Table S1. BMI and habitual dietary intakes in rotating shift (RS) breakfast-consumers and RS breakfast-skippers relative to day shift (DS) breakfast consumers in multivariable linear model analysis

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Dependent variables | RS breakfast-consumers | | |  | RS breakfast-skippers | | |
|  | B | Robust SE | *P* value |  | B | Robust SE | *P* value |
| BMI | **0.41** | **0.17** | **0.015** |  | **0.56** | **0.15** | **< 0.001** |
| Dietary intake |  |  |  |  |  |  |  |
| Total energy intake | **88.03** | **29.35** | **0.003** |  | **−99.12** | **28.39** | **< 0.001** |
| Nutrient intake |  |  |  |  |  |  |  |
| Protein | 0.52 | 0.68 | 0.452 |  | −0.99 | 0.61 | 0.107 |
| Fat | 0.09 | 0.68 | 0.897 |  | 0.84 | 0.63 | 0.177 |
| Carbohydrate | −0.47 | 1.90 | 0.803 |  | −1.27 | 1.75 | 0.467 |
| Food group consumption |  |  |  |  |  |  |  |
| Grains | 6.18 | 7.05 | 0.381 |  | **−13.29** | **6.65** | **0.046** |
| Potatoes and starches | −1.00 | 1.76 | 0.572 |  | −2.79 | 1.56 | 0.073 |
| Beans | 0.15 | 2.93 | 0.959 |  | −3.65 | 2.56 | 0.153 |
| Nuts and seeds | 0.11 | 0.23 | 0.624 |  | 0.08 | 0.20 | 0.688 |
| Green/yellow vegetables | −1.06 | 2.46 | 0.668 |  | **−6.86** | **2.23** | **0.002** |
| White vegetables | −1.35 | 4.15 | 0.744 |  | −4.72 | 3.58 | 0.188 |
| Fruits | −3.45 | 4.00 | 0.388 |  | 4.75 | 3.66 | 0.194 |
| Algae | −0.28 | 0.25 | 0.256 |  | **−0.47** | **0.20** | **0.021** |
| Fish and shellfish | −2.19 | 2.56 | 0.391 |  | −1.68 | 2.16 | 0.437 |
| Meats | 3.65 | 2.99 | 0.221 |  | 0.30 | 2.65 | 0.911 |
| Eggs | 0.71 | 1.05 | 0.497 |  | −0.06 | 0.94 | 0.946 |
| Dairy products | 5.27 | 6.87 | 0.444 |  | −3.72 | 5.92 | 0.531 |
| Fats and oils | −0.30 | 0.38 | 0.431 |  | −0.53 | 0.34 | 0.118 |
| Confectioneries/savoury snacks | 0.51 | 2.96 | 0.863 |  | **11.68** | **2.78** | **< 0.001** |
| Alcoholic beverages | −3.91 | 4.89 | 0.424 |  | 2.76 | 4.69 | 0.556 |
| Sugar-sweetened beverages | 0.18 | 5.58 | 0.975 |  | **23.50** | **6.12** | **< 0.001** |

B, unstandardized coefficient; SE, standard error.

Adjusted by age, BMI at 20 years of age, years of experience as a nurse, years of experience as a rotating shift worker, marital status, resident status, drinking habit, smoking habit, habitual sleep durations on nights between day shifts and between days off, physical activity level, and MEQ score.

Table S2. Coefficients of habitual dietary intake on BMI in rotating shift workers in multivariable liner model analysis (model 2a)

|  |  |  |  |
| --- | --- | --- | --- |
|  | B | Robust SE | *P* value |
| Total energy intake | **0.08** | **0.02** | **<0.001** |
| Grains | 0.29 | 0.18 | 0.099 |
| Potatoes and starches | −0.03 | 0.31 | 0.910 |
| Beans | −0.16 | 0.23 | 0.483 |
| Nuts and seeds | −0.28 | 2.19 | 0.900 |
| Green/yellow vegetables | 0.12 | 0.32 | 0.706 |
| White vegetables | −0.04 | 0.20 | 0.855 |
| Fruits | −0.01 | 0.15 | 0.919 |
| Algae | 2.96 | 2.41 | 0.218 |
| Fish and shellfish | −0.08 | 0.26 | 0.757 |
| Meats | 0.52 | 0.32 | 0.104 |
| Eggs | 0.82 | 0.57 | 0.152 |
| Dairy products | 0.00 | 0.09 | 0.993 |
| Fats and oils | **3.30** | **1.53** | **0.031** |
| Confectioneries/savoury snacks | −0.05 | 0.37 | 0.896 |
| Alcoholic beverages | −0.06 | 0.09 | 0.493 |
| Sugar-sweetened beverages | 0.14 | 0.09 | 0.126 |

per 100 kcal or 100 g

aThe analysis for examining the effects of breakfast skipping on days of the day shift, breakfast skipping on start days of the evening/night shift, and breakfast skipping on end days of the evening/night shift on BMI, with adjusting total energy intake, food consumption, and the selected covariates.