**Supplemental table 1.** Food groups used to calculate the sources of variability (cumulative R2) and % of total polyphenol intake

|  |  |
| --- | --- |
| **Food groups** | **Components** |
| Fruits | Cherries, strawberries, Apple, peach, grapes, kiwi, mango, range, banana, avocado, olives, fruits in syrup, fruits in their juice. |
| Vegetables | Swiss chard, spinach, artichoke, thistle, leek, tomato, carrot, pumpkin, lettuce, endive, eggplant, zucchini, beans, pepper, cabbage, broccoli, cauliflower, gazpacho, asparagus, roasted and fried potato.  |
| Nuts | Walnuts, peanuts, hazelnut, almonds, dried dates, raisins, dried figs and prunes |
| Alcohol | Wine, Beer, other wines and whisky  |
| Cereals and legumes | Beans, peas lentils, pasta, pizza, rice, wholegrain bread, refined bread and breakfast cereals.  |
| Fats | Olive oil, corn oil and other oils |
| Caffeine | Coffee and decaffeinated  |
| Juices | Orange juice, bottled juices and other juices |
| Chocolate | Chocolate |
| Pastries | Marzipan, biscuits, muffins, doughnut, fritter, nougat, cake and bun |
| Others | Jam, tomato sauce, croquette, honey and milkshakes |

**Supplemental table 2**. Hazard ratio (IC 95%) of probable breast cancer cases across tertiles of polyphenol intake in the SUN Project.

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| **Tertiles of polyphenols** |
|  | Tertiles 1 | Tertiles 2 | Tertiles 3 | P for trend |
| Cases | 55 | 48 | 65 |  |
| Person-years of follow up | 35,751 | 35,271 | 34,826 |  |
| Incidence rate/10,000 person -year | 15.4 | 13.6 | 18.7 |  |
| Age adjusted HR | 1 (ref) | 0.72 | 0.84 | 0.50 |
|  |  | (0.49-1.06) | (0.58-1.22) |  |
| Model 1 | 1 (ref) | 0.72 | 0.84 | 0.49 |
|  |  | (0.49-1.07) | (0.58-1.21) |  |
| Model 2 | 1 (ref) | 0.73 | 0.85 | 0.49 |
|  |  | (0.49-1.09) | (0.57-1.22) |  |

Model 1: Additional adjustment for height, number of relatives with history of BC (3 categories), smoking status (never smoker, former smoker, current smoker), physical activity (METs-h/wk, continuous), alcohol intake (g/d, continuous), BMI (3 categories), age of menarche (5 categories), age of menopause (3 categories), number of pregnancies of more than 6 months (continuous), pregnancy before the age of 30 years (dichotomous), months of breastfeeding (continuous), use of hormone replacement therapy (dichotomous) and its duration (continuous) , and years at university.

Model 2: additional adjustment for diabetes (dichotomous) and total energy intake (kcal/d, continuous) and Mediterranean diet adherence (continuous).

**Supplemental table 3**. Hazard ratio (IC 95%) of probable breast cancer cases for each quartile of polyphenols in the SUN Project among pre- and post-menopausal women.

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| **Tertiles of polyphenols** |
|  | *Tertile 1* | *Tertile 2* | *Tertile 3* | P for trend |
| **Premenopausal breast cancer** |  |  |  |  |
| N | 3298 | 3165 | 2953 |  |
| Cases | 33 | 30 | 43 |  |
| Person-years of follow up | 31,256 | 28,698 | 25,273 |  |
| Incidence rate/10,000 person year | 10.6 | 10.5 | 17.0 |  |
| Age adjusted HR | 1 (ref) | 0.83 | 1.18 | 0.38 |
|  |  | (0.50-1.36) | (0.74-1.87) |  |
| Model 1 | 1 (ref) | 0.83 | 1.15 | 0.43 |
|  |  | (0.50-1.37) | (0.72-1.84) |  |
| Model 2 | 1 (ref) | 0.83 | 1.22 | 0.31 |
|  |  | (0.50-1.39) | (0.75-1.99) |  |
| **Postmenopausal breast cancer** |  |  |  |  |
| N | 620 | 926 | 1283 |  |
| Cases | 18 | 16 | 15 |  |
| Person-years of follow up | 3,722 |  5,640 | 8,228 |  |
| Incidence rate/10,000 person year | 48.4 | 28.4 | 18.2 |  |
| Age adjusted HR | 1 (ref) | 0.58 | 0.37 | 0.006\* |
|  |  | (0.29-1.13) | (0.19-0.74) |  |
| Model 1a\* | 1 (ref) | 0.67 | 0.41 | 0.013\* |
|  |  | (0.34-1.35) | (0.20-0.83) |  |
| Model 2a\* | 1 (ref) | 0.63 | 0.35 | 0.005\* |
|  |  | (0.31-1.28) | (0.17-0.73) |  |

Model 1: Additionally adjusted for height, number of relatives with history of BC (3 categories), smoking status (never smoker, former smoker, current smoker), physical activity (METs-h/wk, continuous), alcohol intake (g/d, continuous), BMI (3 categories), age of menarche (5 categories), number of pregnancies of more than 6 months (continuous), pregnancy before the age of 30 years (dichotomous), months of breastfeeding (continuous), use of hormone replacement therapy (dichotomous) and its duration (continuous) , and years at university.

Model 1a: Model 1 additionally adjusted for time since recruitment (continuous) and age of menopause (3 categories).

Model 2: Model 1 additionally adjusted for diabetes (dichotomous), total energy intake (kcal/d, continuous) and Mediterranean diet adherence (continuous).

Model 2a: Model 2 additionally adjusted for time since recruitment (continuous).