Supplemental Table S1. Natural direct, natural indirect (via birthweight) and total causal effects of pre-pregnancy BMI on children’s anthropometric outcomes (z scores) in a sensitivity analysis that excluded children born prematurely, and/or born to women with pre-existing hypertension or diabetes

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| --- | --- | --- | --- |
|  | Pre-pregnancy BMI  |  | Categorical pre-pregnancy BMI |
|  | Per 1 kg/m2 increase |  | Pre-pregnancy overweight | Pre-pregnancy obesity |
|  | Estimate  | 95% CI  |  | Estimate  | 95% CI  | Estimate  | 95% CI  |
| BMI-for-age (n=1,415) |  |  |  |  |  |  |  |
| NDE | 0.10 | 0.02, 0.19 |  | 0.33 | 0.18, 0.48 | 0.67 | 0.45, 0.89 |
| NIE | -0.02 | -0.10, 0.05 |  | -0.03 | -0.11, 0.06 | +0.00 | -0.08, 0.09 |
| TCE | 0.08 | -0.01, 0.16 |  | 0.30 | 0.15, 0.45 | 0.67 | 0.46, 0.89 |
| Height-for-age (n=1,432) |  |  |  |  |  |  |  |
| NDE | -0.00 | -0.08, 0.08 |  | -0.05 | -0.19, 0.10 | 0.13 | -0.06, 0.33 |
| NIE | -0.06 | -0.14, 0.02 |  | -0.04 | -0.12, 0.05 | -0.03 | -0.12, 0.06 |
| TCE | -0.06 | -0.41, 0.02 |  | -0.08 | -0.23, 0.06 | 0.10 | -0.10, 0.30 |
| Weight-for-age (n=1,432) |  |  |  |  |  |  |  |
| NDE | 0.09 | 0.01, 0.16 |  | 0.22 | 0.09, 0.36 | 0.60 | 0.41, 0.80 |
| NIE | -0.05 | -0.12, 0.02 |  | -0.03 | -0.12, 0.05 | -0.02 | -0.10, 0.06 |
| TCE | 0.04 | -0.04, 0.11 |  | 0.19 | 0.05, 0.32 | 0.58 | 0.39, 0.78 |
| Weight-for-height (n=384) |  |  |  |  |  |  |  |
| NDE | 0.05 | -0.10, 0.19 |  | 0.35 | 0.10, 0.61 | 0.71 | 0.36, 1.07 |
| NIE | 0.01 | -0.13, 0.14 |  | -0.07 | -0.21, 0.08 | 0.08 | -0.06, 0.23 |
| TCE | 0.05 | -0.09, 0.20 |  | 0.29 | 0.03, 0.54 | 0.80 | 0.45, 1.15 |

*Abbreviations: BMI, body mass index; GDM, gestational diabetes mellitus; HDP, hypertensive disorders of pregnancy, NDE, natural direct effect; NIE, natural indirect effect; TCE, total causal effect*

*Note for each child outcome, four simultaneous models were fitted: child outcome model, mediator model, and two mediator-outcome confounder models (GDM and HDP).*

*All models were adjusted for maternal background factors (age, parity, area of residence, education, smoking and physical activity).*

*The mediator (birthweight) model was further adjusted for GDM and HDP*

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