**Supplementary material**

Supplementary Table 1. Hazard ratios for the association between diet and risk of breast, endometrial and ovarian cancer further adjusted for family history of cancer in first-degree relatives

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Breast cancera** | | **Endometrial cancerb** | | **Ovarian cancerc** | |
| Cancer cases | 1,535/27,427 | | 223/25,755 | | 231/27,490 | |
| **Daily intake/ standard portion size** | HR | 99% CI | HR | 99% CI | HR | 99% CI |
| ***Starchy food sources*** |  |  |  |  |  |  |
| Wholegrain products/ 33g | 1.00 | 0.97 to 1.03 | 0.94 | 0.85 to 1.03 | 1.01 | 0.93 to 1.10 |
| Refined grain products/ 51g | 1.03 | 0.96 to 1.12 | 1.13 | 0.94 to 1.34 | 1.04 | 0.85 to 1.26 |
| Low fibre breakfast cereals/ 40g | 1.07 | 0.88 to 1.30 | 0.80 | 0.44 to 1.45 | 1.16 | 0.71 to 1.90 |
| High fibre breakfast cereals/ 85g | 1.00 | 0.91 to 1.09 | 0.74 | 0.54 to 1.01 | 0.85 | 0.64 to 1.13 |
| Plain Potatoes/ 210g | 0.95 | 0.82 to 1.11 | 0.97 | 0.66 to 1.43 | 0.80 | 0.52 to 1.22 |
| Potatoes with added fat/ 127g | 1.33 | 1.00 to 1.78 | 1.93 | 1.00 to 3.72 | 0.85 | 0.36 to 1.99 |
| Refined pasta and rice/ 210g | 0.93 | 0.71 to 1.23 | 1.07 | 0.53 to 2.15 | 0.81 | 0.38 to 1.73 |
| Wholegrain pasta and rice/ 197 g | 1.16 | 0.84 to 1.59 | 0.53 | 0.18 to 1.53 | 0.68 | 0.25 to 1.88 |
| ***Protein and fat food sources*** |  |  |  |  |  |  |
| Low fat dairy products/ 118g | 1.01 | 0.98 to 1.04 | 1.02 | 0.96 to 1.09 | 0.95 | 0.89 to 1.02 |
| High fat dairy products/ 93g | 1.01 | 0.97 to 1.04 | 0.99 | 0.90 to 1.08 | 1.06 | 0.99 to 1.14 |
| Butter and hard margarine/ 10g | 0.99 | 0.92 to 1.06 | 0.99 | 0.82 to 1.20 | 0.87 | 0.70 to 1.07 |
| Margarine/ 9g | 0.99 | 0.92 to 1.06 | 0.92 | 0.76 to 1.11 | 1.02 | 0.86 to 1.21 |
| Low fat spreads/ 7g | 1.04 | 0.97 to 1.11 | 0.99 | 0.83 to 1.19 | 0.98 | 0.81 to 1.19 |
| High fat dressing/ 23g | 0.99 | 0.79 to 1.24 | 0.80 | 0.41 to 1.57 | 0.77 | 0.40 to 1.50 |
| Low fat dressing/ 30g | 1.03 | 0.72 to 1.48 | 0.93 | 0.35 to 2.50 | 0.98 | 0.38 to 2.47 |
| Soybean products/ 62g | 0.97 | 0.89 to 1.05 | 0.99 | 0.82 to 1.21 | 0.95 | 0.75 to 1.20 |
| Textured vegetable protein/ 130g | 0.14 | 0.01 to 3.42 | - | - | - | - |
| Pulses/ 91g | 1.03 | 0.89 to 1.20 | 0.83 | 0.53 to 1.30 | 1.15 | 0.80 to 1.66 |
| Eggs/eggs dishes/ 88g | 1.00 | 0.74 to 1.36 | 1.83 | 0.97 to 3.45 | 1.22 | 0.60 to 2.48 |
| Fish and fish dishes/ 140g | 1.01 | 0.67 to 1.52 | 0.92 | 0.32 to 2.63 | 0.63 | 0.20 to 2.01 |
| Oily fish/ 90g | 1.01 | 0.64 to 1.60 | 0.53 | 0.12 to 2.27 | 1.01 | 0.31 to 3.26 |
| Shell fish/ 60g | 1.47 | 0.56 to 3.86 | 0.86 | 0.05 to 14.19 | 0.60 | 0.03 to 10.73 |
| Red meat/ 189g | 1.28 | 0.94 to 1.74 | 1.88 | 0.88 to 3.99 | 0.90 | 0.39 to 2.08 |
| Processed meat/ 74g | 1.42 | 1.07 to 1.88 | 2.18 | 1.29 to 3.70 | 1.34 | 0.63 to 2.86 |
| Poultry/ 143g | 1.36 | 0.88 to 2.12 | 1.66 | 0.54 to 5.10 | 0.50 | 0.13 to 1.93 |
| Offal/ 100g | 2.07 | 0.36 to 12.0 | - | - | 0.16 | 0.00 to 25.9 |
| Total meat/150g | 1.18 | 1.00 to 1.38 | 1.51 | 1.01 to 2.24 | 0.92 | 0.60 to 1.42 |
| ***Vegetables*** |  |  |  |  |  |  |
| Vegetable dishes/ 214g | 0.90 | 0.73 to 1.10 | 0.72 | 0.40 to 1.29 | 0.99 | 0.59 to 1.66 |
| Allium/ 39g | 0.99 | 0.81 to 1.20 | 1.00 | 0.60 to 1.67 | 0.67 | 0.37 to 1.23 |
| Fresh legumes/ 75g | 0.97 | 0.80 to 1.16 | 1.14 | 0.74 to 1.75 | 1.10 | 0.73 to 1.64 |
| Mediterranean vegetables/ 60g | 0.95 | 0.83 to 1.09 | 0.83 | 0.56 to 1.22 | 1.22 | 0.93 to 1.60 |
| Salad vegetables/ 43g | 0.98 | 0.87 to 1.10 | 0.85 | 0.60 to 1.19 | 0.97 | 0.71 to 1.31 |
| Cruciferous vegetables/ 75g | 0.99 | 0.91 to 1.07 | 0.96 | 0.77 to 1.19 | 1.03 | 0.86 to 1.24 |
| Tomatoes/ 83g | 0.85 | 0.73 to 0.99 | 0.79 | 0.52 to 1.19 | 0.98 | 0.70 to 1.37 |
| Mushrooms/ 34g | 0.97 | 0.77 to 1.24 | 1.34 | 0.81 to 2.19 | 1.60 | 1.09 to 2.34 |
| Roots and tubers/ 66g | 0.95 | 0.84 to 1.07 | 0.93 | 0.68 to 1.29 | 1.13 | 0.88 to 1.44 |
| Total vegetables/150g | 0.97 | 0.91 to 1.02 | 0.94 | 0.81 to 1.10 | 1.04 | 0.92 to 1.19 |
| ***Fruits*** |  |  |  |  |  |  |
| Stone fruits/ 49g | 1.03 | 0.86 to 1.24 | 0.98 | 0.57 to 1.68 | 0.65 | 0.31 to 1.37 |
| Deep orange & yellow fruits/ 118g | 1.11 | 0.95 to 1.30 | 0.80 | 0.45 to 1.42 | 0.93 | 0.56 to 1.54 |
| Grapes/ 100g | 0.97 | 0.85 to 1.12 | 0.89 | 0.59 to 1.34 | 0.93 | 0.63 to 1.36 |
| Citrus family fruits/ 92g | 1.03 | 0.92 to 1.15 | 0.76 | 0.53 to 1.11 | 0.87 | 0.62 to 1.21 |
| Rhubarb/ 130g | 0.92 | 0.69 to 1.23 | 0.67 | 0.25 to 1.79 | 1.07 | 0.57 to 2.02 |
| Berries/ 48g | 1.03 | 0.93 to 1.13 | 0.86 | 0.61 to 1.23 | 0.84 | 0.59 to 1.20 |
| Bananas/ 100g | 1.08 | 0.96 to 1.21 | 0.84 | 0.60 to 1.19 | 1.17 | 0.87 to 1.56 |
| Pomes/ 116g | 0.98 | 0.91 to 1.06 | 0.90 | 0.72 to 1.13 | 0.94 | 0.76 to 1.17 |
| Total fruits/150g | 1.01 | 0.97 to 1.06 | 0.89 | 0.77 to 1.02 | 0.97 | 0.86 to 1.10 |
| Dried Fruits/ 28g | 1.05 | 0.97 to 1.14 | 0.58 | 0.35 to 0.97 | 1.05 | 0.87 to 1.27 |
| ***Other food groups*** |  |  |  |  |  |  |
| Sauces/ 83g | 1.09 | 0.62 to 1.92 | 1.22 | 0.28 to 5.35 | 1.48 | 0.36 to 6.13 |
| Pickles/Chutneys/ 35g | 0.91 | 0.68 to 1.20 | 0.93 | 0.45 to 1.91 | 0.71 | 0.32 to 1.60 |
| Soups/ 163g | 1.00 | 0.80 to 1.25 | 0.86 | 0.46 to 1.59 | 1.00 | 0.59 to 1.73 |
| Confectionary & spreads/ 44g | 0.98 | 0.92 to 1.06 | 0.90 | 0.73 to 1.11 | 0.95 | 0.78 to 1.15 |
| Nuts and seeds/ 24g | 1.04 | 0.94 to 1.14 | 0.79 | 0.54 to 1.16 | 1.05 | 0.83 to 1.33 |
| Savoury snacks/ 26g | 1.07 | 0.87 to 1.31 | 1.17 | 0.70 to 1.94 | 1.06 | 0.61 to 1.84 |
| Biscuits/ 15g | 1.00 | 0.93 to 1.07 | 0.99 | 0.83 to 1.19 | 0.92 | 0.75 to 1.13 |
| Cakes/ 66g | 0.86 | 0.63 to 1.17 | 0.81 | 0.35 to 1.87 | 0.97 | 0.47 to 1.98 |
| Pastries and Puddings/ 84g | 1.14 | 0.94 to 1.39 | 1.01 | 0.57 to 1.77 | 0.75 | 0.39 to 1.44 |
| ***Drinks and beverages*** |  |  |  |  |  |  |
| Tea/ 260g | 0.98 | 0.95 to 1.02 | 1.02 | 0.94 to 1.12 | 0.99 | 0.91 to 1.09 |
| Herbal tea/ 260g | 0.99 | 0.92 to 1.07 | 0.86 | 0.67 to 1.10 | 0.96 | 0.77 to 1.19 |
| Coffee/ 190g | 1.01 | 0.97 to 1.05 | 1.02 | 0.93 to 1.12 | 1.03 | 0.94 to 1.13 |
| Other hot beverages/ 23g | 1.02 | 0.92 to 1.14 | 1.06 | 0.81 to 1.38 | 1.05 | 0.81 to 1.37 |
| Juices/ 145g | 1.01 | 0.93 to 1.09 | 0.97 | 0.78 to 1.20 | 0.96 | 0.78 to 1.19 |
| Soft drinks/ 111g | 1.00 | 0.89 to 1.12 | 1.02 | 0.77 to 1.37 | 1.04 | 0.80 to 1.36 |
| Low calorie/diet soft drinks/ 161g | 1.02 | 0.91 to 1.13 | 1.03 | 0.78 to 1.36 | 0.97 | 0.71 to 1.31 |
| Wines/ glass\* | 1.03 | 0.94 to 1.13 | 0.93 | 0.71 to 1.22 | 1.04 | 0.83 to 1.32 |
| Beer and cider/ half pint\* | 1.11 | 0.95 to 1.31 | 0.87 | 0.47 to 1.63 | 1.13 | 0.74 to 1.72 |
| Port, sherry, liqueurs/ glass\* | 0.99 | 0.75 to 1.31 | 1.14 | 0.58 to 2.23 | 1.22 | 0.75 to 1.99 |
| Spirits/ measure\* | 1.10 | 0.95 to 1.28 | 0.55 | 0.26 to 1.16 | 1.23 | 0.91 to 1.65 |

a Model adjusted for age, ethanol intake, duration of breastfeeding, physical activity, smoking, social class, menopausal status, family history of any cancer and family history of breast cancer; a Model adjusted for age, ethanol intake, duration of breastfeeding, physical activity, smoking, social class, menopausal status, diabetes, hypertension, and family history of endometrial cancer; a Model adjusted for age, ethanol intake, duration of breastfeeding, physical activity, smoking, social class, menopausal status, family history of breast cancer and family history of ovarian cancer; \* not adjusted for ethanol intake

Supplementary Table 2. Hazard ratios for the association between diet and risk of breast, endometrial and ovarian cancer further adjusted for total energy intake and reproductive factors

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Breast Cancer Cases** | | | | **Endometrial cancer cases** | | | | **Ovarian cancer cases** | | | |
| **Daily intake/**  **standard portion size** | n=1796/32,228a | | n=1625/29,183b | | n=238/27,335c | | n=86/9,227d | | n=251/29,226a | | n=251/29,229b | |
| HR | 99% CI | HR | 99% CI | HR | 99% CI | HR | 99% CI | HR | 99% CI | HR | 99% CI |
| ***Starchy food sources*** |  |  |  |  |  |  |  |  |  |  |  |  |
| Wholegrain products/ 33g | 0.99 | 0.96 to 1.02 | 0.95 | 0.90 to 1.01 | 0.93 | 0.84 to 1.03 | 0.94 | 0.80 to 1.11 | 1.01 | 0.93 to 1.11 | 1.01 | 0.88 to 1.15 |
| Refined grain products/ 51g | 1.02 | 0.95 to 1.11 | 1.03 | 0.91 to 1.17 | 1.19 | 1.01 to 1.41 | 1.16 | 0.84 to 1.59 | 1.04 | 0.85 to 1.27 | 1.02 | 0.75 to 1.39 |
| Low fibre breakfast cereals/ 40g | 1.03 | 0.84 to 1.25 | 0.92 | 0.66 to 1.29 | 0.80 | 0.45 to 1.44 | 0.80 | 0.30 to 2.14 | 1.11 | 0.68 to 1.80 | 1.02 | 0.48 to 2.14 |
| High fibre breakfast cereals/ 85g | 1.00 | 0.91 to 1.10 | 1.05 | 0.93 to 1.18 | 0.76 | 0.56 to 1.04 | 0.91 | 0.59 to 1.41 | 0.90 | 0.69 to 1.18 | 0.99 | 0.71 to 1.38 |
| Plain Potatoes/ 210g | 0.92 | 0.79 to 1.08 | 0.95 | 0.75 to 1.20 | 1.03 | 0.69 to 1.53 | 1.15 | 0.65 to 2.06 | 0.85 | 0.56 to 1.29 | 0.98 | 0.56 to 1.71 |
| Potatoes with added fat/ 127g | 1.27 | 0.95 to 1.72 | 1.18 | 0.73 to 1.90 | 2.21 | 1.16 to 4.20 | 2.27 | 0.89 to 5.80 | 0.84 | 0.36 to 1.98 | 0.67 | 0.17 to 2.64 |
| Refined pasta and rice/ 210g | 0.92 | 0.70 to 1.20 | 1.08 | 0.72 to 1.64 | 1.18 | 0.61 to 2.31 | 0.56 | 0.13 to 2.42 | 0.76 | 0.35 to 1.64 | 0.95 | 0.31 to 2.92 |
| Wholegrain pasta and rice/ 197 g | 1.13 | 0.82 to 1.55 | 1.15 | 0.70 to 1.92 | 0.66 | 0.25 to 1.79 | 0.78 | 0.16 to 3.92 | 0.73 | 0.28 to 1.93 | 0.75 | 0.17 to 3.21 |
| ***Protein and fat food sources*** |  |  |  |  |  |  |  |  |  |  |  |  |
| Low fat dairy products/ 118g | 1.01 | 0.98 to 1.03 | 0.99 | 0.95 to 1.03 | 1.05 | 0.98 to 1.12 | 1.05 | 0.94 to 1.17 | 0.96 | 0.89 to 1.02 | 0.92 | 0.83 to 1.02 |
| High fat dairy products/ 93g | 1.00 | 0.97 to 1.04 | 1.01 | 0.96 to 1.07 | 0.99 | 0.91 to 1.09 | 1.00 | 0.86 to 1.16 | 1.07 | 1.00 to 1.14 | 1.09 | 0.98 to 1.21 |
| Butter and hard margarine/ 10g | 0.98 | 0.91 to 1.05 | 0.96 | 0.85 to 1.08 | 1.03 | 0.85 to 1.24 | 1.11 | 0.83 to 1.49 | 0.87 | 0.70 to 1.07 | 0.83 | 0.59 to 1.16 |
| Margarine/ 9g | 0.98 | 0.92 to 1.05 | 0.96 | 0.85 to 1.07 | 0.95 | 0.79 to 1.15 | 0.98 | 0.71 to 1.35 | 1.05 | 0.89 to 1.24 | 1.06 | 0.82 to 1.38 |
| Low fat spreads/ 7g | 1.02 | 0.96 to 1.09 | 0.99 | 0.88 to 1.10 | 0.99 | 0.82 to 1.19 | 0.94 | 0.67 to 1.31 | 0.95 | 0.79 to 1.16 | 0.96 | 0.72 to 1.29 |
| High fat dressing/ 23g | 0.96 | 0.77 to 1.21 | 1.00 | 0.69 to 1.45 | 0.84 | 0.43 to 1.65 | 0.53 | 0.14 to 2.04 | 0.74 | 0.38 to 1.44 | 0.95 | 0.37 to 2.44 |
| Low fat dressing/ 30g | 1.01 | 0.71 to 1.44 | 0.60 | 0.31 to 1.16 | 0.92 | 0.34 to 2.46 | 0.48 | 0.07 to 3.38 | 1.12 | 0.48 to 2.63 | 0.94 | 0.23 to 3.86 |
| Soybean products/ 62g | 0.97 | 0.90 to 1.05 | 0.98 | 0.85 to 1.14 | 0.98 | 0.81 to 1.19 | 1.04 | 0.75 to 1.45 | 0.93 | 0.73 to 1.19 | 0.90 | 0.56 to 1.45 |
| Textured vegetable protein/ 130g | 0.14 | 0.01 to 3.19 | 0.02 | 0.00 to 8.20 | 0.00 | 0.00 to 45.3 | - | - | - | - | - | - |
| Pulses/ 91g | 1.02 | 0.87 to 1.18 | 1.11 | 0.87 to 1.41 | 0.87 | 0.55 to 1.36 | 1.06 | 0.52 to 2.17 | 1.23 | 0.86 to 1.75 | 1.72 | 1.07 to 2.77 |
| Eggs/eggs dishes/ 88g | 0.95 | 0.69 to 1.30 | 1.27 | 0.82 to 1.98 | 2.00 | 1.08 to 3.69 | 2.17 | 0.86 to 5.43 | 1.34 | 0.67 to 2.69 | 1.28 | 0.46 to 3.60 |
| Fish and fish dishes/ 140g | 0.99 | 0.65 to 1.49 | 1.07 | 0.55 to 2.08 | 1.13 | 0.41 to 3.16 | 0.73 | 0.10 to 5.18 | 0.92 | 0.32 to 2.67 | 2.64 | 0.73 to 9.57 |
| Oily fish/ 90g | 0.97 | 0.61 to 1.53 | 1.18 | 0.66 to 2.11 | 0.59 | 0.14 to 2.42 | 0.77 | 0.09 to 6.37 | 1.11 | 0.38 to 3.24 | 1.09 | 0.26 to 4.57 |
| Shell fish/ 60g | 1.41 | 0.55 to 3.64 | 1.42 | 0.34 to 5.97 | 0.85 | 0.05 to 13.9 | 0.11 | 0.00 to 40.4 | 0.71 | 0.05 to 10.95 | 0.63 | 0.01 to 34.0 |
| Red meat/ 189g | 1.27 | 0.93 to 1.73 | 1.22 | 0.76 to 1.97 | 2.28 | 1.07 to 4.87 | 2.00 | 0.56 to 7.12 | 0.90 | 0.39 to 2.07 | 1.21 | 0.38 to 3.86 |
| Processed meat/ 74g | 1.36 | 1.01 to 1.82 | 1.45 | 0.87 to 2.43 | 2.47 | 1.53 to 3.98 | 5.01 | 1.50 to 16.7 | 1.37 | 0.64 to 2.93 | 1.42 | 0.40 to 5.10 |
| Poultry/ 143g | 1.30 | 0.84 to 2.02 | 1.07 | 0.53 to 2.16 | 2.04 | 0.69 to 6.02 | 0.73 | 0.09 to 6.13 | 0.66 | 0.18 to 2.37 | 0.35 | 0.04 to 2.77 |
| Offal/ 100g | 2.18 | 0.39 to 12.2 | 2.79 | 0.22 to 35.2 | - | - | - | - | 0.08 | 0.00 to 14.05 | - | - |
| Total meat/150g | 1.17 | 1.00 to 1.37 | 1.14 | 0.88 to 1.47 | 1.74 | 1.16 to 2.62 | 1.57 | 0.77 to 3.20 | 0.95 | 0.61 to 1.46 | 0.98 | 0.51 to 1.88 |
| ***Vegetables*** |  |  |  |  |  |  |  |  |  |  |  |  |
| Vegetable dishes/ 214g | 0.89 | 0.73 to 1.09 | 0.86 | 0.62 to 1.19 | 0.72 | 0.40 to 1.31 | 0.77 | 0.28 to 2.07 | 1.08 | 0.66 to 1.78 | 0.82 | 0.35 to 1.91 |
| Allium/ 39g | 0.98 | 0.81 to 1.20 | 0.95 | 0.69 to 1.31 | 1.04 | 0.62 to 1.72 | 0.86 | 0.34 to 2.17 | 0.78 | 0.45 to 1.37 | 0.87 | 0.39 to 1.92 |
| Fresh legumes/ 75g | 0.94 | 0.78 to 1.14 | 0.87 | 0.64 to 1.19 | 1.23 | 0.82 to 1.85 | 1.04 | 0.48 to 2.28 | 1.12 | 0.75 to 1.67 | 1.52 | 1.02 to 2.24 |
| Mediterranean vegetables/ 60g | 0.95 | 0.83 to 1.09 | 1.00 | 0.81 to 1.24 | 0.89 | 0.61 to 1.31 | 0.79 | 0.39 to 1.57 | 1.23 | 0.92 to 1.63 | 1.12 | 0.68 to 1.86 |
| Salad vegetables/ 43g | 0.96 | 0.86 to 1.08 | 0.93 | 0.76 to 1.13 | 0.88 | 0.63 to 1.24 | 0.83 | 0.46 to 1.48 | 1.01 | 0.75 to 1.36 | 1.22 | 0.82 to 1.82 |
| Cruciferous vegetables/ 75g | 0.98 | 0.91 to 1.06 | 1.01 | 0.90 to 1.14 | 0.97 | 0.78 to 1.20 | 0.93 | 0.65 to 1.34 | 1.06 | 0.89 to 1.26 | 1.16 | 0.92 to 1.46 |
| Tomatoes/ 83g | 0.86 | 0.74 to 0.99 | 0.86 | 0.69 to 1.08 | 0.81 | 0.54 to 1.21 | 0.63 | 0.30 to 1.34 | 0.99 | 0.71 to 1.38 | 1.05 | 0.65 to 1.68 |
| Mushrooms/ 34g | 0.95 | 0.75 to 1.21 | 0.98 | 0.68 to 1.42 | 1.39 | 0.86 to 2.25 | 1.29 | 0.54 to 3.08 | 1.62 | 1.13 to 2.32 | 1.66 | 0.99 to 2.79 |
| Roots and tubers/ 66g | 0.93 | 0.82 to 1.05 | 0.88 | 0.72 to 1.09 | 0.96 | 0.69 to 1.32 | 1.09 | 0.72 to 1.66 | 1.15 | 0.91 to 1.47 | 1.30 | 1.06 to 1.59 |
| Total vegetables/150g | 0.95 | 0.90 to 1.01 | 0.96 | 0.87 to 1.05 | 0.96 | 0.81 to 1.13 | 0.93 | 0.70 to 1.23 | 1.07 | 0.94 to 1.22 | 1.14 | 0.97 to 1.34 |
| ***Fruits*** |  |  |  |  |  |  |  |  |  |  |  |  |
| Stone fruits/ 49g | 1.02 | 0.85 to 1.23 | 1.02 | 0.75 to 1.40 | 1.00 | 0.59 to 1.70 | 1.30 | 0.61 to 2.74 | 0.67 | 0.33 to 1.37 | 0.57 | 0.18 to 1.74 |
| Deep orange & yellow fruits/ 118g | 1.07 | 0.92 to 1.26 | 1.07 | 0.83 to 1.37 | 0.79 | 0.45 to 1.40 | 0.97 | 0.43 to 2.19 | 1.00 | 0.64 to 1.59 | 0.85 | 0.39 to 1.84 |
| Grapes/ 100g | 0.95 | 0.83 to 1.10 | 0.96 | 0.77 to 1.19 | 0.96 | 0.64 to 1.39 | 0.67 | 0.28 to 1.64 | 0.93 | 0.63 to 1.35 | 0.73 | 0.35 to 1.50 |
| Citrus family fruits/ 92g | 1.02 | 0.91 to 1.14 | 0.97 | 0.81 to 1.17 | 0.79 | 0.55 to 1.13 | 0.94 | 0.56 to 1.60 | 0.89 | 0.65 to 1.23 | 0.84 | 0.50 to 1.40 |
| Rhubarb/ 130g | 0.92 | 0.69 to 1.23 | 0.87 | 0.54 to 1.40 | 0.82 | 0.34 to 1.99 | 0.76 | 0.17 to 3.49 | 1.11 | 0.60 to 2.05 | 0.95 | 0.31 to 2.88 |
| Berries/ 48g | 1.03 | 0.94 to 1.13 | 1.00 | 0.85 to 1.18 | 0.88 | 0.62 to 1.25 | 0.78 | 0.40 to 1.52 | 0.83 | 0.58 to 1.19 | 0.78 | 0.44 to 1.39 |
| Bananas/ 100g | 1.06 | 0.95 to 1.19 | 0.99 | 0.82 to 1.21 | 0.92 | 0.66 to 1.28 | 0.84 | 0.47 to 1.52 | 1.25 | 0.95 to 1.64 | 1.39 | 0.95 to 2.02 |
| Pomes/ 116g | 0.97 | 0.90 to 1.06 | 0.97 | 0.85 to 1.10 | 0.95 | 0.76 to 1.17 | 0.83 | 0.55 to 1.25 | 0.98 | 0.80 to 1.21 | 0.98 | 0.71 to 1.35 |
| Total fruits/150g | 1.01 | 0.96 to 1.05 | 0.99 | 0.92 to 1.07 | 0.92 | 0.80 to 1.05 | 0.88 | 0.69 to 1.13 | 1.00 | 0.88 to 1.12 | 0.97 | 0.80 to 1.17 |
| Dried Fruits/ 28g | 1.05 | 0.96 to 1.13 | 1.11 | 0.98 to 1.26 | 0.62 | 0.39 to 1.01 | 0.78 | 0.40 to 1.49 | 1.07 | 0.90 to 1.28 | 0.97 | 0.65 to 1.46 |
| ***Other food groups*** |  |  |  |  |  |  |  |  |  |  |  |  |
| Sauces/ 83g | 1.04 | 0.59 to 1.84 | 1.81 | 0.79 to 4.16 | 1.65 | 0.39 to 6.97 | 0.79 | 0.05 to 12.8 | 2.03 | 0.53 to 7.77 | 6.23 | 1.33 to 29.2 |
| Pickles/Chutneys/ 35g | 0.87 | 0.65 to 1.16 | 0.85 | 0.52 to 1.40 | 1.09 | 0.55 to 2.17 | 0.70 | 0.16 to 3.15 | 0.67 | 0.30 to 1.53 | 0.73 | 0.20 to 2.60 |
| Soups/ 163g | 0.97 | 0.78 to 1.21 | 0.98 | 0.71 to 1.36 | 0.98 | 0.54 to 1.76 | 1.11 | 0.49 to 2.53 | 1.07 | 0.64 to 1.78 | 0.89 | 0.39 to 2.00 |
| Confectionary & spreads/ 44g | 0.97 | 0.90 to 1.05 | 0.98 | 0.87 to 1.12 | 0.92 | 0.73 to 1.16 | 0.94 | 0.63 to 1.39 | 0.99 | 0.81 to 1.20 | 0.83 | 0.58 to 1.21 |
| Nuts and seeds/ 24g | 1.03 | 0.93 to 1.13 | 1.02 | 0.86 to 1.21 | 0.81 | 0.55 to 1.19 | 0.89 | 0.48 to 1.66 | 1.05 | 0.82 to 1.34 | 1.10 | 0.77 to 1.58 |
| Savoury snacks/ 26g | 1.05 | 0.85 to 1.29 | 1.06 | 0.74 to 1.51 | 1.23 | 0.74 to 2.04 | 1.18 | 0.44 to 3.18 | 1.11 | 0.65 to 1.90 | 0.97 | 0.39 to 2.46 |
| Biscuits/ 15g | 1.00 | 0.94 to 1.08 | 1.04 | 0.93 to 1.16 | 1.02 | 0.84 to 1.23 | 1.16 | 0.89 to 1.53 | 0.97 | 0.80 to 1.18 | 0.99 | 0.75 to 1.32 |
| Cakes/ 66g | 0.84 | 0.61 to 1.16 | 1.03 | 0.64 to 1.66 | 1.00 | 0.44 to 2.28 | 1.34 | 0.43 to 4.14 | 1.03 | 0.50 to 2.14 | 0.95 | 0.30 to 3.02 |
| Pastries and Puddings/ 84g | 1.12 | 0.90 to 1.38 | 1.27 | 0.90 to 1.80 | 1.18 | 0.67 to 2.11 | 1.21 | 0.43 to 3.39 | 0.73 | 0.37 to 1.44 | 0.78 | 0.28 to 2.18 |
| Tea/ 260g | 0.98 | 0.95 to 1.01 | 1.01 | 0.96 to 1.07 | 1.02 | 0.94 to 1.12 | 0.99 | 0.86 to 1.14 | 0.99 | 0.91 to 1.07 | 0.98 | 0.86 to 1.11 |
| Herbal tea/ 260g | 0.98 | 0.91 to 1.06 | 0.97 | 0.86 to 1.11 | 0.90 | 0.72 to 1.12 | 0.80 | 0.51 to 1.26 | 0.94 | 0.75 to 1.16 | 0.92 | 0.65 to 1.30 |
| Coffee/ 190g | 1.01 | 0.97 to 1.04 | 1.00 | 0.94 to 1.05 | 1.03 | 0.95 to 1.13 | 1.05 | 0.90 to 1.21 | 1.04 | 0.96 to 1.14 | 1.02 | 0.90 to 1.17 |
| Other hot beverages/ 23g | 1.03 | 0.93 to 1.14 | 0.96 | 0.80 to 1.14 | 1.04 | 0.79 to 1.36 | 1.00 | 0.62 to 1.61 | 1.05 | 0.81 to 1.37 | 1.02 | 0.68 to 1.52 |
| Juices/ 145g | 1.00 | 0.93 to 1.08 | 0.94 | 0.83 to 1.08 | 0.98 | 0.78 to 1.21 | 0.89 | 0.60 to 1.33 | 0.98 | 0.80 to 1.20 | 0.94 | 0.68 to 1.31 |
| Soft drinks/ 111g | 1.00 | 0.89 to 1.12 | 1.00 | 0.84 to 1.19 | 1.03 | 0.77 to 1.37 | 0.76 | 0.36 to 1.60 | 1.03 | 0.79 to 1.35 | 1.07 | 0.74 to 1.54 |
| Low calorie/diet soft drinks/ 161g | 1.03 | 0.93 to 1.14 | 1.03 | 0.88 to 1.21 | 1.04 | 0.79 to 1.36 | 1.00 | 0.60 to 1.66 | 0.98 | 0.73 to 1.31 | 1.01 | 0.65 to 1.56 |
| Wines/ glass\* | 0.95 | 0.83 to 1.09 | 1.06 | 0.92 to 1.21 | 0.90 | 0.69 to 1.17 | 0.83 | 0.51 to 1.34 | 1.06 | 0.85 to 1.32 | 1.10 | 0.80 to 1.50 |
| Beer and cider/ half pint\* | 1.04 | 0.87 to 1.25 | 1.13 | 0.85 to 1.51 | 0.83 | 0.44 to 1.60 | 1.34 | 0.67 to 2.71 | 1.12 | 0.73 to 1.71 | 1.11 | 0.53 to 2.31 |
| Port, sherry, liqueurs/ glass\* | 0.92 | 0.69 to 1.23 | 1.09 | 0.76 to 1.54 | 1.14 | 0.59 to 2.20 | 1.02 | 0.33 to 3.16 | 1.21 | 0.75 to 1.96 | 0.74 | 0.23 to 2.43 |
| Spirits/ measure\* | 1.06 | 0.90 to 1.24 | 1.18 | 0.98 to 1.43 | 0.54 | 0.26 to 1.13 | 0.57 | 0.19 to 1.73 | 1.26 | 0.96 to 1.65 | 1.24 | 0.85 to 1.82 |

a Model adjusted for age, ethanol intake, duration of breastfeeding, physical activity, smoking, social class, menopausal status and total energy intake (excluding participants with a total energy intake below 500 kcal and above 6000 kcal); b Model adjusted for age, ethanol intake, duration of breastfeeding, physical activity, smoking, social class, menopausal status, total energy intake, current use of HRT, oral contraceptive use, and parity; c Model adjusted for age, ethanol intake, duration of breastfeeding, physical activity, smoking, social class, menopausal status, history of diabetes, history of hypertension, and total energy intake (excluding participants with a total energy intake below 500 kcal and above 6000 kcal); d Model adjusted for age, ethanol intake, duration of breastfeeding, physical activity, smoking, social class, menopausal status, history of diabetes, history of hypertension, total energy intake, current use of HRT, oral contraceptive use, and parity; \* not adjusted for ethanol intake

Supplementary Table 3. Hazard ratios for the association between age at natural menopause and risk of breast, endometrial and ovarian cancer

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Breast cancer** | | | | **Endometrial cancer** | | | | **Ovarian cancer** | | | |
|  | **Unadjusted** | | **Adjusted**\* | | **Unadjusted** | | **Adjusted**\* | | **Unadjusted** | | **Adjusted**\* | |
|  | HR | 95% CI | HR | 95% CI | HR | 95% CI | HR | 95% CI | HR | 95% CI | HR | 95% CI |
| **Age at natural menopause**† | 1.04 | 1.03 to 1.06 | 1.03 | 1.01 to 1.06 | 1.15 | 1.11 to 1.19 | 1.15 | 1.09 to 1.22 | 1.08 | 1.04 to 1.13 | 1.09 | 1.02 to 1.16 |

\*Model adjusted for age, BMI, physical activity, smoking, ethanol intake, total energy intake, social class, parity, age at menarche, and age at first full term pregnancy

†Excluded women who had a hysterectomy or bilateral oophorectomy, those who reported current or ever use of HRT prior to their last period as well as women who had their last period before the age of 40 years and after 65 years

Supplementary Table 4. Subgroup analysis by age at last natural menopause for the association between diet and risk of breast, endometrial and ovarian cancer

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **Age at last natural menopause**\* | | | |  |
|  |  | **40-49 years** | | **50-65 years** | |  |
| **Daily intake/ standard portion size** | **Breast cancera** | HR | 99% CI | HR | 99% CI | Overall *P-value*† |
| Tomatoes/ 83g | 766/14,058 | 0.96 | 0.75 to 1.24 | 0.82 | 0.59 to 1.15 | 0.327 |
| Processed meat/ 74g | 716/13,239 | 1.31 | 0.72 to 2.40 | 1.56 | 0.77 to 3.14 | 0.632 |
| Total meat/150g | 766/14,058 | 1.06 | 0.79 to 1.42 | 1.37 | 0.97 to 1.94 | 0.135 |
|  |  |  |  |  |  |  |
|  | **Endometrial cancerb** |  | |  | |  |
| Dried Fruits/ 28g | 134/14,083 | 0.50 | 0.16 to 1.52 | 0.52 | 0.21 to 1.27 | 0.938 |
| Processed meat/ 74g | 134/13,262 | 2.79 | 0.70 to 11.1 | 3.16 | 0.91 to 11.0 | 0.859 |
| Total meat/150g | 134/14,083 | 2.12 | 1.09 to 4.12 | 1.41 | 0.69 to 2.88 | 0.276 |
|  |  |  |  |  |  |  |
|  | **Ovarian cancera** |  | |  | |  |
| Mushrooms/ 34g | 112/14,081 | 1.98 | 1.03 to 3.85 | 1.85 | 0.99 to 3.45 | 0.834 |

a Model adjusted for age, ethanol intake, duration of breastfeeding, physical activity, smoking, social class, menopausal status; b Model adjusted for age, ethanol intake, duration of breastfeeding, physical activity, smoking, social class, menopausal status, history of diabetes and history of hypertension; \*Excluded women who had a hysterectomy or bilateral oophorectomy, those who reported current or ever use of HRT prior to their last period as well as women who had their last period before the age of 40 years and after 65 years; † *P-value* for the difference between the two age groups