**Supplementary Figure 1.** Timeframe of the Trauma/PTSD classification in our study.



**Supplementary Table 1a**. Parameter estimates from multivariable linear mixed effects models for differences in each component of AHEI score change by trauma/PTSD status in 51,965 women followed over 20 years.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|   |   | **Omega-3 fat** | **Whole grain** | **Polyunsat. Fat** | **Nuts** | **Total vegetable** | **Total fruit** |
|   |   | **βcd** | **βcd** | **βcd** | **βcd** | **βcd** | **βcd** |
|   |   | **95% CI** | **95% CI** | **95% CI** | **95% CI** | **95% CI** | **95% CI** |
| ***Intercept for time by trauma/PTSD status interaction term*** | time2 | 0.53\*\*\* (0.47, 0.58) | -0.27\*\*\* (-0.31, -0.24) | 1.10\*\*\* (1.07, 1.13) | -0.64\*\*\* (-0.69, -0.59) | -0.50\*\*\* (-0.54, -0.47) | 0.16\*\*\* (0.13, 0.20) |
|   | time | -0.36\*\*\* (-0.42, -0.30) | 0.94\*\*\* (0.90, 0.98) | 0.66\*\*\* (0.63, 0.69) | 0.78\*\*\* (0.73, 0.82) | -0.40\*\*\* (-0.44, -0.36) | -0.07\*\*\* (-0.10, -0.03) |
|  |   |  |  |  |  |  |  |
| No trauma  | time2 | REF | REF | REF | REF | REF | REF |
|   | time | REF | REF | REF | REF | REF | REF |
| **Prevalent trauma/PTSDa** |   |  |  |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | -0.05 (-0.12, 0.03) | 0.03 (-0.02, 0.08) | -0.05\* (-0.09, -0.01) | -0.08\* (-0.14, -0.02) | 0.01 (-0.04, 0.05) | 0.02 (-0.03, 0.07) |
|  | time | 0.04 (-0.02, 0.09) | -0.02 (-0.06, 0.02) | -0.01 (-0.04, 0.02) | 0.03 (-0.01, 0.08) | 0.00 (-0.04, 0.03) | 0.03 (0.00, 0.06) |
| Low (1-3) PTSD symptoms | time2 | -0.07 (-0.14, 0.01) | 0.01 (-0.04, 0.06) | -0.05\* (-0.09, -0.01) | -0.03 (-0.10, 0.03) | 0.04 (-0.01, 0.08) | 0.02 (-0.02, 0.07) |
|  | time | 0.03 (-0.03, 0.08) | -0.08\*\*\* (-0.12, -0.05) | 0.02 (-0.01, 0.05) | 0.04 (-0.01, 0.08) | 0.03 (0.00, 0.06) | 0.02 (-0.01, 0.05) |
| High (4-7) PTSD symptoms | time2 | -0.08\* (-0.17, 0.00) | -0.02 (-0.08, 0.04) | -0.11\*\*\* (-0.16, -0.06) | -0.05 (-0.12, 0.02) | 0.05\* (0.00, 0.11) | 0.04 (-0.01, 0.09) |
|  | time | 0.08\* (0.02, 0.14) | -0.20\*\*\* (-0.24, -0.16) | 0.05\*\* (0.01, 0.08) | -0.04 (-0.09, 0.01) | 0.00 (-0.03, 0.04) | 0.04\* (0.01, 0.08) |
| **Incident trauma/PTSDb** |   |  |  |  |  |  |  |
| *Before onset* |   |  |  |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | -0.03 (-0.12, 0.07) | -0.03 (-0.10, 0.04) | -0.02 (-0.07, 0.04) | -0.03 (-0.11, 0.05) | 0.04 (-0.02, 0.10) | -0.01 (-0.07, 0.05) |
|  | time | -0.04 (-0.14, 0.06) | -0.03 (-0.09, 0.04) | 0.01 (-0.04, 0.06) | -0.07 (-0.15, 0.01) | 0.06 (0.00, 0.12) | 0.02 (-0.04, 0.08) |
| Low (1-3) PTSD symptoms | time2 | -0.12\*\* (-0.20, -0.03) | -0.03 (-0.09, 0.03) | -0.05\* (-0.10, 0.00) | -0.06 (-0.13, 0.01) | 0.05 (0.00, 0.11) | 0.05 (-0.01, 0.10) |
|  | time | -0.03 (-0.11, 0.05) | -0.05 (-0.10, 0.01) | -0.02 (-0.06, 0.02) | 0.00 (-0.06, 0.07) | 0.02 (-0.03, 0.07) | 0.11\*\*\* (0.06, 0.16) |
| High (4-7) PTSD symptoms | time2 | -0.18\*\*\* (-0.27, -0.08) | 0.02 (-0.04, 0.09) | 0.01 (-0.05, 0.06) | -0.06 (-0.14, 0.03) | 0.03 (-0.03, 0.09) | 0.00 (-0.06, 0.06) |
|  | time | 0.05 (-0.04, 0.14) | -0.17\*\*\* (-0.23, -0.11) | 0.01 (-0.03, 0.06) | 0.03 (-0.04, 0.10) | -0.04 (-0.10, 0.01) | 0.03 (-0.03, 0.08) |
| *After onset* |   |  |  |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | 0.00 (-0.09, 0.10) | -0.01 (-0.08, 0.06) | -0.04 (-0.10, 0.01) | 0.01 (-0.07, 0.09) | 0.01 (-0.05, 0.08) | 0.01 (-0.05, 0.07) |
|  | time | -0.11\* (-0.20, -0.01) | -0.08\*\* (-0.14, -0.02) | 0.03 (-0.02, 0.07) | -0.11\*\* (-0.18, -0.04) | 0.00 (-0.06, 0.06) | -0.01 (-0.07, 0.04) |
| Low (1-3) PTSD symptoms | time2 | -0.09\* (-0.18, 0.00) | -0.03 (-0.09, 0.03) | -0.06\* (-0.11, -0.01) | -0.05 (-0.12, 0.03) | 0.06\* (0.00, 0.12) | 0.03 (-0.02, 0.08) |
|  | time | -0.04 (-0.12, 0.05) | -0.07\* (-0.13, -0.01) | -0.02 (-0.06, 0.03) | 0.01 (-0.06, 0.07) | -0.02 (-0.07, 0.04) | 0.00 (-0.05, 0.05) |
| High (4-7) PTSD symptoms | time2 | -0.15\*\* (-0.25, -0.06) | 0.06 (0.00, 0.13) | 0.00 (-0.06, 0.05) | -0.04 (-0.12, 0.04) | 0.01 (-0.05, 0.08) | 0.02 (-0.04, 0.08) |
|  | time | 0.00 (-0.10, 0.09) | -0.19\*\*\* (-0.25, -0.12) | -0.01 (-0.06, 0.04) | -0.02 (-0.10, 0.06) | -0.04 (-0.11, 0.02) | 0.03 (-0.03, 0.09) |

PTSD, posttraumatic stress disorder; REF, reference group; β, beta coefficient; CI, confidence interval

a Prevalent trauma/PTSD groups refer to women with trauma/PTSD onset before study entry.

b Incident groups refer to women with trauma/PTSD onset during the follow-up period.

c 10-year was used as a unit time for all analysis; thus, all effects estimates represent the difference in each component of AHEI (0: worst - 10: optimal) comparing the trauma/PTSD status versus no trauma during the 10-year after the median follow-up (10-year since baseline) given the model specification.

All effects estimates are based on the interaction terms of time since baseline (quadratic and linear terms, median centered) X trauma/PTSD from the linear mixed effects model, which additionally included trauma/PTSD, time since baseline (quadratic and linear terms, median centered), time to/from onset (linear term), interaction terms of trauma/PTSD X time to/from onset (linear term) at fixed part, as well as random intercept and random slopes for time since baseline (quadratic and linear terms, median centered) and time to/from onset (linear term) by default.

d All models adjusted for age (time-updated, squared and linear terms), race/ethnicity, parental education, region of residence at birth (time-invariant), and living arrangement, menopausal status, history of depression and chronic conditions, smoking, physical activity, body-mass index class, and all the other ten components of AHEI scores except for the outcome (time-updated). To address potential reverse causality, we used a 2-year lagged approach, in which exposure and covariate status at one time point were linked with dietary outcome after 2 years.

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001.

**Supplementary Table 1b**. Parameter estimates from multivariable linear mixed effects models for differences in each component of AHEI score change by trauma/PTSD status in 51,965 women followed over 20 years.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   |   | **Trans fat** | **Alcohol** | **Red/processed meat** | **SSB** | **Sodium** |
|   |   | **βcd** | **βcd** | **βcd** | **βcd** | **βcd** |
|   |   | **95% CI** | **95% CI** | **95% CI** | **95% CI** | **95% CI** |
| ***Intercept for time by trauma/PTSD status interaction term*** | time2 | 1.16\*\*\* (1.13, 1.19) | -0.09\*\*\* (-0.13, -0.05) | -0.30\*\*\* (-0.34, -0.26) | 0.73\*\*\* (0.67, 0.79) | -0.21\*\*\* (-0.25, -0.17) |
|   | time | 0.74\*\*\* (0.72, 0.76) | 0.40\*\*\* (0.35, 0.45) | -0.41\*\*\* (-0.46, -0.37) | 1.10\*\*\* (1.03, 1.17) | -0.31\*\*\* (-0.36, -0.27) |
|  |   |  |  |  |  |  |
| No trauma exposure  | time2 | REF | REF | REF | REF | REF |
|   | time | REF | REF | REF | REF | REF |
| **Prevalent trauma/PTSDa** |   |  |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | -0.04\* (-0.08, 0.00) | -0.01 (-0.07, 0.05) | 0.04 (-0.02, 0.09) | -0.01 (-0.08, 0.07) | -0.04 (-0.10, 0.01) |
|  | time | -0.03\*\* (-0.06, -0.01) | -0.03 (-0.08, 0.01) | -0.03 (-0.07, 0.01) | 0.00 (-0.06, 0.06) | 0.05\* (0.01, 0.09) |
| Low (1-3) PTSD symptoms | time2 | -0.07\*\*\* (-0.11, -0.03) | 0.02 (-0.04, 0.07) | 0.05 (-0.01, 0.11) | 0.01 (-0.07, 0.09) | -0.01 (-0.06, 0.05) |
|  | time | -0.02 (-0.04, 0.01) | -0.04 (-0.08, 0.01) | -0.04\* (-0.08, 0.00) | 0.01 (-0.05, 0.07) | 0.06\*\* (0.02, 0.10) |
| High (4-7) PTSD symptoms | time2 | -0.11\*\*\* (-0.16, -0.07) | -0.01 (-0.07, 0.06) | 0.06 (0.00, 0.13) | 0.00 (-0.09, 0.09) | -0.03 (-0.09, 0.03) |
|  | time | -0.02 (-0.05, 0.01) | -0.14\*\*\* (-0.19, -0.09) | -0.01 (-0.05, 0.04) | -0.04 (-0.11, 0.03) | 0.03 (-0.01, 0.08) |
| **Incident trauma/PTSDb** |   |  |  |  |  |  |
| *Before onset* |   |  |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | 0.01 (-0.05, 0.06) | 0.01 (-0.06, 0.09) | 0.06 (-0.01, 0.14) | 0.01 (-0.10, 0.12) | -0.05 (-0.13, 0.02) |
|  | time | -0.01 (-0.05, 0.03) | -0.05 (-0.13, 0.03) | -0.05 (-0.13, 0.02) | 0.07 (-0.04, 0.18) | -0.01 (-0.08, 0.07) |
| Low (1-3) PTSD symptoms | time2 | -0.03 (-0.08, 0.02) | -0.01 (-0.08, 0.05) | 0.13\*\*\* (0.07, 0.20) | -0.06 (-0.16, 0.03) | -0.03 (-0.10, 0.03) |
|  | time | -0.05\*\* (-0.08, -0.01) | -0.05 (-0.12, 0.01) | -0.04 (-0.10, 0.03) | 0.00 (-0.10, 0.09) | 0.04 (-0.01, 0.10) |
| High (4-7) PTSD symptoms | time2 | -0.06\* (-0.11, -0.01) | 0.06 (-0.02, 0.14) | 0.04 (-0.03, 0.12) | -0.08 (-0.18, 0.03) | -0.05 (-0.12, 0.02) |
|  | time | -0.04\* (-0.07, 0.00) | -0.10\*\* (-0.18, -0.03) | -0.02 (-0.09, 0.04) | -0.12\* (-0.22, -0.02) | 0.04 (-0.03, 0.11) |
| *After onset* |   |  |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | 0.01 (-0.05, 0.06) | 0.04 (-0.04, 0.12) | 0.10\* (0.02, 0.17) | -0.04 (-0.15, 0.06) | -0.07 (-0.14, 0.00) |
|  | time | -0.04\* (-0.08, 0.00) | -0.01 (-0.09, 0.07) | -0.06 (-0.13, 0.01) | 0.09 (-0.01, 0.20) | -0.05 (-0.12, 0.02) |
| Low (1-3) PTSD symptoms | time2 | -0.02 (-0.07, 0.02) | -0.01 (-0.08, 0.06) | 0.13\*\*\* (0.06, 0.20) | -0.08 (-0.17, 0.02) | -0.03 (-0.09, 0.04) |
|  | time | 0.00 (-0.04, 0.03) | -0.04 (-0.11, 0.03) | -0.03 (-0.09, 0.04) | 0.16\* (0.06, 0.25) | -0.04 (-0.10, 0.03) |
| High (4-7) PTSD symptoms | time2 | -0.05\* (-0.10, 0.00) | 0.07 (-0.01, 0.14) | 0.07 (-0.01, 0.14) | -0.07 (-0.17, 0.04) | -0.05 (-0.12, 0.02) |
|  | time | 0.02 (-0.02, 0.06) | -0.21\*\*\* (-0.29, -0.12) | -0.07 (-0.15, 0.00) | -0.09 (-0.20, 0.03) | -0.03 (-0.10, 0.05) |

PTSD, posttraumatic stress disorder; REF, reference group; β, beta coefficient; CI, confidence interval

a Prevalent trauma/PTSD groups refer to women with trauma/PTSD onset before study entry.

b Incident groups refer to women with trauma/PTSD onset during the follow-up period.

c 10-year was used as a unit time for all analysis; thus, all effects estimates represent the difference in each component of AHEI (0: worst - 10: optimal) comparing the trauma/PTSD status versus no trauma during the 10-year after the median follow-up (10-year since baseline) given the model specification. All effects estimates are based on the interaction terms of time since baseline (quadratic and linear terms, median centered) X trauma/PTSD from the linear mixed effects model, which additionally included trauma/PTSD, time since baseline (quadratic and linear terms, median centered), time to/from onset (linear term), interaction terms of trauma/PTSD X time to/from onset (linear term) at fixed part, as well as random intercept and random slopes for time since baseline (quadratic and linear terms, median centered) and time to/from onset (linear term) by default.

d All models adjusted for age (time-updated, squared and linear terms), race/ethnicity, parental education, region of residence at birth (time-invariant), and living arrangement, menopausal status, history of depression and chronic conditions, smoking, physical activity, body-mass index class, and all the other ten components of AHEI scores except for the outcome (time-updated). To address potential reverse causality, we used a 2-year lagged approach, in which exposure and covariate status at one time point were linked with dietary outcome after 2 years.

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001.

**Supplementary Table 2**. Parameter estimates from multivariable linear mixed effects models for differences in total flavonoids consumption (mg/day, energy adjusted) change by trauma/PTSD status in 51,965 women followed over 20 years.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   |   | **Model 1 cd** | **Model 2 ce** | **Model 3 cf** | **Model 4 cg** |
|   |   | **β** | **β** | **β** | **β** |
|   |   | **95% CI** | **95% CI** | **95% CI** | **95% CI** |
| ***Intercept for time by trauma/PTSD interaction term*** | time2 | 93.22\*\*\* (87.43, 99.00) | 93.38\*\*\* (87.59, 99.16) | 93.69\*\*\* (87.91, 99.48) | 92.36\*\*\* (86.57, 98.15) |
|   | time | 15.34\*\*\* (9.17, 21.50) | 16.87\*\*\* (10.70, 23.04) | 18.06\*\*\* (11.87, 24.24) | 15.85\*\*\* (9.65, 22.05) |
|  |   |  |  |  |  |
| No trauma exposure  | time2 | REF | REF | REF | REF |
|  | time | REF | REF | REF | REF |
| ***Prevalent trauma/PTSD a*** |   |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | -5.62 (-13.35, 2.11) | -5.62 (-13.35, 2.11) | -5.50 (-13.23, 2.23) | -5.58 (-13.31, 2.16) |
|   | time | 1.18 (-4.61, 6.79) | 1.11 (-4.68, 6.91) | 1.05 (-4.75, 6.84) | 1.25 (-4.54, 7.03) |
| Low (1-3) PTSD symptoms | time2 | -0.98 (-8.76, 6.79) | -1.04 (-8.81, 6.73) | -0.98 (-8.76, 6.79) | -0.99 (-8.77, 6.78) |
|   | time | 7.26\* (1.44, 13.08) | 7.22\* (1.40, 13.04) | 7.37\* (1.55, 13.19) | 7.50\* (1.69, 13.31) |
| High (4-7) PTSD symptoms | time2 | -11.45\* (-20.24, -2.65) | -11.52\* (-20.31, -2.72) | -11.46\* (-20.26, -2.67) | -11.52\* (-20.32, -2.73) |
|   | time | 12.28\*\*\* (5.70, 18.85) | 12.07\*\*\* (5.50, 18.64) | 12.38\*\*\* (5.80, 18.96) | 12.95\*\*\* (6.38, 19.52) |
| ***New-onset trauma/PTSD b*** |   |  |  |  |  |
| *Before onset* |   |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | -0.02 (-10.38, 10.34) | -0.23 (-10.59, 10.12) | -0.32 (-10.68, 10.03) | -0.13 (-10.48, 10.22) |
|   | time | 5.58 (-4.97, 16.13) | 5.04 (-5.50, 15.58) | 4.79 (-5.75, 15.34) | 5.58 (-4.94, 16.11) |
| Low (1-3) PTSD symptoms | time2 | 0.03 (-9.24, 9.30) | -0.10 (-9.37, 9.17) | -0.17 (-9.44, 9.09) | -0.25 (-9.51, 9.01) |
|   | time | 0.57 (-8.08, 9.22) | 0.55 (-8.10, 9.19) | 0.52 (-8.13, 9.18) | 0.44 (-8.20, 9.08) |
| High (4-7) PTSD symptoms | time2 | -9.77 (-20.10, 0.57) | -10.29 (-20.62, 0.04) | -10.47\* (-20.80, -0.13) | -10.21 (-20.54, 0.12) |
|   | time | -6.65 (-16.32, 3.02) | -7.41 (-17.08, 2.26) | -7.11 (-16.79, 2.57) | -6.69 (-16.36, 2.97) |
| *After onset* |   |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | -1.49 (-11.88, 8.90) | -1.42 (-11.80, 8.96) | -1.50 (-11.88, 8.88) | -1.66 (-12.04, 8.72) |
|   | time | 6.11 (-3.78, 16.01) | 6.03 (-3.86, 15.92) | 5.89 (-4.00, 15.78) | 6.18 (-3.704, 16.06) |
| Low (1-3) PTSD symptoms | time2 | -1.30 (-10.55, 7.95) | -1.57 (-10.82, 7.67) | -1.57 (-10.81, 7.68) | -1.61 (-10.86, 7.64) |
|   | time | 6.77 (-2.48, 16.02) | 6.79 (-2.45, 16.03) | 6.76 (-2.49, 16.01) | 6.97 (-2.26, 16.21) |
| High (4-7) PTSD symptoms | time2 | -8.86 (-19.16, 1.43) | -9.44 (-19.73, 0.86) | -9.44 (-19.74, 0.85) | -9.54 (-19.83, 0.75) |
|   | time | 1.11 (-9.51, 11.72) | 0.53 (-10.08, 11.14) | 0.86 (-9.75, 11.48) | 1.64 (-8.95, 12.24) |

PTSD, posttraumatic stress disorder; REF, reference group; β, beta coefficient; CI, confidence interval

a Prevalent trauma/PTSD groups refer to women with trauma/PTSD onset before study entry.

b Incident groups refer to women with trauma/PTSD onset during the follow-up period.

c 10-year was used as a unit time for all analysis; thus, all effects estimates represent the level of total flavonoid intake (mg/day, energy-adjusted) change according to trauma/PTSD status for each 10-year interval. To address potential reverse causality, we used a 2-year lagged approach, in which exposure and covariate status at one time point were linked with dietary outcome after 2 years. All effects estimates are based on the interaction terms of time since baseline (quadratic and linear terms, median centered) X trauma/PTSD from the linear mixed effects model, which additionally included trauma/PTSD, time since baseline (quadratic and linear terms, median centered), time to/from onset (linear), interaction terms of trauma/PTSD X time to/from onset (linear) at fixed part, as well as random intercept and random slopes for time since baseline (quadratic and linear terms, median centered) and time to/from onset (linear term) by default.

d Model 1 – adjusted for age (time updated, quadratic and linear terms).

e Model 2 – Model 1 further adjusted race/ethnicity, parental education, region of residence at birth, and living arrangement (time-updated).

f Model 3 – Model 2 further adjusted for time-updated menopausal status, history of depression and severe chronic conditions.

g Model 4 – Model 3 further adjusted for time-updated smoking, alcohol consumption, physical activity, and body-mass index class (underweight, normal weight, overweight, and obesity).

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001.

**Supplementary Table 3**. Parameter estimates from multivariable linear mixed effects models for differences in each flavonoid subclass consumption change by trauma/PTSD status in 51,965 women followed over 20 years.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   |   | **Flavonoid polymers** | **Proanthocyanidins** | **Anthocyanins** | **Flavan-3-ol** | **Flavone** | **Flavanone** | **Flavonols** |
|   |   | **βcd** | **βcd** | **βcd** | **βcd** | **βcd** | **βcd** | **βcd** |
|   |   | **95% CI** | **95% CI** | **95% CI** | **95% CI** | **95% CI** | **95% CI** | **95% CI** |
| ***Intercept for time by trauma/PTSD status interaction term*** | time2 | 71.57\*\*\* (67.31, 75.83) | 31.37\*\*\* (29.75, 33.00) | 6.05\*\*\* (5.49, 6.62) | 19.45\*\*\* (18.21, 20.69) | -0.52\*\*\* (-0.55, -0.50) | -4.84\*\*\* (-5.40, -4.28) | 4.92\*\*\* (4.68, 5.15) |
|   | time | 12.99\*\*\* (8.42, 17.56) | 41.56\*\*\* (39.91, 43.20) | 12.19\*\*\* (11.67, 12.71) | -2.31\*\*\* (-3.65, -0.98) | -0.10\*\*\* (-0.13, -0.07) | -10.32\*\*\* (-10.90, -9.75) | 2.89\*\*\* (2.64, 3.14) |
|  |   |  |  |  |  |  |  |  |
| No trauma exposure  | time2 | REF | REF | REF | REF | REF | REF | REF |
|   | time | REF | REF | REF | REF | REF | REF | REF |
| **Prevalent trauma/PTSDa** |   |  |  |  |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | -5.20 (-10.89, 0.50) | -1.97 (-4.14, 0.20) | -0.11 (-0.86, 0.64) | -1.00 (-2.65, 0.66) | 0.01 (-0.02, 0.05) | 0.58 (-0.18, 1.33) | 0.03 (-0.29, 0.35) |
|  | time | 0.42 (-3.83, 4.66) | 0.55 (-1.10, 2.20) | 0.19 (-0.40, 0.78) | 0.27 (-0.96, 1.51) | 0.06\*\*\* (0.03, 0.09) | -0.03 (-0.57, 0.52) | 0.27\* (0.04, 0.51) |
| Low (1-3) PTSD symptoms | time2 | -1.82 (-7.54, 3.90) | -2.15 (-4.33, 0.03) | -0.40 (-1.15, 0.35) | 0.14 (-1.53, 1.80) | 0.03 (0.00, 0.07) | 0.87\* (0.12, 1.63) | 0.22 (-0.10, 0.54) |
|  | time | 4.84\* (0.57, 9.11) | 0.92 (-0.74, 2.58) | 0.33 (-0.26, 0.92) | 1.66\*\* (0.42, 2.90) | 0.04\*\* (0.01, 0.07) | -0.19 (-0.73, 0.36) | 0.56\*\*\* (0.32, 0.79) |
| High (4-7) PTSD symptoms | time2 | -9.58\*\* (-16.06, -3.11) | -4.24\*\*\* (-6.71, -1.78) | -0.89\* (-1.74, -0.04) | -2.01\* (-3.90, -0.13) | 0.06\*\* (0.01, 0.10) | 0.64 (-0.22, 1.49) | 0.20 (-0.16, 0.57) |
|  | time | 9.21\*\*\* (4.39, 14.03) | 0.26 (-1.61, 2.14) | -0.28 (-0.95, 0.38) | 2.93\*\*\* (1.53, 4.33) | 0.08\*\*\* (0.05, 0.11) | -0.08 (-0.70, 0.54) | 0.67\*\*\* (0.40, 0.93) |
| **Incident trauma/PTSDb** |   |  |  |  |  |  |  |  |
| *Before onset* |   |  |  |  |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | -0.95 (-8.58, 6.67) | -1.01 (-3.92, 1.90) | -0.10 (-1.10, 0.89) | 0.42 (-1.80, 2.64) | 0.05\* (0.00, 0.11) | 0.43 (-0.58, 1.43) | 0.29 (-0.14, 0.72) |
|  | time | 3.84 (-3.90, 11.59) | 0.30 (-2.65, 3.24) | -0.08 (-1.05, 0.90) | 1.46 (-0.79, 3.72) | 0.07\* (0.01, 0.12) | 0.17 (-0.83, 1.17) | 0.52\* (0.09, 0.95) |
| Low (1-3) PTSD symptoms | time2 | -0.95 (-7.77, 5.87) | 0.45 (-2.15, 3.06) | -0.09 (-0.98, 0.80) | -0.35 (-2.34, 1.63) | 0.04 (-0.01, 0.08) | 0.81 (-0.08, 1.71) | 0.15 (-0.23, 0.53) |
|  | time | -0.17 (-6.52, 6.19) | 2.49\* (0.07, 914.) | 0.66 (-0.16, 1.47) | -0.41 (-2.27, 1.44) | 0.03 (-0.02, 0.07) | 0.05 (-0.77, 0.87) | -0.01 (-0.36, 0.34) |
| High (4-7) PTSD symptoms | time2 | -7.82\* (-15.42, -0.22) | -4.19\*\* (-7.10, -1.29) | -1.40\*\* (-2.39, -0.41) | -1.62 (-3.83, 0.59) | 0.06\* (0.01, 0.11) | 0.06 (-0.94, 1.06) | 0.14 (-0.28, 0.57) |
|  | time | -4.71 (-11.81, 2.40) | -2.07 (-4.78, 0.64) | -0.79 (-1.70, 0.12) | -1.22 (-3.29, 0.85) | 0.08\*\*\* (0.04, 0.13) | -0.15 (-1.07, 0.76) | -0.21 (-0.60, 0.18) |
| *After onset* |   |  |  |  |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | -2.39 (-10.03, 5.26) | -0.51 (-3.42, 2.39) | 0.19 (-0.80, 1.18) | -0.15 (-2.38, 2.07) | 0.05 (0.00, 0.10) | 0.66 (-0.35, 1.66) | 0.16 (-0.27, 0.59) |
|  | time | 4.24 (-3.02, 11.50) | -0.69 (-3.45, 2.07) | 0.31 (-0.62, 1.24) | 1.64 (-0.48, 3.75) | -0.01 (-0.06, 0.04) | -0.26 (-1.19, 0.68) | 0.39 (-0.01, 0.79) |
| Low (1-3) PTSD symptoms | time2 | -2.08 (-8.89, 4.72) | -0.42 (-3.01, 2.16) | -0.05 (-0.94, 0.83) | -0.64 (-2.62, 1.34) | 0.04 (0.00, 0.08) | 0.84 (-0.06, 1.74) | 0.18 (-0.20, 0.56) |
|  | time | 4.97 (-1.82, 11.76) | 0.38 (-2.20, 2.96) | 0.21 (-0.65, 1.06) | 1.74 (-0.24, 3.71) | 0.00 (-0.05, 0.04) | -0.38 (-1.26, 0.49) | 0.40\* (0.03, 0.77) |
| High (4-7) PTSD symptoms | time2 | -7.52 (-15.10, 0.06) | -4.25\*\* (-7.13, -1.37) | -1.37\*\* (-2.35, -0.39) | -1.53 (-3.74, 0.67) | 0.06\* (0.01, 0.11) | 0.55 (-0.45, 1.55) | 0.09 (-0.33, 0.51) |
|  | time | 1.42 (-6.38, 9.21) | -2.32 (-5.27, 0.63) | -0.95 (-1.93, 0.02) | 0.80 (-1.47, 3.07) | 0.06\* (0.00, 0.11) | 0.03 (-0.97, 1.04) | 0.01 (-0.42, 0.44) |

PTSD, posttraumatic stress disorder; REF, reference group; β, beta coefficient; CI, confidence interval

a Prevalent trauma/PTSD groups refer to women with trauma/PTSD onset before study entry.

b Incident groups refer to women with trauma/PTSD onset during the follow-up period.

c 10-year was used as a unit time for all analysis; thus, all effects estimates represent the difference in each subclass of flavonoid (mg/day, energy-adjusted) comparing the trauma/PTSD status versus no trauma during the 10-year after the median follow-up (10-year since baseline) given the model specification. To address potential reverse causality, we used a 2-year lagged approach, in which exposure and covariate status at one time point were linked with dietary outcome after 2 years. All effects estimates are based on the interaction terms of time since baseline (quadratic and linear terms, median centered) X trauma/PTSD from the linear mixed effects model, which additionally included trauma/PTSD, time since baseline (quadratic and linear terms, median centered), time to/from onset (linear term), interaction terms of trauma/PTSD X time to/from onset (linear term) at fixed part, as well as random intercept and random slopes for time since baseline (quadratic and linear terms, median centered) and time to/from onset (linear term) by default.

d All models adjusted for age (time-updated, squared and linear terms), race/ethnicity, parental education, region of residence at birth (time-invariant), and living arrangement, menopausal status, history of depression and chronic conditions, smoking, alcohol consumption, physical activity, alcohol use, and body-mass index class (time-updated).

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

**Supplementary Table 4**. Model specifications for the linear mixed effects model to estimate differences in change rate of diet quality and flavonoid intake by trauma/PTSD status among 51,965 women over 20-year’s follow-up.

|  |  |
| --- | --- |
| Model A: To obtain estimates of **after-onset-effects** for women with incident trauma/PTSD, compared with women with no trauma, adjusting for before-onset-effects) | $$Diet\_{ij}=β\_{0}+β\_{1}squared.time.since.base\_{ij}+β\_{2}time.since.base\_{ij}+β\_{3}PTSD\_{i}+β\_{4}squared.time.since.base\_{ij}\*PTSD\_{i}+β\_{5}time.since.base\_{ij}\*PTSD\_{i}+β\_{6}time.to.onst\_{ij}+β\_{7}time.to.onset\_{ij}\*PTSD\_{i}+∑β.covariates$$$$ +μ\_{0i}+μ\_{1i}sqaured.time.since.base\_{ij}+μ\_{2i}time.since.base\_{ij}+μ\_{3i}time.to.onset\_{ij}+e\_{ij}$$ |
| Model B: To obtain estimates of **before-onset-effects** for women with incident trauma/PTSD, compared with healthy women, adjusting for after-onset-effects) | $$Diet\_{ij}=β\_{0}+β\_{1}squared.time.since.base\_{ij}+β\_{2}time.since.base\_{ij}+β\_{3}PTSD\_{i}+β\_{4}squared.time.since.base\_{ij}\*PTSD\_{i}+β\_{5}time.since.base\_{ij}\*PTSD\_{i}+β\_{6}time.since.onset\_{ij}+β\_{7}time.since.onset\_{ij}\*PTSD\_{i}+∑β.covariates$$$$ +μ\_{0i}+μ\_{1i}sqaured.time.since.base\_{ij}+μ\_{2i}time.since.base\_{ij}+μ\_{3i}time.since.onset\_{ij}+e\_{ij}$$ |

Time since baseline was centered to median follow-up year (10-year since baseline).

The unit time was set as 10-year for time-since-baseline, time-to-onset, and time-since-onset variables.

Both $β\_{4}$ (squared term) and $β\_{5}$ (linear term) were used as effects estimates for trauma/PTSD status, compared with women with no trauma.

To address potential reverse causality, we used a 2-year lagged approach, in which exposure and covariate status at one time point were linked with dietary outcome after 2 years.

**Supplementary Table 5**. Parameter estimates from analysis with multivariable linear mixed effects models for differences in AHEI score change by trauma/PTSD status in women followed over 16 years adjusting for baseline AHEI score.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   |   | **Model 1 cd** | **Model 2 ce** | **Model 3 cf** | **Model 4 cg** |
|   |   | **β** | **β** | **β** | **β** |
|   |   | **95% CI** | **95% CI** | **95% CI** | **95% CI** |
| ***Intercept for time by trauma/PTSD interaction term*** | time2 | 2.75\*\*\* (2.49, 3.01) | 2.75\*\*\* (2.49, 3.02) | 2.73\*\*\* (2.47, 3.00) | 2.66\*\*\* (2.40, 2.92) |
|   | time | 7.46\*\*\* (7.22, 7.69) | 7.37\*\*\* (7.13, 7.61) | 7.49\*\*\* (7.25, 7.72) | 7.34\*\*\* (7.10, 7.57) |
|  |   |  |  |  |  |
| No trauma exposure  | time2 | REF | REF | REF | REF |
|  | time | REF | REF | REF | REF |
| ***Prevalent trauma/PTSD a*** |   |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | -0.34 (-0.69, 0.02) | -0.33 (-0.69, 0.02) | -0.31 (-0.66, 0.05) | -0.31 (-0.67, 0.05) |
|   | time | 0.00 (-0.26, 0.27) | 0.00 (-0.26, 0.26) | -0.02 (-0.28, 0.25) | 0.01 (-0.25, 0.27) |
| Low (1-3) PTSD symptoms | time2 | -0.50\*\* (-0.86, -0.14) | -0.50\*\* (-0.86, -0.14) | -0.50\*\* (-0.86, -0.14) | -0.48\*\* (-0.84, -0.13) |
|   | time | 0.20 (-0.06, 0.47) | 0.20 (-0.06, 0.46) | 0.22 (-0.04, 0.49) | 0.23 (-0.03, 0.49) |
| High (4-7) PTSD symptoms | time2 | -0.68\*\* (-1.08, -0.27) | -0.68\*\* (-1.09, -0.27) | -0.68\*\* (-1.09, -0.27) | -0.68\*\* (-1.09, -0.28) |
|   | time | -0.32\* (-0.62, -0.02) | -0.33\* (-0.63, -0.03) | -0.28 (-0.58, 0.02) | -0.22 (-0.52, 0.07) |
| ***New-onset trauma/PTSD b*** |   |  |  |  |  |
| *Before onset* |   |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | 0.05 (-0.41, 0.52) | 0.05 (-0.42, 0.51) | 0.05 (-0.42, 0.51) | 0.05 (-0.41, 0.51) |
|   | time | -0.06 (-0.47, 0.36) | -0.07 (-0.49, 0.34) | -0.07 (-0.48, 0.35) | 0.01 (-0.40, 0.42) |
| Low (1-3) PTSD symptoms | time2 | -0.40 (-0.82, 0.02) | -0.40 (-0.82, 0.02) | -0.41 (-0.83, 0.01) | -0.41 (-0.82, 0.01) |
|   | time | -0.04 (-0.39, 0.31) | -0.03 (-0.38, 0.31) | 0.00 (-0.34, 0.35) | 0.01 (-0.34, 0.35) |
| High (4-7) PTSD symptoms | time2 | -0.26 (-0.72, 0.21) | -0.27 (-0.74, 0.20) | -0.31 (-0.78, 0.15) | -0.31 (-0.78, 0.15) |
|   | time | -0.69\*\*\* (-1.08, -0.31) | -0.71\*\*\* (-1.09, -0.32) | -0.64\*\* (-1.02, -0.25) | -0.59\*\* (-0.97, -0.21) |
| *After onset* |   |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | 0.01 (-0.46, 0.47) | 0.01 (-0.46, 0.48) | 0.02 (-0.45, 0.48) | -0.02 (-0.48, 0.45) |
|   | time | -0.53\*\* (-0.94, -0.13) | -0.53\* (-0.94, -0.13) | -0.52\* (-0.92, -0.11) | -0.47\* (-0.87, -0.07) |
| Low (1-3) PTSD symptoms | time2 | -0.39 (-0.81, 0.03) | -0.41 (-0.82, 0.01) | -0.40 (-0.82, 0.02) | -0.40 (-0.82, 0.01) |
|   | time | -0.06 (-0.43, 0.32) | -0.04 (-0.42, 0.33) | -0.01 (-0.39, 0.37) | 0.01 (-0.36, 0.38) |
| High (4-7) PTSD symptoms | time2 | -0.07 (-0.54, 0.40) | -0.10 (-0.57, 0.37) | -0.12 (-0.59, 0.34) | -0.15 (-0.62, 0.31) |
|   | time | -0.99\*\*\* (-1.42, -0.55) | -0.99\*\*\* (-1.42, -0.55) | -0.92\*\*\* (-1.35, -0.49) | -0.83\*\*\* (-1.26, -0.40) |

PTSD, posttraumatic stress disorder; AHEI, Alternative Healthy Eating Index-2010; REF, reference group; β, beta coefficient; CI, confidence interval

a Prevalent trauma/PTSD groups refer to women with trauma/PTSD onset before study entry.

b Incident groups refer to women with trauma/PTSD onset during the follow-up period.

c 10-year was used as a unit time for all analysis; thus, all effects estimates represent the level of AHEI score change according to trauma/PTSD status for each 10-year interval. To address potential reverse causality, we used a 2-year lagged approach, in which exposure and covariate status at one time point were linked with dietary outcome after 2 years. All effects estimates are based on the interaction terms of time since baseline (quadratic and linear terms, median centered) X trauma/PTSD from the linear mixed effects model, which additionally included trauma/PTSD, time since baseline (quadratic and linear terms, median centered), time to/from onset (linear), interaction terms of trauma/PTSD X time to/from onset (linear) at fixed part, as well as random intercept and random slopes for time since baseline (quadratic and linear terms, median centered) and time to/from onset (linear term) by default.

d Model 1 – adjusted for age (time updated, quadratic and linear terms) and baseline AHEI score.

e Model 2 – Model 1 further adjusted race/ethnicity, parental education, region of residence at birth, and living arrangement (time-updated).

f Model 3 – Model 2 further adjusted for time-updated menopausal status, history of depression and severe chronic conditions.

g Model 4 – Model 3 further adjusted for time-updated smoking, physical activity, and body-mass index class (underweight, normal weight, overweight, and obesity).

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001.

**Supplementary Table 6**. Parameter estimates from analysis with multivariable linear mixed effects models for differences in total flavonoids intake (mg/day, energy-adjusted) by trauma/PTSD status in women followed over 16 years adjusting for baseline total flavonoids intake.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   |   | **Model 1 cd** | **Model 2 ce** | **Model 3 cf** | **Model 4 cg** |
|   |   | **β** | **β** | **β** | **β** |
|   |   | **95% CI** | **95% CI** | **95% CI** | **95% CI** |
| ***Intercept for time by trauma/PTSD interaction term*** | time2 | 76.94\*\*\* (68.64, 85.24) | 77.02\*\*\* (68.72, 85.32) | 76.56\*\*\* (68.25, 84.87) | 75.61\*\*\* (67.30, 83.92) |
|   | time | 38.53\*\*\* (31.55, 45.52) | 39.02\*\*\* (32.03, 46.02) | 40.85\*\*\* (33.85, 47.86) | 39.57\*\*\* (32.55, 46.59) |
|  |   |  |  |  |  |
| No trauma exposure  | time2 | REF | REF | REF | REF |
|  | time | REF | REF | REF | REF |
| ***Prevalent trauma/PTSD a*** |   |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | -9.66 (-20.94, 1.61) | -9.57 (-20.85, 1.71) | -9.30 (-20.58, 1.98) | -9.43 (-20.71, 1.85) |
|   | time | 4.01 (-3.94, 11.96) | 3.89 (-4.06, 11.83) | 3.76 (-4.19, 11.70) | 4.04 (-3.90, 11.98) |
| Low (1-3) PTSD symptoms | time2 | -11.27 (-22.62, 0.07) | -11.31 (-22.66, 0.04) | -11.42\* (-22.77, -0.07) | -11.32 (-22.67, 0.03) |
|   | time | 14.02\*\*\* (6.03, 22.01) | 13.97\*\*\* (5.98, 21.96) | 14.36\*\*\* (6.37, 22.35) | 14.47\*\*\* (6.49, 22.46) |
| High (4-7) PTSD symptoms | time2 | -22.24\*\*\* (-35.10, -9.37) | -22.21\*\*\* (-35.08, -9.35) | -22.58\*\*\* (-35.45, -9.72) | -22.67\*\*\* (-35.54, -9.80) |
|   | time | 18.41\*\*\* (9.38, 27.45) | 18.20\*\*\* (9.17, 27.24) | 18.95\*\*\* (9.91, 27.99) | 19.58\*\*\* (10.55, 28.61) |
| ***New-onset trauma/PTSD b*** |   |  |  |  |  |
| *Before onset* |   |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | -4.07 (-18.63, 10.48) | -4.27 (-18.83, 10.28) | -4.25 (-18.81, 10.31) | -4.06 (-18.61, 10.50) |
|   | time | 6.19 (-6.35, 18.72) | 5.65 (-6.88, 18.17) | 5.40 (-7.13, 17.93) | 6.31 (-6.21, 18.82) |
| Low (1-3) PTSD symptoms | time2 | -2.96 (-16.07, 10.16) | -3.00 (-16.11, 10.12) | -3.29 (-16.41, 9.83) | -3.20 (-16.31, 9.92) |
|   | time | 0.67 (-9.78, 11.11) | 0.84 (-9.60, 11.28) | 1.00 (-9.45, 11.45) | 0.97 (-9.47, 11.40) |
| High (4-7) PTSD symptoms | time2 | -29.53\*\*\* (-44.21, -14.86) | -29.72\*\*\* (-44.40, -15.05) | -30.56\*\*\* (-45.23, -15.89) | -30.44\*\*\* (-45.11, -15.76) |
|   | time | 2.58 (-9.06, 14.22) | 2.09 (-9.54, 13.73) | 2.92 (-8.73, 14.56) | 3.50 (-8.13, 15.13) |
| *After onset* |   |  |  |  |  |
| Trauma exposure and no PTSD symptoms | time2 | -4.58 (-19.21, 10.05) | -4.50 (-19.13, 10.12) | -4.47 (-19.10, 10.16) | -4.75 (-19.38, 9.88) |
|   | time | 7.15 (-5.05, 19.35) | 7.08 (-5.12, 19.27) | 6.88 (-5.32, 19.07) | 7.23 (-4.95, 19.41) |
| Low (1-3) PTSD symptoms | time2 | -2.26 (-15.39, 10.86) | -2.62 (-15.75, 10.50) | -2.73 (-15.86, 10.39) | -2.65 (-15.78, 10.47) |
|   | time | 4.66 (-6.65, 15.97) | 4.87 (-6.43, 16.17) | 5.03 (-6.28, 16.33) | 5.10 (-6.19, 16.39) |
| High (4-7) PTSD symptoms | time2 | -23.34\*\* (-38.00, -8.67) | -23.96\*\* (-38.63, -9.29) | -24.42\*\* (-39.09, -9.76) | -24.83\*\* (-39.50, -10.16) |
|   | time | 3.26 (-9.68, 16.20) | 3.10 (-9.84, 16.03) | 3.88 (-9.06, 16.82) | 4.98 (-7.94, 17.90) |

PTSD, posttraumatic stress disorder; REF, reference group; β, beta coefficient; CI, confidence interval

a Prevalent trauma/PTSD groups refer to women with trauma/PTSD onset before study entry.

b Incident groups refer to women with trauma/PTSD onset during the follow-up period.

c 10-year was used as a unit time for all analysis; thus, all effects estimates represent the level of total flavonoid intake (mg/day, energy-adjusted) change according to trauma/PTSD status for each 10-year interval. To address potential reverse causality, we used a 2-year lagged approach, in which exposure and covariate status at one time point were linked with dietary outcome after 2 years. All effects estimates are based on the interaction terms of time since baseline (quadratic and linear terms, median centered) X trauma/PTSD from the linear mixed effects model, which additionally included trauma/PTSD, time since baseline (quadratic and linear terms, median centered), time to/from onset (linear), interaction terms of trauma/PTSD X time to/from onset (linear) at fixed part, as well as random intercept and random slopes for time since baseline (quadratic and linear terms, median centered) and time to/from onset (linear term) by default.

d Model 1 – adjusted for age (time updated, quadratic and linear terms) and baseline total flavonoids intake (mg/day, energy-adjusted).

e Model 2 – Model 1 further adjusted race/ethnicity, parental education, region of residence at birth, and living arrangement (time-updated).

f Model 3 – Model 2 further adjusted for time-updated menopausal status, history of depression and severe chronic conditions.

g Model 4 – Model 3 further adjusted for time-updated smoking, alcohol consumption, physical activity, and body-mass index class (underweight, normal weight, overweight, and obesity).

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001.