | 0 |
| Campesterol | 5 | 2 | 9 | 7 | 8 | - | | 6 | | 20 | 10 | 5 |
| β-sitosterol | 130 | 64 | 113 | 102 | 108 | - | | 117 | | 132 | 198 | 87 |
| Other phytosterols | 58 | 51.5 | 29 | 12 | - | - | | 32.8 | | 84.1 | - | 18.2 |
| Nutrient information is taken from the US Department of Agriculture. Agricultural Research Service. Nutrient Data Laboratory. USDA National Nutrient Database for Standard Reference. Legacy. Version Current: April 2018(15); Information about nutrient composition is provided for almonds (*Prunus dulcis*), Brazil nuts (*Bertholletia excels*), cashews (*Anacardium occidentale*), hazelnuts (*Corylus spp.*), macadamias (*Macadamia integrifolia, M. tetraphylla*), peanuts (all types), pecans (*Carya illinoinensis*), pine nuts (*Pinus spp.*), pistachios (*Pistachia vera*), walnuts, English variety (*Juglans regia*); Nutrient composition of nuts is provided per 100 g; a unroasted; b dried, unblanched; c raw, heat-treated to safely remove kernel from shell, but not further roasted; d raw; e dried, includes pignolia (Pinus pinea) and Korean (Pinus koraiensis); Abbreviations: DFE, dietary folate equivalent (1 μg DFE = 1 μg food folate); IU, international unit; MUFA, monounsaturated fatty acids; PUFA, polyunsaturated fatty acids; RAE, retinol activity equivalents (1 IU retinol = 0.3 μg RAE, 1 IU beta-carotene from food = 0.05 μg RAE, 1 IU alpha-carotene or beta-cryptoxanthin = 0.025 μg RAE); SFA, saturated fatty acids | | | | | | | | | | | | |

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| **Supplementary Table 2.** Nutrient composition of commonly consumed seeds | | | |
|  | Flaxseedsa | Pumpkin seedsb | Sunflower seedsc |
| Energy (kcal) | 534 | 574 | 584 |
| Water (g) | 6.96 | 2.03 | 4.73 |
| Total fat (g) | 42.16 | 49.05 | 51.46 |
| SFA (g) | 3.663 | 8.544 | 4.455 |
| MUFA (g) | 7.527 | 15.734 | 18.528 |
| PUFA (g) | 28.730 | 19.856 | 23.137 |
| Protein (g) | 18.29 | 29.84 | 20.78 |
| Carbohydrates (g) | 28.88 | 14.71 | 20.00 |
| Total sugars (g) | 1.55 | 1.29 | 2.62 |
| Total dietary fibers (g) | 27.3 | 6.5 | 8.6 |
| Minerals (mg) |  |  |  |
| Calcium, Ca | 255 | 52 | 78 |
| Iron, Fe | 5.73 | 8.07 | 5.25 |
| Magnesium, Mg | 392 | 550 | 325 |
| Phosphorus, P | 642 | 1174 | 660 |
| Potassium, K | 813 | 788 | 645 |
| Sodium, Na | 30 | 18 | 9 |
| Zinc, Zn | 4.34 | 7.64 | 5.00 |
| Vitamins (mg) |  |  |  |
| Vitamin C, total ascorbic acid | 0.6 | 1.8 | 1.4 |
| Thiamin | 1.644 | 0.070 | 1.480 |
| Riboflavin | 0.161 | 0.150 | 0.355 |
| Niacin | 3.080 | 4.430 | 8.335 |
| Vitamin B6 | 0.473 | 0.100 | 1.345 |
| Folate, DFE (μg) | 87 | 57 | 227 |
| Vitamin A, RAE (μg) | 0 | 0 | 3 |
| Vitamin A (IU) | 0 | 8 | 50 |
| Vitamin E (a-tocopherol) | 0.31 | 0.56 | 35.17 |
| Vitamin K (phylloquinone) (μg) | 4.3 | 4.5 | 0.0 |
| Phytosterols (mg) |  |  |  |
| Stigmasterol | 11 | 0 |  |
| Campesterol | 45 | 3 |  |
| β-sitosterol | 90 | 13 |  |
| Other phytosterols | 49 | 248.8 | 534\* |
| Nutrient information is taken from the US Department of Agriculture. Agricultural Research Service. Nutrient Data Laboratory. USDA National Nutrient Database for Standard Reference. Legacy. Version Current: April 2018(15); Information about nutrient composition is provided for flaxseeds (*Linum usitatissimum*), pumpkin seeds or pepitas (*Cucurbita spp.*), and sunflower seeds (*Helianthus annuus*); Nutrient composition of seeds is provided per 100 g; a up to 12 percent flaxseed can safely be used as an ingredient in food; b pumpkin and squash seed kernels, roasted, without salt; c seed kernels, dried; \* total phytosterols; Abbreviations: DFE, dietary folate equivalent (1 μg DFE = 1 μg food folate); IU, international unit; MUFA, monounsaturated fatty acids; PUFA, polyunsaturated fatty acids; RAE, retinol activity equivalents (1 IU retinol = 0.3 μg RAE, 1 IU beta-carotene from food = 0.05 μg RAE, 1 IU alpha-carotene or beta-cryptoxanthin = 0.025 μg RAE); SFA, saturated fatty acids | | | |