**Supplemental Table 1.** Components of the dietary (DIS) and lifestyle (LIS) inflammation scores, their general descriptions, rationales for inclusion, and assigned weights

|  |  |  |  |
| --- | --- | --- | --- |
| **Components** | **General descriptions** | **Rationales for inclusion** | **Weights**a |
| *DIS components* |  |  |  |
| Added sugars | Sugar-sweetened soda, punch, lemonade, fruit drinks, chocolate candy bars, other mixed candy bars, candy without chocolate, jams, jellies, preserves, syrup or honey, dried or canned fruit | Sparse in nutrients; induce postprandial hyperglycemia, which act as stressful stimuli through subsequent repeated mild postprandial hypoglycemia (1) and reduce nitric oxide availability (plays role in regulation of inflammatory response (2)); elevate pro-inflammatory free fatty acid levels (3); produce oxidative stress through oxidation of membrane lipids, proteins, lipoproteins, and DNA (4) | 0.56 |
| Apples and berries | Fresh apples, pears, apple juice or cider, strawberries, blueberries, raspberries, cherries | Contain flavonoids (e.g., anthocyanins, quercetin, and phenolic acids) that suppress pro-inflammatory cytokine production and are powerful antioxidants; potentially increase postprandial plasma antioxidant capacity (5–7) | -0.65 |
| Coffee and tea | Coffee (decaffeinated and regular), herbal and non-herbal tea | Tea contains flavonoids and antioxidants (e.g., epicatechin and quercetin) (8); coffee contains phytochemicals and antioxidants, such as javamide; ﻿both coffee and tea contain varying amounts of caffeine which inhibit secretion of IL-1β induced by adenine and N4-acetylcytidine (9,10) | -0.25 |
| Deep yellow or orange vegetables and fruit | Cantaloupe, peaches, carrots, dark yellow or orange squash, figs | Contain pro-vitamin A carotenoids (e.g., β-carotene and α-carotene), which have a conjugated double-bond structure making them strong antioxidants (11) | -0.57 |
| Fish | Tuna fish, salmon, other light and dark meat fish, breaded fish cakes or fish sticks | Contain Ω-3 fatty acids, which compete with pro-inflammatory Ω-6 fatty acids by synthesizing eicosanoids and suppress the capacity of monocytes to synthesize IL-1β and TNF-(3,12,13) | -0.08 |
| High-fat dairy | Whole milk, 2% milk, cream, high-fat ice cream, high-fat yogurt, cream cheese, other high-fat cheeses | Contains calcium, which binds bile acids and free fatty acids, decreasing oxidative damage in the gut; dairy fat contains fatty acids with potential inflammation-reducing properties, such as CLA, *cis-* and *trans-*palmitoleic acid, butyric acid, phytanic acid, and alpha-linolenic acid (14–16) | -0.14 |
| Leafy greens and cruciferous vegetables | Kale, spinach, lettuce (iceberg, head, romaine, or leaf), broccoli, Brussels sprouts, cabbage, cauliflower, parsley, watercress | Contain variety of potent antioxidants (e.g., β-carotene, folacin, magnesium, calcium, glucosinolates, isothiocyanates, lutein, and indoles); contain flavonoids and polyphenols, which activate the transcription factor, Nuclear factor-erythroid 2 (NF-E2)-related factor 2 (Nrf2), which plays a key role in cellular protection against oxidative stress and inflammation (17–27) | -0.14 |
| Legumes | String beans, peas, lima beans, lentils, and beans (excluding soybeans) | Contain folacin, iron, isoflavones, protein, vitamin B6, and have a high antioxidant capacity; rich in fiber, which is associated with beneficial alterations to the gut microbiota, reducing immune response in the gut (10,20,28) | -0.04 |
| Low-fat dairy | Skim milk, 1% milk, low-fat yogurt, low-fat ice cream, low-fat cottage or ricotta cheese, low-fat cheeses | Similar mechanisms to high-fat dairy (see mechanisms above), with lower fat content | -0.12 |
| Nuts | Peanut butter, peanuts, other nuts | Contain Ω -3 fatty acids (3,12,29,30) (mechanisms similar to those described above in ‘Fish’) and contain *l*-arginine (20), which improves endothelium-dependent dilation (precursor of the endogenous vasodilator nitric oxide) and decreases platelet aggregation and monocyte adhesion (20) | -0.44 |
| Other fruits and real fruit juices | Other fresh fruits than those listed above (e.g., pineapples, honeydew, grapes, kiwi, watermelon, lemon, grapefruit, and oranges), orange juice, grapefruit juice, apple juice, grape juice, and other real fruit juice | Contain antioxidants (e.g., flavonoids, such as hesperidin, naringenin, neohesperidin, limonene, vitamin C, β-cryptoxanthin, plant sterols, salicylates, naringin, nobelitin, and narirutin) with similar mechanisms to those described above (21,31–38) | -0.16 |
| Other vegetables | Other vegetables than those listed above (e.g., okra, green peppers, onions, zucchini, and eggplant) | Contain antioxidants and polyphenols with similar mechanisms to those described above | -0.16 |
| Poultry | Chicken or turkey with and without skin | Inversely associated with inflammation markers (39), contain low amounts of saturated fat (40), and contain *l*-arginine (see mechanisms in ‘Nuts’) | -0.45 |
| Processed meats | Bacon, beef or pork hotdogs, chicken or turkey hot dogs, salami, bologna, other processed meats | Contain heme iron, which increases the bioavailability of iron, which in turn increases oxidative stress; contain higher saturated fat contents, Ω-6 fatty acids (see ‘Fats’), and additives, such as nitrites, with suspected pro-inflammatory properties (39,41) | 0.68 |
| Red and organ meats | Hamburger, beef, pork, lamb, liver, gizzards, other organ meats | Contain heme iron (see above); contain Ω-6 fatty acids and saturated fat (see mechanisms in ‘Fats’ above) | 0.02 |
| Refined grains and starchy vegetables | Cold and cooked breakfast cereal, white or dark bread, bagels, English muffins, rolls, corn bread, white rice, pasta, pancakes, waffles, potatoes (French fried, scalloped, baked, boiled or mashed), sweet potato/yams, potato chips, crackers, tortillas, popcorn, pretzels, cookies, brownies, doughnuts, cake, pie, sweet rolls, coffee cakes, granola bars | Sparse in nutrients; some processed grains contain emulsifiers, which potentially break down mucin in the gut leading to inflammation (42); and induce hyperglycemia (mechanisms described similar to those described above in ‘Added Sugars’) | 0.72 |
|
| Tomatoes | Tomatoes, tomato juice, tomato sauce, salsa | Contain β-carotene, vitamin C, and lycopene, the latter of which is a potent singlet oxygen quencher and one of the most powerful antioxidants among the natural carotenoids (43–46) | -0.78 |
| Other fats | Mayonnaise, margarine, butter, vegetable oil | Contain Ω-6 fatty acids and saturated fats (see ‘red and organ meats’ above) | 0.31 |
| Supplement scorec | Ranked score of supplements, including: vitamins A, B1, B12, B6, C, D, and E; and β-carotene, folate, niacin, riboflavin, calcium, copper, iron, magnesium, selenium, and zinc | Comprises micro-nutrients, minerals, and vitamins solely from supplement intakes, some with similar mechanisms to those described above (e.g., iron as pro-oxidant, vitamins A, C, and E as antioxidants) | -0.80 |
| *LIS components* |  |  |  |
| Overweight BMI | Overweight BMI vs. normal BMI | Adipose tissue synthesizes and releases pro-inflammatory adipokines, such as plasminogen activator inhibitor–1 (PA1) and TNF-α (47,48) | 0.89 |
| Obese BMI | Obese BMI vs. normal BMI | Mechanisms similar to those described above | 1.57 |
| Heavy drinker | Heavy (> 7 drinks/wk for women, > 14 drinks/wk drinks for men) vs. non-drinker | Heavy alcohol intake results in oxidative stress via oxidation of ethanol to acetaldehyde (49,50) | 0.30 |
| Moderate drinker | Moderate (1 – 7 drinks/wk for women, 1 – 14 drinks/wk for men) vs. non-drinker | A metabolite of ethanol is acetate, which can ﻿acutely lower pro-inflammatory free fatty acid concentrations; moderate alcohol intake increases serum adiponectin concentrations (an anti-inflammatory inflammation biomarker) (51) and inhibits IL-6 production and activity (52) | -0.66 |
| Moderately physically active | Individuals in the middle tertile of MET-hours per week | Physical activity improves systemic plasma antioxidant capacity (increases adaptive responses to oxidative stress), increases concentrations of anti-inflammatory cytokines, and lowers vascular wall inflammation (48,53) | -0.18 |
| Heavily physically active | Individuals in the highest tertile of MET-hours per week | Mechanisms similar to those described above | -0.41 |
| Current smoker | Currently smokes tobacco vs. does not currently smoke tobacco | Toxins injure tissues, upregulating cytokines and acute phase reactants (54) | 0.50 |

Abbreviations: BMI, body mass index; DIS, dietary inflammation score; LIS, lifestyle inflammation score; MET, metabolic equivalents of task

a Weights are β coefficients from multivariable linear regression models, conducted in a sample (N = 639) of participants in the Reasons for Geographic and Racial Differences in Stroke prospective cohort study (REGARDS), representing the average change in a summary inflammation biomarker z-score (sum of z-scores for high sensitivity C-reactive protein, interleukin-6, interleukin-8, interleukin-10 [the latter with a negative sign]) per one standard deviation increase in a dietary component or the presence of lifestyle component. Covariates in the final model included: age, sex, race (Black or White), education (high school graduate or less vs. some college or more), region (stroke belt, stroke buckle, or other region in the US), a comorbidity score (comprises a history of cancer, heart disease, diabetes mellitus, or chronic kidney disease), hormone replacement therapy (among women), total energy intake (kcal/day), season of baseline interview (Spring, Summer, Fall, or Winter) and regular use of aspirin, other non-steroidal anti-inflammatory drugs, or lipid-lowering medications (≥ twice/wk); and all the dietary/lifestyle components in the DIS and LIS; In the case-control studies, all dietary components were standardized based on the distribution among the controls, by sex, to a mean of zero and standard deviation of 1, and all lifestyle components were dummy variables

b All vitamin and mineral supplement intakes measured (from multivitamin/mineral and individual supplements) were ranked into quantiles of intake and assigned a value of 0 (low or no intake), 1, or 2 (highest intake) for hypothesized anti-inflammatory supplements (e.g., vitamin E), and 0 (low or no intake), -1, or -2 (highest intake) for hypothesized pro-inflammatory supplements (e.g., iron)

**Supplemental Table 2.** Multivariable-adjusted associations of the dietary (DIS) and lifestyle (LIS) inflammation scores with incident, sporadic colorectal adenomas in three pooled case-control studies (CPRU Study, 1991 – 1994; MAP I Study, 1994 – 1997; and MAP II Study, 2002), according to selected adenoma characteristics

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Inflammation score**a | | | | |
|  | **DIS**b | |  | **LIS**c | |
| **Adenoma characteristics and inflammation score quintiles** | **N cases** | **Adjusted OR (95% CI)** |  | **N cases** | **Adjusted OR (95% CI)** |
| Adenoma subtype |  |  |  |  |  |
| *Tubular* |  |  |  |  |  |
| 1 | 87 | 1.00 (ref) |  | 72 | 1.00 (ref) |
| 2 | 115 | 1.22 (0.87-1.70) |  | 83 | 1.12 (0.78-1.61) |
| 3 | 103 | 1.11 (0.79-1.56) |  | 120 | 1.51 (1.08-2.12) |
| 4 | 109 | 1.24 (0.88-1.74) |  | 120 | 1.53 (1.09-2.15) |
| 5 | 113 | 1.25 (0.89-1.75) |  | 132 | 1.92 (1.37-2.70) |
| *Ptrend* |  | *0.19* |  |  | *<0.0001* |
| *Pheterogeneity* |  | *ref* |  |  | *ref* |
| *Tubulovillous or villous* |  |  |  |  |  |
| 1 | 39 | 1.00 (ref) |  | 29 | 1.00 (ref) |
| 2 | 37 | 0.92 (0.56-1.50) |  | 33 | 1.16 (0.68-1.99) |
| 3 | 39 | 0.94 (0.58-1.53) |  | 43 | 1.27 (0.77-2.12) |
| 4 | 45 | 1.06 (0.66-1.72) |  | 58 | 1.71 (1.07-2.80) |
| 5 | 62 | 1.47 (0.94-2.32) |  | 59 | 2.05 (1.27-3.36) |
| *Ptrend* |  | *0.08* |  |  | *0.001* |
| *Pheterogeneity* |  | *0.50* |  |  | *0.93* |
| No. of adenomas |  |  |  |  |  |
| *1 adenoma* |  |  |  |  |  |
| 1 | 91 | 1.00 (ref) |  | 72 | 1.00 (ref) |
| 2 | 93 | 0.99 (0.71-1.39) |  | 71 | 0.99 (0.69-1.44) |
| 3 | 99 | 1.03 (0.74-1.44) |  | 117 | 1.52 (1.09-2.13) |
| 4 | 98 | 1.04 (0.74-1.45) |  | 130 | 1.68 (1.21-2.35) |
| 5 | 122 | 1.28 (0.93-1.78) |  | 113 | 1.68 (1.20-2.37) |
| *Ptrend* |  | *0.12* |  |  | *<0.0001* |
| *Pheterogeneity* |  | *ref* |  |  | *ref* |
| *≥ 2 adenomas* |  |  |  |  |  |
| 1 | 35 | 1.00 (ref) |  | 29 | 1.00 (ref) |
| 2 | 60 | 1.57 (0.98-2.55) |  | 45 | 1.47 (0.88-2.47) |
| 3 | 44 | 1.17 (0.71-1.93) |  | 47 | 1.33 (0.81-2.23) |
| 4 | 56 | 1.55 (0.96-2.54) |  | 49 | 1.42 (0.86-2.36) |
| 5 | 53 | 1.42 (0.88-2.33) |  | 78 | 2.71 (1.70-4.40) |
| *Ptrend* |  | *0.23* |  |  | *<0.0001* |
| *Pheterogeneity* |  | *0.82* |  |  | *0.06* |
| Adenoma size |  |  |  |  |  |
| *< 1 cm* |  |  |  |  |  |
| 1 | 73 | 1.00 (ref) |  | 65 | 1.00 (ref) |
| 2 | 100 | 1.27 (0.90-1.82) |  | 74 | 1.09 (0.75-1.59) |
| 3 | 82 | 1.08 (0.75-1.56) |  | 94 | 1.27 (0.89-1.82) |
| 4 | 94 | 1.28 (0.89-1.84) |  | 112 | 1.55 (1.09-2.21) |
| 5 | 102 | 1.37 (0.96-1.97) |  | 106 | 1.72 (1.21-2.46) |
| *Ptrend* |  | *0.09* |  |  | *0.0003* |
| *Pheterogeneity* |  | *ref* |  |  | *ref* |
| *≥ 1 cm* |  |  |  |  |  |
| 1 | 41 | 1.00 (ref) |  | 27 | 1.00 (ref) |
| 2 | 39 | 0.93 (0.57-1.51) |  | 29 | 1.08 (0.62-1.90) |
| 3 | 48 | 1.12 (0.70-1.79) |  | 55 | 1.83 (1.13-3.04) |
| 4 | 54 | 1.19 (0.75-1.90) |  | 57 | 1.90 (1.17-3.16) |
| 5 | 62 | 1.38 (0.88-2.18) |  | 76 | 2.84 (1.79-4.65) |
| *Ptrend* |  | *0.10* |  |  | *<0.0001* |
| *Pheterogeneity* |  | *0.45* |  |  | *0.09* |
| Degree of atypia |  |  |  |  |  |
| *Mild* |  |  |  |  |  |
| 1 | 58 | 1.00 (ref) |  | 47 | 1.00 (ref) |
| 2 | 73 | 1.19 (0.80-1.76) |  | 46 | 0.90 (0.57-1.41) |
| 3 | 67 | 1.08 (0.72-1.62) |  | 73 | 1.40 (0.94-2.12) |
| 4 | 58 | 0.96 (0.63-1.45) |  | 77 | 1.44 (0.96-2.17) |
| 5 | 67 | 1.08 (0.72-1.62) |  | 80 | 1.70 (1.14-2.56) |
| *Ptrend* |  | *0.97* |  |  | *0.002* |
| *Pheterogeneity* |  | *ref* |  |  | *ref* |
| *Moderate to severe* |  |  |  |  |  |
| 1 | 68 | 1.00 (ref) |  | 54 | 1.00 (ref) |
| 2 | 80 | 1.11 (0.77-1.62) |  | 70 | 1.36 (0.91-2.02) |
| 3 | 76 | 1.08 (0.74-1.58) |  | 91 | 1.52 (1.04-2.22) |
| 4 | 96 | 1.38 (0.96-2.00) |  | 102 | 1.73 (1.19-2.52) |
| 5 | 108 | 1.55 (1.08-2.24) |  | 111 | 2.23 (1.55-3.25) |
| *Ptrend* |  | *0.01* |  |  | *<0.0001* |
| *Pheterogeneity* |  | *0.20* |  |  | *0.37* |

Abbreviations: BMI, body mass index; CI, confidence interval; CPRU, Cancer Prevention Research Unit; DIS, dietary inflammation score; LIS, lifestyle inflammation score; MAP, Markers of Adenomatous Polyps; MET, metabolic equivalents of task; OR, odds ratio

a For construction of the inflammation scores, see text and Table 1; higher scores indicate a higher balance of pro- versus anti-inflammatory exposures

b Covariates in the DIS unconditional logistic regression models were: age, sex, education (less than college graduate or college graduate or higher), NSAID/aspirin use (</≥ once/week), hormone therapy use (among women), family history of colorectal cancer in a first degree relative (yes/no), smoking status (never, former, or current smoker), BMI (kg/m2), alcohol intake (non-drinker, moderate drinker, or heavy drinker), physical activity (categorized into tertiles of MET-hours/wk), total energy intake (kcal/day), and study (MAP I, MAP II, or CPRU)

c Covariates in the LIS unconditional logistic regression models were: age, sex, NSAID/aspirin use (</≥ once/week), hormone therapy use (among women), family history of colorectal cancer in a first degree relative (yes/no), former smoking status (former smoker or non-former smoker), total energy intake (kcal/day), study (MAP I, MAP II, or CPRU), and the equally-weighted DIS

**Supplemental Table 3.** Multivariable-adjusted associations of the dietary (DIS) and lifestyle (LIS) inflammation scores with incident, sporadic colorectal adenoma in three pooled case-control studies (CPRU Study, 1991 – 1994; MAP I Study, 1994 – 1997; and MAP II Study, 2002), according to selected participant characteristics

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | | **Quintiles** | | | | | |  | |  | |
| **Characteristics** | | **N cases** | | **1 (ref)** | **2** | **3** | **4** | **5** | | ***Ptrend*** | | ***Pinteraction*** | |
| ***DIS****a,b* | |  | |  |  |  |  |  | |  | |  | |
| Age, y | |  | |  |  |  |  |  | |  | |  | |
| < 57 | | 260 | | 1.00 | 1.17 (0.72-1.92) | 0.97 (0.59-1.62) | 1.02 (0.62-1.67) | 1.21 (0.74-1.98) | | 0.64 | |  | |
| ≥ 57 | | 505 | | 1.00 | 1.15 (0.80-1.66) | 1.07 (0.74-1.54) | 1.23 (0.85-1.79) | 1.32 (0.92-1.91) | | 0.12 | | 0.99 | |
| Sex | |  | |  |  |  |  |  | |  | |  | |
| Men | | 469 | | 1.00 | 1.12 (0.75-1.69) | 1.30 (0.88-1.94) | 1.42 (0.95-2.11) | 1.67 (1.13-2.48) | | 0.01 | |  | |
| Women | | 303 | | 1.00 | 1.12 (0.73-1.70) | 0.75 (0.48-1.18) | 0.96 (0.62-1.49) | 0.92 (0.59-1.43) | | 0.52 | | 0.28 | |
| Aspirin or other NSAID use | |  | |  |  |  |  |  | |  | |  | |
| Takes aspirin or NSAID < once/wk | | 493 | | 1.00 | 1.06 (0.73-1.54) | 0.83 (0.57-1.22) | 1.07 (0.74-1.57) | 1.31 (0.91-1.89) | | 0.17 | |  | |
| Take aspirin or NSAID ≥ once/wk | | 272 | | 1.00 | 1.33 (0.84-2.13) | 1.51 (0.94-2.44) | 1.25 (0.77-2.04) | 1.19 (0.73-1.96) | | 0.41 | | 0.23 | |
| Family history of CRCc | |  | |  |  |  |  |  | |  | |  | |
| No | | 635 | | 1.00 | 1.12 (0.82-1.54) | 1.02 (0.74-1.42) | 1.13 (0.82-1.57) | 1.34 (0.98-1.85) | | 0.08 | |  | |
| Yes | | 130 | | 1.00 | 1.49 (0.70-3.20) | 1.18 (0.56-2.52) | 1.49 (0.71-3.16) | 1.08 (0.50-2.35) | | 0.94 | | 0.81 | |
| Tobacco use | |  | |  |  |  |  |  | |  | |  | |
| Never smoker | | 234 | | 1.00 | 1.56 (0.96-2.55) | 1.09 (0.64-1.85) | 1.31 (0.79-2.19) | 1.64 (1.00-2.73) | | 0.12 | |  | |
| Former or current smoker | | 531 | | 1.00 | 1.05 (0.73-1.52) | 1.12 (0.78-1.61) | 1.25 (0.87-1.8) | 1.33 (0.93-1.9) | | 0.07 | | 0.57 | |
| Body mass index, kg/m2 | |  | |  |  |  |  |  | |  | |  | |
| < 30 | | 560 | | 1.00 | 1.23 (0.88, 1.71) | 1.02 (0.73, 1.43) | 1.21 (0.86, 1.70) | 1.25 (0.89, 1.77) | | 0.22 | |  | |
| ≥ 30 | | 205 | | 1.00 | 1.10 (0.59, 2.04) | 1.31 (0.70, 2.44) | 1.13 (0.62, 2.04) | 1.50 (0.85, 2.67) | | 0.21 | | 0.84 | |
| Alcohol use | |  | |  |  |  |  |  | |  | |  | |
| Former or never drinker | | 273 | | 1.00 | 1.08 (0.64-1.80) | 0.70 (0.39-1.22) | 1.16 (0.71-1.92) | 1.40 (0.88-2.27) | | 0.12 | |  | |
| Current drinker | | 492 | | 1.00 | 1.24 (0.87-1.77) | 1.26 (0.89-1.8) | 1.17 (0.81-1.69) | 1.27 (0.87-1.86) | | 0.26 | | 0.19 | |
| Physical activity | |  | |  |  |  |  |  | |  | |  | |
| Total moderate + vigorous METs/week < 41.54 | | 361 | | 1.00 | 1.11 (0.72-1.74) | 1.02 (0.65-1.58) | 0.95 (0.61-1.48) | 1.31 (0.85-2.02) | | 0.38 | |  | |
| Total moderate + vigorous METs/week ≥ 41.54 | | 404 | | 1.00 | 1.23 (0.83-1.83) | 1.09 (0.73-1.63) | 1.50 (1.01-2.25) | 1.32 (0.89-1.98) | | 0.09 | | 0.60 | |
| Study | |  | |  |  |  |  |  | |  | |  | |
| MAP I | | 550 | | 1.00 | 1.10 (0.79-1.54) | 1.11 (0.79-1.54) | 1.18 (0.85-1.65) | 1.33 (0.96-1.85) | | 0.10 | |  | |
| MAP II | | 168 | | 1.00 | 1.44 (0.67-3.13) | 0.96 (0.43-2.15) | 1.39 (0.63-3.14) | 1.43 (0.65-3.20) | | 0.44 | |  | |
| CPRU | | 47 | | 1.00 | 1.42 (0.46-4.52) | 0.66 (0.16-2.55) | 1.02 (0.28-3.70) | 1.47 (0.40-5.57) | | 0.63 | | 0.95 | |
| ***LIS****a,e* | |  | |  |  |  |  |  | |  | |  | |
| Age-y | |  | |  |  |  |  |  | |  | |  | |
| < 57 | | 260 | | 1.00 | 0.84 (0.47-1.46) | 1.89 (1.19-3.02) | 1.60 (1.00-2.58) | 2.16 (1.36-3.45) | | 0.0002 | |  | |
| ≥ 57 | | 505 | | 1.00 | 1.24 (0.84-1.85) | 1.22 (0.83-1.80) | 1.52 (1.04-2.23) | 1.76 (1.20-2.59) | | 0.001 | | 0.20 | |
| Sex | |  | |  |  |  |  |  | |  | |  | |
| Men | | 469 | | 1.00 | 1.32 (0.85-2.07) | 1.51 (0.99-2.32) | 1.50 (0.99-2.30) | 2.13 (1.40-3.28) | | 0.0004 | |  | |
| Women | | 303 | | 1.00 | 0.95 (0.59-1.51) | 1.64 (1.08-2.51) | 1.95 (1.29-2.98) | 1.93 (1.27-2.95) | | <0.0001 | | 0.45 | |
| Aspirin or other NSAID use | |  | |  |  |  |  |  | |  | |  | |
| Takes aspirin or NSAID < once/wk | | 493 | | 1.00 | 1.23 (0.83-1.83) | 1.56 (1.08-2.26) | 1.86 (1.29-2.68) | 2.10 (1.45-3.06) | | <0.0001 | |  | |
| Takes aspirin or NSAID ≥ once/wk | | 272 | | 1.00 | 0.92 (0.54-1.57) | 1.32 (0.81-2.17) | 1.16 (0.71-1.91) | 1.74 (1.09-2.82) | | 0.01 | | 0.77 | |
| Family history of CRCc | |  | |  |  |  |  |  | |  | |  | |
| No | | 635 | | 1.00 | 1.14 (0.81-1.63) | 1.52 (1.10-2.12) | 1.65 (1.20-2.29) | 1.99 (1.44-2.75) | | <0.0001 | |  | |
| Yes | | 130 | | 1.00 | 1.19 (0.56-2.54) | 1.39 (0.71-2.79) | 1.35 (0.66-2.80) | 2.06 (1.01-4.24) | | 0.07 | | 0.99 | |
| Study | |  | |  |  |  |  |  | |  | |  | |
| MAP I | | 550 | | 1.00 | 1.22 (0.85-1.75) | 1.47 (1.04-2.07) | 1.69 (1.22-2.36) | 2.01 (1.45-2.82) | | <0.0001 | |  | |
| MAP II | | 168 | | 1.00 | 0.95 (0.42-2.13) | 1.69 (0.79-3.64) | 1.35 (0.61-3.04) | 2.11 (0.97-4.68) | | 0.03 | |  | |
| CPRU | | 47 | | 1.00 | 0.86 (0.21-3.30) | 1.50 (0.50-4.70) | 1.66 (0.53-5.41) | 1.64 (0.45-6.09) | | 0.24 | | 1.00 | |

Abbreviations: BMI, body mass index; CI, confidence interval; CPRU, Cancer Prevention Research Unit; CRC, colorectal cancer; DIS, dietary inflammation score; LIS, lifestyle inflammation score; MAP, Markers of Adenomatous Polyps; MET, metabolic equivalent of task; NSAID, non-steroidal anti-inflammatory drug; OR, odds ratio; ref, referent

a ﻿For inflammation score construction, see text and Table 1; higher scores indicate a higher balance of pro- versus anti-inflammatory exposures

b Covariates in the DIS unconditional logistic regression models were: age, sex, education (less than college graduate or college graduate or higher), NSAID/aspirin use (</≥ once/week), hormone therapy use (among women), family history of colorectal cancer in a first degree relative (yes/no), smoking status (never, former, or current smoker), BMI (kg/m2), alcohol intake (non-drinker, moderate drinker, or heavy drinker), physical activity (categorized into tertiles of MET-hours/wk), total energy intake (kcal/day), and study (MAP I, MAP II, or CPRU)

c In a first degree relative

d Covariates in the LIS unconditional logistic regression models were: age, sex, NSAID/aspirin use (</≥ once/week), hormone therapy use (among women), family history of colorectal cancer in a first degree relative (yes/no), former smoking status (non-former smoker or former smoker), total energy intake (kcal/day), study (MAP I, MAP II, or CPRU), and the equally-weighted DIS

**Supplemental Table 4.** Adjusted associationsa of the Dietary Inflammation Score (DIS)b with incident, sporadic colorectal adenomas in three pooled case-control studies (CPRU Study, 1991 – 1994; MAP I Study, 1994 – 1997; and MAP II Study, 2002), with each DIS component removed one at a time and added as a covariate

|  |  |  |
| --- | --- | --- |
| **DIS component removed/reduced DIS quintiles** | **N cases** | **Adjusted OR (95% CI)** |
| Leafy greens |  |  |
| 1 | 126 | 1.00 |
| 2 | 161 | 1.22 (0.91-1.63) |
| 3 | 145 | 1.09 (0.80-1.48) |
| 4 | 150 | 1.16 (0.85-1.58) |
| 5 | 183 | 1.40 (1.03-1.91) |
|  | *Ptrend* | *0.06* |
| Tomatoes |  |  |
| 1 | 124 | 1.00 |
| 2 | 148 | 1.10 (0.81-1.48) |
| 3 | 142 | 1.12 (0.83-1.52) |
| 4 | 170 | 1.28 (0.95-1.72) |
| 5 | 181 | 1.45 (1.07-1.97) |
|  | *Ptrend* | *0.01* |
| Apples and berries |  |  |
| 1 | 134 | 1.00 |
| 2 | 153 | 1.03 (0.77-1.38) |
| 3 | 140 | 0.96 (0.71-1.29) |
| 4 | 165 | 1.13 (0.84-1.52) |
| 5 | 173 | 1.13 (0.84-1.53) |
|  | *Ptrend* | *0.30* |
| Deep yellow or orange vegetables and fruit |  |  |
| 1 | 137 | 1.00 |
| 2 | 147 | 1.00 (0.74-1.34) |
| 3 | 150 | 1.03 (0.77-1.39) |
| 4 | 156 | 1.02 (0.76-1.38) |
| 5 | 175 | 1.18 (0.87-1.59) |
|  | *Ptrend* | *0.30* |
| Other fruits and real fruit juices |  |  |
| 1 | 130 | 1.00 |
| 2 | 158 | 1.06 (0.79-1.42) |
| 3 | 145 | 0.97 (0.72-1.32) |
| 4 | 153 | 1.02 (0.75-1.38) |
| 5 | 179 | 1.14 (0.84-1.56) |
|  | *Ptrend* | *0.44* |
| Other vegetables |  |  |
| 1 | 126 | 1.00 |
| 2 | 159 | 1.19 (0.89-1.60) |
| 3 | 140 | 1.03 (0.76-1.41) |
| 4 | 156 | 1.17 (0.86-1.59) |
| 5 | 184 | 1.38 (1.02-1.89) |
|  | *Ptrend* | *0.05* |
| Legumes |  |  |
| 1 | 128 | 1.00 |
| 2 | 153 | 1.10 (0.82-1.48) |
| 3 | 149 | 1.07 (0.80-1.45) |
| 4 | 157 | 1.14 (0.84-1.54) |
| 5 | 178 | 1.26 (0.93-1.71) |
|  | *Ptrend* | *0.13* |
| Fish |  |  |
| 1 | 130 | 1.00 |
| 2 | 154 | 1.08 (0.81-1.45) |
| 3 | 145 | 1.05 (0.78-1.41) |
| 4 | 160 | 1.16 (0.86-1.56) |
| 5 | 176 | 1.27 (0.94-1.71) |
|  | *Ptrend* | *0.11* |
| Poultry |  |  |
| 1 | 144 | 1.00 |
| 2 | 151 | 1.01 (0.76-1.35) |
| 3 | 149 | 0.95 (0.71-1.27) |
| 4 | 137 | 0.88 (0.66-1.19) |
| 5 | 184 | 1.21 (0.91-1.62) |
|  | *Ptrend* | *0.36* |
| Red and organ meats |  |  |
| 1 | 129 | 1.00 |
| 2 | 154 | 1.11 (0.83-1.48) |
| 3 | 152 | 1.10 (0.82-1.47) |
| 4 | 151 | 1.09 (0.81-1.47) |
| 5 | 179 | 1.28 (0.96-1.72) |
|  | *Ptrend* | *0.12* |
| Processed meats |  |  |
| 1 | 133 | 1.00 |
| 2 | 155 | 1.10 (0.83-1.48) |
| 3 | 163 | 1.15 (0.86-1.54) |
| 4 | 137 | 1.02 (0.76-1.38) |
| 5 | 177 | 1.25 (0.92-1.70) |
|  | *Ptrend* | *0.25* |
| Added sugars |  |  |
| 1 | 125 | 1.00 |
| 2 | 156 | 1.17 (0.88-1.58) |
| 3 | 145 | 1.08 (0.80-1.46) |
| 4 | 165 | 1.25 (0.93-1.68) |
| 5 | 174 | 1.21 (0.90-1.64) |
|  | *Ptrend* | *0.17* |
| High-fat dairy |  |  |
| 1 | 132 | 1.00 |
| 2 | 154 | 1.06 (0.79-1.42) |
| 3 | 138 | 0.97 (0.72-1.31) |
| 4 | 158 | 1.12 (0.84-1.50) |
| 5 | 183 | 1.29 (0.96-1.72) |
|  | *Ptrend* | *0.08* |
| Low-fat dairy |  |  |
| 1 | 126 | 1.00 |
| 2 | 156 | 1.16 (0.86-1.55) |
| 3 | 147 | 1.11 (0.83-1.50) |
| 4 | 159 | 1.18 (0.88-1.59) |
| 5 | 177 | 1.33 (0.99-1.78) |
|  | *Ptrend* | *0.07* |
| Coffee and tea |  |  |
| 1 | 131 | 1.00 |
| 2 | 145 | 1.04 (0.78-1.40) |
| 3 | 146 | 1.01 (0.75-1.36) |
| 4 | 154 | 1.11 (0.82-1.48) |
| 5 | 189 | 1.32 (0.99-1.77) |
|  | *Ptrend* | *0.05* |
| Nuts |  |  |
| 1 | 118 | 1.00 |
| 2 | 169 | 1.25 (0.94-1.68) |
| 3 | 157 | 1.29 (0.96-1.74) |
| 4 | 144 | 1.10 (0.81-1.48) |
| 5 | 177 | 1.34 (0.99-1.80) |
|  | *Ptrend* | *0.15* |
| Fats |  |  |
| 1 | 135 | 1.00 |
| 2 | 162 | 1.10 (0.82-1.46) |
| 3 | 145 | 0.93 (0.69-1.25) |
| 4 | 146 | 0.99 (0.74-1.33) |
| 5 | 177 | 1.19 (0.89-1.60) |
|  | *Ptrend* | *0.38* |
| Refined grains and starchy vegetables |  |  |
| 1 | 128 | 1.00 |
| 2 | 165 | 1.29 (0.96-1.72) |
| 3 | 136 | 0.97 (0.72-1.32) |
| 4 | 150 | 1.11 (0.82-1.50) |
| 5 | 186 | 1.33 (0.99-1.80) |
|  | *Ptrend* | *0.17* |
| Supplement score |  |  |
| 1 | 139 | 1.00 |
| 2 | 161 | 1.04 (0.78-1.39) |
| 3 | 138 | 0.94 (0.70-1.26) |
| 4 | 149 | 1.03 (0.77-1.38) |
| 5 | 178 | 1.16 (0.87-1.55) |
|  | *Ptrend* | *0.32* |

Abbreviations: BMI, body mass index; CI, confidence interval; CPRU, Cancer Prevention Research Unit; DIS, dietary inflammation score; LIS, lifestyle inflammation score; MAP, Markers of Adenomatous Polyps; MET, metabolic equivalent of task; NSAID, non-steroidal anti-inflammatory drug; OR, odds ratio

a Covariates in the DIS unconditional logistic regression models were: age, sex, education (less than college graduate or college graduate or higher), NSAID/aspirin use (</≥ once/week), hormone therapy use (among women), family history of colorectal cancer in a first degree relative (yes/no), smoking status (never, former, or current smoker), BMI (kg/m2), alcohol intake (non-drinker, moderate drinker, or heavy drinker), physical activity (categorized into tertiles of MET-hours/wk), total energy intake (kcal/day), study (MAP I, MAP II, or CPRU), and the component removed from the DIS

b ﻿For inflammation score construction, see text and Table 1; higher scores indicate a higher balance of pro- versus anti-inflammatory exposures

**Supplemental Table 5.** Adjusted associationsa of the Lifestyle Inflammation Score (LIS)b with incident, sporadic colorectal adenomas in three pooled case-control studies (CPRU Study, 1991 – 1994; MAP I Study, 1994 – 1997; and MAP II Study, 2002), with each LIS component removed one at a time and added as a covariate

|  |  |  |
| --- | --- | --- |
| **LIS component removed/reduced LIS quintiles** | **N cases** | **Adjusted OR (95% CI)** |
| Alcohol intake |  |  |
| 1 | 131 | 1.00 |
| 2 | 136 | 1.55 (1.16-2.08) |
| 3 | 167 | 1.47 (1.12-1.93) |
| 4 | 165 | 1.70 (1.29-2.25) |
| 5 | 166 | 2.03 (1.54-2.69) |
|  | *Ptrend* | *<0.0001* |
| Physical Activity |  |  |
| 1 | 161 | 1.00 |
| 2 | 120 | 1.01 (0.76-1.34) |
| 3 | 136 | 1.41 (1.06-1.88) |
| 4 | 194 | 1.47 (1.14-1.90) |
| 5 | 154 | 1.86 (1.41-2.46) |
|  | *Ptrend* | *<0.0001* |
| Smoking |  |  |
| 1 | 132 | 1.00 |
| 2 | 139 | 1.15 (0.86-1.54) |
| 3 | 151 | 1.50 (1.12-2.01) |
| 4 | 171 | 1.53 (1.16-2.03) |
| 5 | 172 | 1.62 (1.22-2.15) |
|  | *Ptrend* | 0.0002 |
| BMI |  |  |
| 1 | 207 | 1.00 |
| 2 | 134 | 1.03 (0.79-1.34) |
| 3 | 85 | 1.12 (0.81-1.53) |
| 4 | 136 | 1.12 (0.85-1.46) |
| 5 | 203 | 1.90 (1.48-2.43) |
|  | *Ptrend* | *<0.0001* |

Abbreviations: BMI, body mass index; CI, confidence interval; CPRU, Cancer Prevention Research Unit; DIS, dietary inflammation score; LIS, lifestyle inflammation score; MAP, Markers of Adenomatous Polyps; MET, metabolic equivalent of task; NSAID, non-steroidal anti-inflammatory drug; OR, odds ratio

a Covariates in the LIS-equal weight unconditional logistic regression models were: age, sex, NSAID/aspirin use (</≥ once/week), hormone therapy use (among women), family history of colorectal cancer in a first degree relative (yes/no), former smoking status (former smoker or non-former smoker), total energy intake (kcal/day), study (MAP I, MAP II, or CPRU), the equally-weighted DIS, and the component removed from the LIS

b ﻿For inflammation score construction, see text and Table 1; higher scores indicate a higher balance of pro- versus anti-inflammatory exposures

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