**Association between an individual dietary index based on the British Food Standard Agency Nutrient Profiling System and asthma symptoms**

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**Figure 1** Flowchart for inclusion of participants



**Supplemental Table 1** Associations between quintiles of FSA-NPS DI and asthma symptom score among women from the NutriNet-Santé study without ever asthma (among those who never reported asthma from baseline till the respiratory survey) (n=23,435)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Q1 | Q2 | Q3 | Q4 | Q5 | P for trend |
| FSA-NPS DI |  |  |  |  |  |  |
| n | 4,749 | 4,699 | 4,710 | 4,695 | 4,582 |  |
| Mean (sd) | 3.0 (1.2) | 5.0 (0.4) | 6.2 (0.3) | 7.3 (0.4) | 9.2 (1.0) |  |
| OR (95% CI)1 | 1.00 (ref) | 1.01 (0.93-1.10) | 1.15 (1.05-1.25) | 1.23 (1.13-1.34) | 1.36 (1.25-1.48) | <0.0001 |
| OR (95% CI)2 | 1.00 (ref) | 1.00 (0.92-1.09) | 1.12 (1.03-1.22) | 1.18 (1.08-1.29) | 1.29 (1.18-1.41) | <0.0001 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

1 Models were adjusted for age.

2 Models were further adjusted for smoking, pack-years (among ever smokers), educational level, leisure-time physical activity, total daily energy, alcohol intake, allergic rhinitis, and family history of asthma.

**Supplemental Table 2** Associations between quintiles of FSA-NPS DI and asthma symptom score among men from the NutriNet-Santé study without ever asthma (among those who never reported asthma from baseline till the respiratory survey) (n=7,853)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Q1 | Q2 | Q3 | Q4 | Q5 | P for trend |
| FSA-NPS DI |  |  |  |  |  |  |
| n | 1,590 | 1,589 | 1,573 | 1,562 | 1,539 |  |
| Mean (sd) | 3.1 (1.0) | 4.9 (0.4) | 6.0 (0.3) | 7.1 (0.3) | 8.9 (1.0) |  |
| OR (95% CI)1 | 1.00 (ref) | 1.15 (0.98-1.33) | 1.12 (0.96-1.30) | 1.18 (1.01-1.37) | 1.28 (1.09-1.50) | 0.01 |
| OR (95% CI)2 | 1.00 (ref) | 1.07 (0.92-1.25) | 1.11 (0.95-1.29) | 1.12 (0.96-1.31) | 1.29 (1.09-1.52) | 0.01 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

1 Models were adjusted for age.

2 Models were further adjusted for smoking, pack-years (among ever smokers), educational level, leisure-time physical activity, total daily energy, alcohol intake, allergic rhinitis, and family history of asthma

**Supplemental Table 3** Associations between quintiles of FSA-NPS DI and the asthma symptom score, stratified by smoking, among women from the NutriNet-Santé study

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Q1 | Q2 | Q3 | Q4 | Q5 | P for trend |
|  | Never smokers | | | | |  |
| FSA-NPS DI |  |  |  |  |  |  |
| n | 2,636 | 2,830 | 2,823 | 2,782 | 2,956 |  |
| Mean (sd) | 3.0 (1.2) | 5.0 (0.4) | 6.2 (0.3) | 7.3 (0.4) | 9.2 (1.1) |  |
| OR (95% CI)1 | 1.00 (ref) | 1.09 (0.98-1.22) | 1.15 (1.03-1.29) | 1.15 (1.03-1.29) | 1.30 (1.16-1.46) | <0.0001 |
| OR (95% CI)2 | 1.00 (ref) | 1.08 (0.97-1.21) | 1.13 (1.01-1.27) | 1.13 (1.01-1.27) | 1.27 (1.13-1.43) | <0.0001 |
| FSA-NPS DI |  |  | Former smokers |  |  |  |
| n | 2,032 | 1,822 | 1,789 | 1,694 | 1,381 |  |
| Mean (sd) | 3.0 (1.2) | 5.0 (0.4) | 6.2 (0.3) | 7.3 (0.4) | 9.1 (1.00) |  |
| OR (95% CI)1 | 1.00 (ref) | 0.91 (0.80-1.03) | 1.07 (0.94-1.21) | 1.09 (0.96-1.24) | 1.25 (1.10-1.43) | <0.0001 |
| OR (95% CI)2 | 1.00 (ref) | 0.90 (0.80-1.02) | 1.07 (0.95-1.21) | 1.07 (0.94-1.22) | 1.23 (1.07-1.41) | 0.0003 |
| FSA-NPS DI |  |  | Current smokers |  |  |  |
| n | 496 | 513 | 553 | 689 | 826 |  |
| Mean (sd) | 3.0 (1.2) | 5.0 (0.4) | 6.2 (0.3) | 7.3 (0.4) | 9.3 (1.2) |  |
| OR (95% CI)1 | 1.00 (ref) | 1.08 (0.87-1.35) | 1.06 (0.85-1.31) | 1.27 (1.04-1.31) | 1.37 (1.12-1.67) | 0.0004 |
| OR (95% CI)2 | 1.00 (ref) | 1.13 (0.91-1.40) | 1.09 (0.88-1.35) | 1.27 (1.04-1.56) | 1.41 (1.15-1.74) | 0.001 |

1 Models were adjusted for age.

2 Models were further adjusted for educational level, leisure-time physical activity, total daily energy, alcohol intake, allergic rhinitis, and family history of asthma.

**Supplemental Table 4** Associations between quintiles of FSA-NPS DI and the asthma symptom score, stratified by smoking, among men from the NutriNet-Santé study

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Q1 | Q2 | Q3 | Q4 | Q5 | P for trend |
|  | Never smokers | | | | |  |
| FSA-NPS DI |  |  |  |  |  |  |
| n | 639 | 617 | 663 | 703 | 887 |  |
| Mean (sd) | 3.0 (1.1) | 4.9 (0.4) | 6.0 (0.3) | 7.1 (0.3) | 9.0 (1.0) |  |
| OR (95% CI)1 | 1.00 (ref) | 0.81 (0.60-1.08) | 1.26 (0.97-1.65) | 1.18 (0.91-1.54) | 1.25 (0.97-1.63) | 0.002 |
| OR (95% CI)2 | 1.00 (ref) | 1.13 (0.85-1.50)) | 1.46 (1.12-1.92) | 1.32 (1.00-1.74) | 1.54 (1.17-2.02) | 0.002 |
| FSA-NPS DI |  |  | Former smokers |  |  |  |
| n | 908 | 916 | 868 | 763 | 571 |  |
| Mean (sd) | 3.1 (1.0) | 4.9 (0.4) | 6.0 (0.3) | 7.1 (0.3) | 8.8 (0.9) |  |
| OR (95% CI)1 | 1.00 (ref) | 1.17 (0.97-1.42) | 1.66 (0.96-1.42) | 1.26 (1.04-1.54) | 1.13 (0.91-1.40) | 0.04 |
| OR (95% CI)2 | 1.00 (ref) | 1.11 (0.92-1.34) | 1.21 (0.99-1.46) | 1.34 (1.10-1.64) | 1.31 (1.04-1.64) | 0.004 |
| FSA-NPS DI |  |  | Current smokers |  |  |  |
| n | 153 | 167 | 169 | 234 | 242 |  |
| Mean (sd) | 3.1 (1.0) | 4.9 (0.3) | 6.0 (0.3) | 7.1 (0.3) | 9.0 (1.2) |  |
| OR (95% CI)1 | 1.00 (ref) | 0.97 (0.69-1.36) | 0.79 (0.56-1.13) | 0.75 (0.54-1.04) | 0.83 (0.60-1.14) | 0.24 |
| OR (95% CI)2 | 1.00 (ref) | 0.93 (0.66-1.31) | 0.82 (0.58-1.16) | 0.75 (0.54-1.05) | 0.86 (0.62-1.20) | 0.21 |

1 Models were adjusted for age.

2 Models were further adjusted for educational level, leisure-time physical activity, total daily energy, alcohol intake, allergic rhinitis, and family history of asthma.

**Supplemental Table 5** Associations between quintiles of FSA-NPS DI and the asthma symptom score, stratified by body mass index, among women from the NutriNet-Santé study

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Q1 | Q2 | Q3 | Q4 | Q5 | P for trend |
|  | **Body mass index <25.0 kg/m2** | | | | |  |
| FSA-NPS DI |  |  |  |  |  |  |
| n | 3,563 | 3,674 | 3,738 | 3,777 | 3,811 |  |
| Mean (sd) | 3.0 (1.2) | 5.0 (0.4) | 6.2 (0.3) | 7.3 (0.4) | 9.2 (1.0) |  |
| OR (95% CI)1 | 1.00 (ref) | 0.98 (0.89-1.09) | 1.12 (1.01-1.24) | 1.14 (1.03-1.26) | 1.30 (1.18-1.44) | < 0.001 |
| OR (95% CI)2 | 1.00 (ref) | 0.99 (0.90-1.10) | 1.13 (1.02-1.24) | 1.14 (1.03-1.26) | 1.30 (1.17-1.43) | < 0.001 |
| FSA-NPS DI |  | **25** ≤ **Body mass index < 30** | | |  |  |
| n | 1,089 | 1,038 | 993 | 925 | 806 |  |
| Mean (sd) | 3.0 (1.2) | 5.0 (0.4) | 6.2 (0.3) | 7.3 (0.4) | 9.2 (1.1) |  |
| OR (95% CI)1 | 1.00 (ref) | 1.05 (0.91-1.23) | 1.07 (0.92-1.25) | 1.05 (0.90-1.23) | 1.23 (0.86-1.45) |  |
| OR (95% CI)2 | 1.00 (ref) | 1.07 (0.92-1.24) | 1.09 (0.94-1.27) | 1.05 (0.90-1.23) | 1.26 (1.07-1.50) | 0.03 |
| FSA-NPS DI |  | **Body mass index ≥ 30 kg/m2** | | |  |  |
| n | 480 | 410 | 380 | 400 | 458 |  |
| Mean (sd) | 2.8 (1.2) | 5.0 (0.4) | 6.2 (0.3) | 7.3 (0.4) | 9.3 (1.2) |  |
| OR (95% CI)1 | 1.00 (ref) | 1.00 (0.73-1.38) | 0.94 (0.67-1.32) | 1.03 (0.73-144) | 1.09 (0.78-1.53) | 0.004 |
| OR (95% CI)2 | 1.00 (ref) | 1.09 (0.90-1.33) | 1.17 (0.96-1.42) | 1.28 (1.05-1.55) | 1.19 (0.97-1.47) | 0.03 |

1 Models were adjusted for age.

2 Models were further adjusted for smoking, pack-years (among ever smokers), educational level, leisure-time physical activity, total daily energy, alcohol intake, allergic rhinitis, and family history of asthma.

**Supplemental Table 6** Associations between quintiles of FSA-NPS DI and the asthma symptom score, stratified by body mass index, among men from the NutriNet-Santé study

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Q1 | Q2 | Q3 | Q4 | Q5 | | P for trend |
|  | **Body mass index <25.0 kg/m2** | | | | | |  |
| FSA-NPS DI |  |  |  |  | |  |  |
| n | 981 | 905 | 950 | 936 | | 1,003 |  |
| Mean (sd) | 3.1 (1.1) | 4.9 (0.4) | 6.0 (0.3) | 7.1 (0.3) | | 8.9 (1.1) |  |
| OR (95% CI)1 | 1.00 (ref) | 1.12 (0.89-1.40) | 1.24 (1.00-1.55) | 1.36 (1.09-1.69) | | 1.32 (1.05-1.65) | 0.004 |
| OR (95% CI)2 | 1.00 (ref) | 1.08 (0.86-1.35) | 1.26 (1.02-1.57) | 1.34 (1.08-1.67) | | 1.38 (1.10-1.73) | 0.001 |
| FSA-NPS DI |  | **25** ≤ **Body mass index < 30** | | | |  |  |
| n | 573 | 626 | 603 | 632 | | 550 |  |
| Mean (sd) | 3.1 (1.0) | 4.9 (0.4) | 6.0 (0.3) | 7.1 (0.3) | | 8.8 (1.0) |  |
| OR (95% CI)1 | 1.00 (ref) | 1.20 (0.96-1.52) | 1.24 (0.98-1.56) | 1.13 (0.90-1.43) | | 1.11 (0.86-1.42) | 0.62 |
| OR (95% CI)2 | 1.00 (ref) | 1.10 (0.89-1.36) | 1.22 (0.98-1.53) | 1.11 (0.88-1.38) | | 1.21 (0.95-1.55) | 0.24 |
| FSA-NPS DI |  | **Body mass index ≥ 30 kg/m2** | | | |  |  |
| n | 146 | 167 | 145 | 132 | | 146 |  |
| Mean (sd) | 2.8 (1.2) | 4.9 (0.3) | 6.0 (0.3) | 7.1 (0.3) | | 8.9 (1.1) |  |
| OR (95% CI)1 | 1.00 (ref) | 1.00 (0.73-1.38) | 0.94 (0.67-1.32) | 1.03 (0.73-144) | | 1.09 (0.78-1.53) | 0.63 |
| OR (95% CI)2 | 1.00 (ref) | 0.95 (0.70-1.31) | 0.93 (0.67-1.30) | 1.10 (0.78-1.55) | | 1.17 (0.83-1.65) | 0.32 |

1 Models were adjusted for age.

2 Models were further adjusted for smoking, pack-years (among ever smokers), educational level, leisure-time physical activity, total daily energy, alcohol intake, allergic rhinitis, and family history of asthma.