**Supplemental** **Table 1. MIND diet components**

|  |  |
| --- | --- |
| **Brain healthy food** | **components** |
| Green leafy vegetable | Lettuce, greens, Cabbage, spinach |
| Other vegetables | Tomato, corn, bell pepper, potato, tomato sauce, cucumber, Green pepper, eggplant, celery, green beans, green peas, carrots, onions, sweet peppers, beets, mushroom |
| Berries | Strawberries (strawberry, cherries, fresh berries) |
| Nuts | Walnuts, pistachios, hazelnuts, almonds, peanuts, Seeds |
| Whole grains | Iranian breads, barley, semolina |
| Fish | Fish |
| Beans | Beans, lentils, peas, chick pea, mung bean, cotyledon |
| Poultry | Chicken |
| Olive oil | Olive oil |
| **Brain unhealthy foods** |  |
| Butter, margarine | Butter, cream, hydrogenated fats, margarine, animal fats |
| Cheese | Cheese, cream Cheese |
| Red meat and products | Red meat, hamburger, sausages |
| Fast fried foods | Fries, pizza, fried onion, chips |
| Pastries and sweets | Biscuit, cake, chocolate, dessert, flavored milk, ice cream, candy, sugar, honey, jam, soft drink, confections, Iranian confectionary (Gaz, Sohan, halva, and noghl), halva-tanini |

**Supplemental Table 2. Multivariable-adjusted odds ratio for MUO (based on IDF/HOMA-IR criteria) across tertiles of MIND diet score stratified by BMI categories (n=203)1**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Participants with overweight (n=104)** | | | | **Participants with obesity (n=99)** | | | |
|  | Tertiles of MIND diet score | | | | Tertiles of MIND diet score | | | |
|  | T1  score <6 | T2  score 6-8 | T3  score >8 | Ptrend | T1  score <6 | T2  score 6-8 | T3  score >8 | Ptrend |
| **MUO phenotype based on IDF criteria** |  |  |  |  |  |  |  |  |
| Participants/ cases (n) | 30/15 | 31/11 | 43/2 |  | 40/27 | 33/15 | 26/9 |  |
| Crude | 1.00 | 0.55 (0.20-1.54) | 0.05 (0.01-0.24) | <0.001 | 1.00 | 0.40 (0.16-1.04) | 0.25 (0.09-0.72) | 0.01 |
| Model 1 | 1.00 | 0.52 (0.17-1.56) | 0.05 (0.01-0.24) | <0.001 | 1.00 | 0.38 (0.14-1.03) | 0.26 (0.08-0.78) | 0.01 |
| Model 2 | 1.00 | 0.36 (0.11-1.20) | 0.06 (0.01-0.36) | 0.01 | 1.00 | 0.45 (0.16-1.24) | 0.38 (0.11-1.31) | 0.09 |
| **MUO phenotype based on IDF/HOMA-IR criteria** |  |  |  |  |  |  |  |  |
| Participants/ cases (n) | 30/12 | 31/7 | 43/1 |  | 40/26 | 33/12 | 26/9 |  |
| Crude | 1.00 | 0.44 (0.14-1.33) | 0.04 (0.01-0.30) | <0.001 | 1.00 | 0.31 (0.12-0.81) | 0.29 (0.10-0.80) | 0.01 |
| Model 1 | 1.00 | 0.34 (0.10-1.13) | 0.04 (0.01-0.34) | 0.01 | 1.00 | 0.28 (0.10-0.76) | 0.28 (0.09-0.87) | 0.02 |
| Model 2 | 1.00 | 0.27 (0.07-0.96) | 0.08 (0.01-0.75) | 0.01 | 1.00 | 0.30 (0.11-0.85) | 0.39 (0.11-1.35) | 0.07 |

Abbreviations: BMI: Body Mass Index; HOMA-IR: Homeostasis Model Assessment Insulin Resistance; IDF: International Diabetes Federation; T: Tertile; MIND diet: Mediterranean-DASH Intervention for Neurodegenerative Delay diet; MUO: Metabolically unhealthy overweight/obesity.

1All values are odds ratios and 95% confidence intervals. Model 1: Adjusted for age, sex, energy intake. Model 2: More adjustments for physical activity levels, socioeconomic status.

**Supplemental Table 3. Multivariable-adjusted odds ratio for MUO (based on IDF/HOMA-IR criteria) across tertiles of MIND diet score stratified by sex (n=203)1**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Girls (n=102)** | | | | **Boys (n=101)** | | | |
|  | Tertiles of MIND diet score | | | | Tertiles of MIND diet score | | | |
|  | T1  score <6 | T2  score 6-8 | T3  score >8 | Ptrend | T1  score <6 | T2  score 6-8 | T3  score >8 | Ptrend |
| **MUO phenotype based on IDF criteria** |  |  |  |  |  |  |  |  |
| Participants/ cases (n) | 40/23 | 30/15 | 32/4 |  | 30/19 | 34/11 | 37/7 |  |
| Crude | 1.00 | 0.74 (0.28-1.91) | 0.11 (0.03-0.36) | <0.001 | 1.00 | 0.28 (0.10-0.78) | 0.14 (0.05-0.41) | <0.001 |
| Model 1 | 1.00 | 0.65 (0.23-1.81) | 0.10 (0.03-0.35) | <0.001 | 1.00 | 0.23 (0.08-0.70) | 0.13 (0.04-0.43) | 0.01 |
| Model 2 | 1.00 | 0.55 (0.19-1.66) | 0.12 (0.03-0.53) | 0.01 | 1.00 | 0.27 (0.09-0.85) | 0.23 (0.06-0.85) | 0.02 |
| Model 3 | 1.00 | 0.56 (0.19-1.67) | 0.12 (0.03-0.53) | 0.01 | 1.00 | 0.23 (0.07-0.76) | 0.16 (0.04-0.65) | 0.01 |
| **MUO phenotype based on IDF/HOMA-IR criteria** |  |  |  |  |  |  |  |  |
| Participants/ cases (n) | 40/20 | 30/9 | 32/3 |  | 30/18 | 34/10 | 37/7 |  |
| Crude | 1.00 | 0.43 (0.16-1.16) | 0.10 (0.03-0.40) | <0.001 | 1.00 | 0.28 (0.10-0.78) | 0.16 (0.05-0.47) | 0.01 |
| Model 1 | 1.00 | 0.32 (0.11-0.98) | 0.09 (0.02-0.41) | 0.01 | 1.00 | 0.24 (0.08-0.71) | 0.16 (0.05-0.54) | 0.01 |
| Model 2 | 1.00 | 0.29 (0.09-0.97) | 0.14 (0.03-0.78) | 0.01 | 1.00 | 0.28 (0.09-0.87) | 0.29 (0.08-1.09) | 0.04 |
| Model 3 | 1.00 | 0.30 (0.09-1.01) | 0.14 (0.03-0.82) | 0.01 | 1.00 | 0.25 (0.08-0.80) | 0.21 (0.05-0.87) | 0.02 |

Abbreviations: HOMA-IR: Homeostasis Model Assessment Insulin Resistance; IDF: International Diabetes Federation; T: Tertile; MIND diet: Mediterranean-DASH Intervention for Neurodegenerative Delay diet; MUO: Metabolically unhealthy overweight/obesity.

1All values are odds ratios and 95% confidence intervals. Model 1: Adjusted for age, energy intake. Model 2: More adjustments for physical activity levels, socioeconomic status. Model 3: Further adjustment was made for BMI