**Supplemental Table 1. Multivariable adjusted odds ratios for IBS across categories of meal frequency in women, after excluding those with colitis, stratified by dental status 1. (n=2577)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Frequency of main meals (time/d) | | |
| 1 | 2 | 3 |
| Have all teeth (n=1009) |  |  |  |
| Crude | 1.00 | 0.91 (0.43-1.89) | 0.68 (0.33-1.39) |
| Model 12 | 1.00 | 0.88 (0.42-1.86) | 0.65 (0.32-1.35) |
| Model 23 | 1.00 | 0.79 (0.34-1.83) | 0.64 (0.28-1.43) |
| Model 34 | 1.00 | 0.70 (0.30-1.63) | 0.58 (0.25-1.33) |
| Model 45 | 1.00 | 0.64 (0.27-1.52) | 0.56 (0.24-1.29) |
| Lost 1 or more teeth (n=1568) |  |  |  |
| Crude | 1.00 | 0.78 (0.48-1.26) | 0.77 (0.49-1.22) |
| Model 12 | 1.00 | 0.80 (0.48-1.32) | 0.79 (0.49-1.27) |
| Model 23 | 1.00 | 0.70 (0.40-1.23) | 0.67 (0.39-1.13) |
| Model 34 | 1.00 | 0.62 (0.35-1.11) | 0.61 (0.35-1.05) |
| Model 45 | 1.00 | 0.56 (0.31-1.01) | 0.56 (0.32-0.98) |

1IBS was assessed as having abdominal discomfort or pain at least sometimes in the last three months prior to the initiation of study with association of at least two of the followings: improvement with defecation and changing in stool form or frequency.

2 Model 1: adjusted for age.

3 Model 2: age, physical activity, smoking, marital status, education level, self-reported diabetes, OCP usage, supplement intake and lactose intolerance.

4 Model 3: Further adjusted for meal regularity (non-regular, regular), eating rate (non-quick, quick or <10min), breakfast consumption, intra-meal fluid intake (never or sometimes, often or always), spicy food intake (never, 1-3, 4-6, ≥7 times/week), fried food intake (ordinal), frequency of fluid intake (ordinal), chewing efficiency (not well, well), chocolate consumption, tea consumption and coffee consumption.

5 Model 4: Further adjusted for BMI.

**Supplemental Table 2. Multivariable adjusted odds ratios for IBS across categories of meal frequency in overweight or obese participants, stratified by marital status 1. (n=2020)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Frequency of main meals (time/d) | | |
| 1 | 2 | 3 |
| Married (n=1842) |  |  |  |
| Crude | 1.00 | 0.77 (0.48-1.25) | 0.68 (0.43-1.07) |
| Model 12 | 1.00 | 0.68 (0.41-1.13) | 0.65 (0.40-1.05) |
| Model 23 | 1.00 | 0.66 (0.38-1.15) | 0.62 (0.37-1.04) |
| Model 34 | 1.00 | 0.63 (0.36-1.12) | 0.57 (0.33-0.98) |
| Single/divorced/widow (n=178) |  |  |  |
| Crude | 1.00 | 0.65 (0.18-2.41) | 0.47 (0.13-1.71) |
| Model 12 | 1.00 | 0.85 (0.20-3.64) | 0.70 (0.17-2.96) |
| Model 23 | 1.00 | 0.27 (0.05-1.51) | 0.21 (0.04-1.17) |
| Model 34 | 1.00 | 0.47 (0.05-4.86) | 0.31 (0.03-3.17) |

1IBS was assessed as having abdominal discomfort or pain at least sometimes in the last three months prior to the initiation of study with association of at least two of the followings: improvement with defecation and changing in stool form or frequency.

2 Model 1: adjusted for age and sex.

3 Model 2: age, sex, physical activity, smoking, dental status, education level, self-reported diabetes, OCP usage, supplement intake, colitis and lactose intolerance.

4 Model 3: Further adjusted for meal regularity (non-regular, regular), eating rate (non-quick, quick or <10min), breakfast consumption, intra-meal fluid intake (never or sometimes, often or always), spicy food intake (never, 1-3, 4-6, ≥7 times/week), fried food intake (ordinal), frequency of fluid intake (ordinal), chewing efficiency (not well, well), chocolate consumption, tea consumption and coffee consumption.

**Supplemental Table 3. Multivariable adjusted odds ratios for IBS across categories of meal frequency in married overweight or obese participants, stratified by gender 1. (n=1842)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Frequency of main meals (time/d) | | |
| 1 | 2 | 3 |
| Men (n=955) |  |  |  |
| Crude | 1.00 | 0.49 (0.18-1.11) | 0.56 (0.24-1.29) |
| Model 12 | 1.00 | 0.48 (0.20-1.12) | 0.58 (0.26-1.25) |
| Model 23 | 1.00 | 0.48 (0.22-1.04) | 0.58 (0.29-1.16) |
| Model 34 | 1.00 | 0.58 (0.28-1.16) | 0.61 (0.32-1.16) |
| Women (n=887) |  |  |  |
| Crude | 1.00 | 0.94 (0.48-1.83) | 0.76 (0.40-1.43) |
| Model 12 | 1.00 | 0.86 (0.44-1.70) | 0.71 (0.37-1.36) |
| Model 23 | 1.00 | 0.84 (0.40-1.76) | 0.66 (0.32-1.34) |
| Model 34 | 1.00 | 0.90 (0.39-2.05) | 0.66 (0.30-1.46) |

1IBS was assessed as having abdominal discomfort or pain at least sometimes in the last three months prior to the initiation of study with association of at least two of the followings: improvement with defecation and changing in stool form or frequency.

2 Model 1: adjusted for age.

3 Model 2: age, sex, physical activity, smoking, dental status, education level, self-reported diabetes, OCP usage, supplement intake, colitis and lactose intolerance.

4 Model 3: Further adjusted for meal regularity (non-regular, regular), eating rate (non-quick, quick or <10min), breakfast consumption, intra-meal fluid intake (never or sometimes, often or always), spicy food intake (never, 1-3, 4-6, ≥7 times/week), fried food intake (ordinal), frequency of fluid intake (ordinal), chewing efficiency (not well, well), chocolate consumption, tea consumption and coffee consumption.