**“Temporal patterns of energy intake identified by the latent class analysis in relation to prevalence of overweight and obesity in Iranian adults”.**

OnlineSupplementary Material including Supplementary Figure 1 and Supplementary Tables 1-2

Excluded (n=75)

Missing data on meal timing (n=75)

Participants included

(n=775)

Excluded (n=161)

Older than 60 years (n=82) Not interested to participate (n=79)

Fulfilled inclusion criteria

(n=850)

Assessed for enrolment

(n=1011)

**Supplementary Figure 1**. Flowchart of the study.

**Supplementary Table 1**. The association between temporal eating patterns and likelihood of overweight and obesity in the study participants after controlling for energy misreporting1.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Conventional | Earlier breakfast | Later lunch |
| Overweight (BMI 25-29.9 kg/m2)  |  |  |  |
| All participants (cases/noncases) | 124/156 | 61 /70 | 153 /211 |
| Adjusted odds ratio (95%CI) | 1.00 | 1.06 (0.69, 1.67) | 0.89 (0.65, 1.21) |
| p-value1 | - | 0.71 | 0.50 |
| Women (cases/noncases) | 78/117 | 41/48 | 93/150 |
| Adjusted odds ratio (95%CI) | 1.00 | 1.21 (0.70, 2.03) | 0.92 (0.66, 1.38) |
| p-value | - | 0.51 | 0.69 |
| Men (cases/noncases) | 46/39 | 20/22 | 60/61 |
| Adjusted odds ratio (95%CI) | 1.00 | 0.90 (0.41, 2.00) | 0.86 (0.49, 1.51) |
| p-value | - | 0.72 | 0.50 |
| Obesity (BMI ≥ 30 kg/m2) |  |  |  |
| All participants (cases/noncases) | 86/194 | 28/103 | 101/263 |
| Adjusted odds ratio (95%CI) | 1.00 | **0.38 (0.22, 0.70)** | 0.87 (0.60, 1.36) |
| p-value | - | 0.003 | 0.51 |
| Women (cases/noncases) | 68/127 | 18/71 | 73/170 |
| Adjusted odds ratio (95%CI) | 1.00 | **0.29 (0.18, 0.61)** | 0.84 (0.48, 1.41) |
| p-value | - | 0.001 | 0.48 |
| Men (cases/noncases) | 18/67 | 10/32 | 28/93 |
| Adjusted odds ratio (95%CI) | 1.00 | 0.70 (0.24, 2.10) | 0.97 (0.43, 2.09) |
| p-value | - | 0.42 | 0.84 |
| 1 Adjusted for age, sex (in the main analysis), smoking status, physical activity, educational level, occupation, marital status, sleep duration, chronotype, frequency of eating occasions, ratio of energy intake to energy expenditure, and total energy intake. Abbreviations: BMI, body mass index.  |

**Supplementary Table 2**. The association between temporal eating patterns and likelihood of overweight and obesity in the study participants after exclusion of participants with under- and overreporting of energy intake (n=531)1.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Conventional | Earlier breakfast | Later lunch |
| Overweight (BMI 25-29.9 kg/m2) |  |  |  |
| All participants (cases/noncases) | 79/109 | 37/50 | 109/147 |
| Crude  | 1.00  | 1.13 (0.66, 1.91) | 1.01 (0.68, 1.48) |
| p-value | - | 0.66 | 0.99 |
| Adjusted2 | 1.00 | 1.10 (0.65, 1.91) | 1.00 (0.70, 1.51) |
| p-value | - | 0.71 | 0.89 |
| Women (cases/noncases) | 45/80 | 23/33 | 62/106 |
| Crude  | 1.00 | 1.40 (0.72, 2.73) | 1.02 (0.63, 1.66) |
| p-value | - | 0.32 | 0.94 |
| Adjusted | 1.00 | 1.41 (0.80, 2.82) | 1.01 (0.63, 1.67) |
| p-value | - | 0.26 | 0.89 |
| Men (cases/noncases) | 34/29 | 14/17 | 47/41 |
| Crude  | 1.00 | 0.74 (0.31, 1.79) | 0.96 (0.50, 1.85) |
| p-value | - | 0.51 | 0.90 |
| Adjusted | 1.00 | 0.84 (0.35, 2.08) | 1.01 (0.53, 2.09) |
| p-value | - | 0.61 | 0.84 |
| Obesity (BMI ≥ 30 kg/m2) |  |  |  |
| All participants (cases/noncases) | 54/134 | 17/70 | 68/188 |
| Crude  | 1.00 | 0.64 (0.34, 1.09) | 0.88 (0.58, 1.35) |
| p-value | - | 0.16 | 0.56 |
| Adjusted | 1.00 | **0.59 (0.31, 0.97)** | 0.90 (0.57, 1.37) |
| p-value | - | 0.042 | 0.60 |
| Women (cases/noncases) | 42/83 | 9/47 | 49/119 |
| Crude  |  | **0.40 (0.18, 0.91)** | 0.79 (0.48, 1.32) |
| p-value | - | 0.028 | 0.32 |
| Adjusted | 1.00 | **0.34 (0.18, 0.78)** | 0.84 (0.50, 1.43) |
| p-value | - | 0.02 | 0.49 |
| Men (cases/noncases) | 12/51 | 8/23 | 19/69 |
| Crude  | 1.00 | 1.56 (0.56, 4.36) | 1.16 (0.51, 2.61) |
| p-value | - | 0.40 | 0.72 |
| Adjusted | 1.00 | 1.35 (0.47, 4.00) | 1.02 (0.49, 2.49) |
| p-value | - | 0.67 | 0.93 |
| 1  The results are reported as odds ratio and 95% confidence interval.2 Adjusted for age, sex (in the main analysis), smoking status, physical activity, educational level, occupation, marital status, sleep duration, chronotype, frequency of eating occasions, and total energy intake. Abbreviations: BMI, body mass index.  |