

**Supplemental Figure 1.** Flow diagram of the sample for analysis of the association between the Dietary inflammatory index and risk of depression in mid-aged Australian women

1 Confounders including total energy intake, highest qualification completed, marital status, menopause status, night sweats, major personal illness or injury, smoking, physical activity, body mass index and diagnosis or treatment for depression

**Supplemental Table 1.** Dietary intake of mid-aged women according to quartiles of the Dietary Inflammatory Index, N = 6,438

|  |  |  |
| --- | --- | --- |
|  | Dietary Inflammatory Index |  |
|  | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 |  |
| Dietary intake | *n* = 1,610 | *n* = 1,609 | *n* = 1,609 | *n* = 1,610 | *P*-value1 |
| Total energy intake, kJ/day | 8,800 (2,635) | 7,033 (1,605) | 5,953 (1,390) | 4,867 (1,345) | <0.0001 |
| Carbohydrate, energy % | 45.9 (6.3) | 45.5 (6.3) | 44.6 (6.3) | 42.9 (6.5) | <0.0001 |
| Protein, energy % | 20.6 (3.4) | 20.7 (3.1) | 20.8 (3.2) | 20.6 (3.3) | <0.0001 |
| Total fat, energy % | 33.7 (5.7) | 34.1 (5.9) | 34.9 (6.0) | 36.9 (6.2) | <0.0001 |
| Saturated fat, energy % | 12.5 (2.9) | 13.3 (3.1) | 13.9 (3.3) | 15.5 (3.9) | <0.0001 |
| Monounsaturated fat, energy % | 12.1 (2.5) | 12.0 (2.5) | 12.3 (2.5) | 12.8 (2.4) | <0.0001 |
| Polyunsaturated fat, energy % | 5.9 (1.9) | 5.5 (2.0) | 5.5 (2.0) | 5.3 (2.1) | <0.0001 |
| Omega -3 fat, mg/1000kj | 19.7 (6.9) | 18.4 (6.0) | 18.2 (5.9) | 18.2 (5.8) | <0.0001 |
| Omega-6 fat, mg/1000kj | 129.9 (45.9) | 121.1 (46.8) | 120.6 (46.9) | 116.5 (48.9) | <0.0001 |
| Cholesterol, mg/1000kJ | 33.2 (9.7) | 35.1 (9.4) | 37.0 (10.1) | 41.0 (12.4) | <0.0001 |
| Dietary fiber, g/1000kJ | 3.6 (0.9) | 3.3 (0.8) | 3.0 (0.8) | 2.7 (0.7) | <0.0001 |
| Sugars, energy % | 21.1 (5.1) | 21.2 (5.5) | 20.9 (5.7) | 20.1 (6.1) | <0.0001 |
| Magnesium, mg/1000kJ | 44.1 (8.3) | 41.7 (7.3) | 40.0 (7.2) | 37.5 (7.2) | <0.0001 |
| Potassium, mg/1000kJ | 423.6 (73.3) | 414.5 (72.3) | 409.1 (79.0) | 389.1 (81.5) | <0.0001 |
| Calcium, mg/1000kJ | 123.2 (36.5) | 133.3 (38.9) | 139.0 (43.3) | 142.8 (45.3) | <0.0001 |
| Iron, mg/1000kJ | 2.0 (0.5) | 1.8 (0.4) | 1.7 (0.4) | 1.6 (0.3) | <0.0001 |
| Zinc, mg/1000kJ | 1.6 (0.3) | 1.6 (0.3) | 1.6 (0.3) | 1.6 (0.3) | 0.002 |
| Vitamin C, mg/1000kJ | 20.8 (9.4) | 19.4 (9.4) | 18.7 (9.5) | 15.7 (7.9) | <0.0001 |
| Vitamin E, mg/1000kJ | 0.9 (0.2) | 0.9 (0.2) | 0.8 (0.2) | 0.8 (0.2) | <0.0001 |
| Retinol, μg/1000kJ | 37.1 (14.2) | 41.1 (15.8) | 44.8 (17.1) | 52.3 (19.4) | <0.0001 |
| Sodium, mg/1000kJ | 318.0 (46.8) | 316.5 (44.8) | 320.2 (44.6) | 321.7 (47.3) | 0.006 |
| Total meat, g/day | 150.7 (111.3) | 122.9 (76.7) | 105.6 (64.1) | 85.9 (51.8) | <0.0001 |
| Red meat, g/day | 54.8 (49.0) | 45.2 (39.9) | 37.3 (32.8) | 29.4 (27.6) | <0.0001 |
| Processed meat, g/day | 20.4 (28.4) | 16.7 (16.3) | 15.7 (15.4) | 14.0 (13.1) | <0.0001 |
| Fish, g/day | 56.1 (80.1) | 34.5 (29.2) | 27.6 (23.9) | 20.7 (17.8) | <0.0001 |
| Eggs, g/week | 14.5 (11.0) | 13.5 (9.9) | 12.7 (9.0) | 12.6 (9.7) | <0.0001 |
| Low-fat dairy, g/day | 352.4 (217.6) | 309.4 (204.8) | 269.4 (192.5) | 194.0 (168.4) | <0.0001 |
| High-fat dairy, g/day | 69.9 (148.2) | 74.7 (144.2) | 78.2 (141.3) | 109.7 (161.5) | <0.0001 |
| Nuts, g/day | 8.2 (11.1) | 4.7 (6.1) | 3.3 (4.4) | 2.5 (3.7) | <0.0001 |
| Legumes, g/day | 11.1 (14.3) | 8.1 (10.7) | 6.2 (8.6) | 5.4 (7.2) | <0.0001 |
| Vegetables, g/day | 179.6 (61.8) | 138.0 (45.4) | 117.9 (40.0) | 88.1 (35.7) | <0.0001 |
| Potatoes, g/day | 52.4 (38.4) | 39.3 (31.4) | 32.0 (26.8) | 23.4 (22.0) | <0.0001 |
| Pasta, g/day | 54.1 (48.4) | 43.0 (36.6) | 33.6 (27.8) | 25.8 (22.2) | <0.0001 |
| Rice, g/day | 45.5 (57.0) | 33.4 (37.0) | 27.2 (33.7) | 22.1 (31.6) | <0.0001 |
| Whole fruits, g/day | 314.2 (149.8) | 235.9 (121.7) | 184.5 (103.7) | 129.3 (82.5) | <0.0001 |
| Fruit juice, g/day | 121.4 (142.2) | 84.3 (100.5) | 61.9 (79.7) | 34.9 (50.6) | <0.0001 |
| High-fiber grain foods, g/day | 94.1 (55.3) | 76.0 (47.8) | 58.6 (43.9) | 40.3 (38.3) | <0.0001 |
| Added sugar, g/day | 6.2 (10.1) | 6.9 (10.4) | 7.2 (11.2) | 8.3 (12.8) | <0.0001 |
| Sweets, g/day | 50.8 (55.5) | 38.4 (39.1) | 31.5 (32.1) | 25.4 (27.0) | <0.0001 |
| Savory snacks, g/day | 71.2 (74.4) | 57.6 (40.8) | 52.3 (35.8) | 46.8 (32.1) | <0.0001 |
| Alcohol beverages, g/day | 117.5 (168.9) | 130.2 (193.1) | 132.6 (211.0) | 119.6 (209.7) | 0.05 |

Values are mean (SD). 1 kcal = 4.184 kJ

1 *P*-values from ANOVA. All statistical tests were conducted using a two-sided 5% level of significance.

Food groups and food items included: total meat (beef, veal chicken, lamp, pork, ham, hamburger, salami, sausages); red meat (beef); processed meat (hamburger, bacon, salami, sausages); fish (fresh, tinned or fried fish); low-fat dairy (reduced-fat milk, skim milk, soya milk, ricotta or cottage cheese, cream cheese, low-fat cheese, yoghurt); high-fat dairy (full cream milk, hard cheese, firm cheese, soft cheese, flavored milk drink); nuts (nuts, peanut butter); legumes (baked beans, tofu, other beans); vegetables (tomato, tomato sauce, capsicum, lettuce, cucumber, celery, beetroot, carrots, cabbage, cauliflower, broccoli, spinach, peas, green beans, bean sprouts, pumpkin, onion, garlic, mushrooms, zucchini); whole fruit (oranges, apples, pears, bananas, melon, pineapple, strawberries, apricots, peaches, mango, avocado); high-fiber grain foods (high-fiber white bread, whole meal bread, rye bread, multi-grain bread, All Bran, bran flakes, muesli); sweets (sweet biscuits, cakes, chocolate, ice cream); savory snacks (meat pies, pizza, crisps, chips, hamburger, bacon, salami, sausages, fried fish); alcohol beverages (light beer, heavy beer, red wine, white wine, fortified wines, spirit

**Supplemental Table 2.** Baseline characteristics of women included and excluded for analysis due to missing confounder data

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| --- | --- | --- | --- |
|  | Included | Excluded due to missing confounder data1 |  |
| Baseline characteristics (survey 3) | *n* = 6,4382 | *n* = 6342 | *P*-value3 |
| Age, years | 52 ± 1.4 | 52 ± 1.4 | 0.74 |
| Depressive symptoms at least once during 12-years follow-up (Survey 3 to Survey 7)4 | 1,152 (17.9) | 237 (18.7) | 0.42 |
| Dietary Inflammatory Index | 1.15 ± 1.53 | 1.27 ± 1.52 | 0.001 |
| Highest qualification completed |  |  | <0.0001 |
|  No formal | 657 (10.2) | 247 (20.5) |  |
|  (Higher) school certificate | 2,910 (45.2) | 598 (49.6) |  |
|  Trade/diploma | 1,481 (23.0) | 211 (17.5) |  |
|  University/higher degree | 1,397 (21.7) | 149 (12.4) |  |
| Marital status |  |  | 0.0003 |
|  Single/never married | 219 (3.4) | 46 (3.8) |  |
|  Married or de facto | 5,404 (84.0) | 972 (80.4) |  |
|  Separated/divorced/widowed | 811 (12.6) | 191 (15.8) |  |
| Menopause status |  |  | <0.0001 |
|  Hysterectomy and/or oophorectomy | 1,557 (24.2) | 327 (27.0) |  |
|  Hormone therapy use | 1,313 (20.4) | 219 (18.1) |  |
|  Pre-menopausal | 676 (10.5) | 111 (9.2) |  |
|  Peri-menopausal | 1,300 (20.2) | 203 (16.8) |  |
|  Post-menopausal | 1,589 (24.7) | 350 (28.9) |  |
| Body mass index |  |  | <0.0001 |
|  Healthy weight, <25 kg/m2 | 3,023 (48.9) | 494 (44.5) |  |
|  Overweight, 25 to <30 kg/m2 | 2,022 (32.7) | 366 (33.0) |  |
|  Obese, ≥30 kg/m2 | 1,137 (18.4) | 250 (22.5) |  |
| Physical activity |  |  | 0.01 |
|  Sedentary/low, <600 MET min/wk | 3,187 (50.8) | 619 (53.8) |  |
|  Moderate, 600 to <1200 MET min/wk | 1,380 (22.0) | 254 (22.1) |  |
|  High, ≥1200 MET min/wk | 1,706 (27.2) | 277 (24.1) |  |
| Smoking |  |  | <0.0001 |
|  Non-smoker | 4,163 (64.7) | 737 (61.2) |  |
|  Ex-smoker | 1,596 (24.8) | 278 (23.1) |  |
|  Current smoker | 676 (10.5) | 189 (15.7) |  |
| Night sweats | 1,923 (39.6) | 412 (41.1) | 0.29 |
| Major personal illness or injury  | 444 (7.1) | 98 (8.8) | 0.008 |

MET, total metabolic equivalent. Values are mean ± SD or n (%), weighted by area of residence

1 Confounders including total energy intake, highest qualification completed, marital status, menopause status, night sweats, major personal illness or injury, smoking, physical activity, body mass index and diagnosis or treatment for depression

2 Numbers may vary due to missing baseline values

3 *P*-values from t-test or chi-square test. All statistical tests were conducted using a two-sided 5% level of significance

4 Depressive symptoms defined as CESD-10 score ≥10

**Supplemental Table 3.** Relative risks (95% confidence intervals) for associations between the Dietary Inflammatory Index and

incidence of depressive symptoms with imputed confounder data, N = 7,072

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Dietary Inflammatory Index | *n* women | *n* (%) cases | Model 11 | Model 22 | Model 33 |
| Quartile 1 | 1,768 | 409 (7.2) | 0.71 (0.59, 0.83) | 0.76 (0.64, 0.89) | 0.78 (0.67, 0.90) |
| Quartile 2 | 1,768 | 425 (7.6) | 0.81 (0.68, 0.91) | 0.85 (0.72, 0.95) | 0.86 (0.74, 0.97) |
| Quartile 3 | 1,768 | 461 (8.3) | 0.87 (0.74, 0.99) | 0.91 (0.78, 1.01) | 0.91 (0.78, 1.03) |
| Quartile 4 | 1,768 | 519 (9.4) | 1.00 | 1.00 | 1.00 |
| *P*-value |  |  | 0.001 | 0.05 | 0.07 |
| *P*-value for linear trend |  |  | 0.0001 | 0.02 | 0.02 |

1 Adjusted for total energy intake, highest qualification completed, marital status, menopause status, night sweats and major personal illness or injury

2 Additionally adjusted for lifestyle factors: smoking, physical activity and body mass index

3 Additionally adjusted for depression diagnosis or treatment