Pre-pregnancy diet quality is associated with lowering risk of offspring obesity and underweight: finding from prospective cohort study

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Online Supplementary Materials
**Supplementary Table 1.** Multinomial logistic regression model of offspring BMI categories with HEI-2015 score and pre-pregnancy BMI, with stratified interaction model

| Offspring BMI categories | Pre-pregnancy BMI | HEI-2015 score | Unadjusted RRR (95% CI) | Adjusted RRR (95% CI) ^a |
|-------------------------|------------------|----------------|------------------------|-------------------------|
| Underweight             | Healthy weight, < 25 kg/m² | Quartile 1 | 1.00 | 1.00 |
|                         |                  | Quartile 2 | 0.84 (0.58, 1.21) | 0.89 (0.61, 1.30) |
|                         |                  | Quartile 3 | 0.71 (0.49, 1.02) | 0.84 (0.57, 1.23) |
|                         |                  | Quartile 4 | 0.73 (0.50, 1.05) | 0.79 (0.54, 1.15) |
| Overweight, 25 - <30 kg/m² | Quartile 1 | 1.00 | 1.00 |
|                         |                  | Quartile 2 | 1.04 (0.48, 2.21) | 1.06 (0.47, 2.39) |
|                         |                  | Quartile 3 | 0.74 (0.32, 1.72) | 0.68 (0.28, 1.65) |
|                         |                  | Quartile 4 | 0.56 (0.24, 1.34) | 0.56 (0.22, 1.41) |
| Obese, ≥30 kg/m²        | Quartile 1 | 1.00 | 1.00 |
|                         |                  | Quartile 2 | 1.46 (0.48, 4.40) | 1.52 (0.49, 4.68) |
|                         |                  | Quartile 3 | 0.80 (0.20, 3.09) | 0.76 (0.19, 2.98) |
|                         |                  | Quartile 4 | 0.33 (0.06, 1.74) | 0.35 (0.06, 1.87) |
|                         | p-values for interaction | | 0.48 | 0.46 |
| Overweight              | Healthy weight, < 25 kg/m² | Quartile 1 | 1.00 | 1.00 |
|                         |                  | Quartile 2 | 1.25 (0.82, 1.89) | 1.42 (0.91, 2.20) |
|                         |                  | Quartile 3 | 1.08 (0.70, 1.66) | 1.18 (0.75, 1.85) |
|                         |                  | Quartile 4 | 1.21 (0.80, 1.84) | 1.29 (0.82, 2.03) |
| Overweight, 25 - <30 kg/m² | Quartile 1 | 1.00 | 1.00 |
|                         |                  | Quartile 2 | 0.70 (0.33, 1.46) | 0.65 (0.30, 1.43) |
|                         |                  | Quartile 3 | 0.91 (0.44, 1.91) | 0.91 (0.41, 1.98) |
|                         |                  | Quartile 4 | 0.55 (0.26, 1.18) | 0.49 (0.22, 1.11) |
| Obese, ≥30 kg/m²        | Quartile 1 | 1.00 | 1.00 |
|                         |                  | Quartile 2 | 0.75 (0.31, 1.78) | 0.67 (0.27, 1.66) |
|                         |                  | Quartile 3 | 0.78 (0.34, 1.82) | 0.63 (0.24, 1.65) |
|                         |                  | Quartile 4 | 0.56 (0.22, 1.43) | 0.65 (0.25, 1.69) |
|                   | p-values for interaction |         |         |
|-------------------|--------------------------|---------|---------|
| Obese             |                          | 0.71    | 0.58    |
| Healthy weight,   |                          |         |         |
| < 25 kg/m²        | Quartile 1               | 1.00    |         |
|                   | Quartile 2               | 0.42 (0.16, 1.09) |         |
|                   | Quartile 3               | 0.80 (0.37, 1.74) |         |
|                   | Quartile 4               | 0.51 (0.20, 1.31) |         |
| Overweight,       |                          | 1.00    |         |
| 25 - <30 kg/m²    | Quartile 1               | 1.00    |         |
|                   | Quartile 2               | 2.35 (0.51, 10.85) |         |
|                   | Quartile 3               | 0.98 (0.24, 4.03) |         |
|                   | Quartile 4               | 1.27 (0.25, 6.45) |         |
| Obese, ≥30 kg/m²  |                          |         |         |
|                   | Quartile 1               | 1.00    |         |
|                   | Quartile 2               | 2.39 (0.64, 8.84) |         |
|                   | Quartile 3               | 0.99 (0.28, 3.47) |         |
|                   | Quartile 4               | 0.29 (0.05, 1.77) |         |

**Note:** Adjusted for maternal education, smoking status, physical activity, household income, child diets, sex, age, and breast feeding status. In both models, women with a lowest quartile of HEI-2015 score and children with normal weight are used as reference groups.
**Supplementary table 2.** Stability and changes in HEI-2015 scores from before pregnancy to during pregnancy (n= 310)  

| Dietary patterns  | Period        | Mean (SD)     | Spearman’s correlation coefficient (r) |
|-------------------|---------------|---------------|---------------------------------------|
| HEI-2015 score    | Before pregnancy | 58.4 (12.1)   | 0.38                                  |
|                   | During pregnancy | 59.7 (10.9)   |                                       |
|                   | Mean difference  | 1.3 (12.7)    |                                       |
|                   |  P-value       | 0.07          | < 0.0001                               |

  
a Values are mean (SD) and correlation coefficients (r), p-values from and paired t-test and Spearman’s correlation