**Title**

Associations between newborn Thyroid Stimulating Hormone concentration and neurodevelopment and growth of children at 18 months

**Author Names**

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**Supplemental Table 1** Comparison of observed vs. imputed values

| Variables | DOMInO | | | | | | | | | | PINK | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Observed cases | | | | | | Imputed casesa | | | | Observed cases | | | | Imputed casesa | | | |
|  | N | Mean | | SD | | n (%) | N | Mean | SD | n (%) | N | Mean | SD | n (%) | N | Mean | SD | n (%) |
| Mother characteristics |  |  | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Age at enrolment, y | 724 | 28.7 | 5.8 | | |  | 724 |  |  | NA | 741 | 30.0 | 5.0 |  | 743 | 29.6 | 5.2 |  |
| Weight, kg | 718 | 73.7 | 16.3 | | |  | 724 | 73.7 | 16.4 |  | 739 | 70.6 | 16.0 |  | 743 | 70.8 | 16.5 |  |
| Height, cm | 724 | 1.6 | 0.1 | | |  | 724 |  |  | NA | 740 | 1.6 | 0.1 |  | 743 | 1.6 | 0.1 |  |
| BMI, kg/m2 | 718 | 27.3 | 5.9 | | |  | 724 | 27.3 | 5.9 |  | 739 | 26.1 | 5.4 |  | 743 | 26.2 | 5.7 |  |
| HSQ score | 687 | 33.5 | 3.6 | | |  | 724 | 33.4 | 3.6 |  | 662 | 33.0 | 2.9 |  | 743 | 33.1 | 3.0 |  |
| Hospital | 724 |  |  | | |  | 724 |  |  |  | 743 |  |  |  | 743 |  |  |  |
| FMC |  |  |  | | | 256 (35.4) |  |  |  | NA |  |  |  | 378 (50.9) |  |  |  | NA |
| WCH |  |  |  | | | 468 (64.6) |  |  |  | NA |  |  |  | 365 (49.1) |  |  |  | NA |
| Parity | 724 |  |  | | |  | 724 |  |  |  | 743 |  |  |  | 743 |  |  |  |
| 0 |  |  |  | | | 403 (55.7) |  |  |  | NA |  |  |  | 404 (54.4) |  |  |  | NA |
| ≥1 |  |  |  | | | 321 (44.3) |  |  |  | NA |  |  |  | 339 (45.6) |  |  |  | NA |
| Race | 724 |  |  | | |  | 724 |  |  |  | 743 |  |  |  | 743 |  |  |  |
| Caucasian |  |  |  | | | 661 (91.3) |  |  |  | NA |  |  |  | 631 (84.9) |  |  |  | NA |
| Others |  |  |  | | | 63 (8.7) |  |  |  | NA |  |  |  | 112 (15.1) |  |  |  | NA |
| Occupation | 724 |  |  | | |  | 724 |  |  |  | 743 |  |  |  | 743 |  |  |  |
| Managers |  |  |  | | | 165 (22.8) |  |  |  | NA |  |  |  | 42 (5.6) |  |  |  | NA |
| Professionals |  |  |  | | | 164 (22.7) |  |  |  | NA |  |  |  | 248 (33.4) |  |  |  | NA |
| Sales, trades person, clerical service |  |  |  | | | 200 (27.6) |  |  |  | NA |  |  |  | 310 (41.7) |  |  |  | NA |
| Labourers |  |  |  | | | 0 |  |  |  | NA |  |  |  | 16 (2.2) |  |  |  | NA |
| Unemployed/pension |  |  |  | | | 24 (3.3) |  |  |  | NA |  |  |  | 13 (1.7) |  |  |  | NA |
| Student |  |  |  | | | 29 (4.0) |  |  |  | NA |  |  |  | 25 (3.4) |  |  |  | NA |
| Home duties |  |  |  | | | 142 (19.6) |  |  |  | NA |  |  |  | 89 (12.0) |  |  |  | NA |
| Secondary education | 724 |  |  | | | 448 (61.9) | 724 |  |  | NA | 743 |  |  | 613 (82.5) | 743 |  |  | NA |
| Qualification | 724 |  |  | | |  | 724 |  |  |  | 743 |  |  |  | 743 |  |  |  |
| Certificate or Diploma |  |  |  | | | 316 (43.7) |  |  |  | NA |  |  |  | 258(34.7) |  |  |  | NA |
| Degree |  |  |  | | | 142 (19.6) |  |  |  | NA |  |  |  | 307 (41.3) |  |  |  | NA |
| Higher Degree |  |  |  | | | 25 (3.5) |  |  |  | NA |  |  |  | 75 (10.1) |  |  |  | NA |
| None |  |  |  | | | 241 (33.3) |  |  |  | NA |  |  |  | 103 (13.9) |  |  |  | NA |
| Smoking during second trimester | 724 |  |  | | | 113 (15.6) | 724 |  |  | NA | 743 |  |  | 43 (5.8) | 743 |  |  | NA |
| Previous smoking | 724 |  |  | | | 227 (31.4) | 724 |  |  | NA | 743 |  |  | 98 (13.2) | 743 |  |  | NA |
| Alcohol consumption during second trimester | 724 |  |  | | | 76 (10.5) | 724 |  |  | NA | 743 |  |  | 38 (5.1) | 743 |  |  | NA |
| Previous alcohol consumption | 724 |  |  | | | 445 (61.5) | 724 |  |  | NA | 743 |  |  | 494 (66.5) | 743 |  |  | NA |
| Supplement intake during second trimester | 724 |  |  | | | 351 (48.5) | 724 |  |  | NA | 743 |  |  | 661 (89.0) | 743 |  |  | NA |
| Previous depression | 724 |  |  | | | 158 (21.8) | 724 |  |  | NA | 743 |  |  | 154 (20.7) | 743 |  |  | NA |
| Depression during second trimester | 724 |  |  | | | 47 (6.5) | 724 |  |  | NA | 743 |  |  | 45 (6.1) | 743 |  |  | NA |
| Caesarean section | 724 |  |  | | | 203 (28.0) | 724 |  |  | NA | 742 |  |  | 200 (27.0) | 743 |  |  | 200 (27.0) |
| Father characteristics |  |  |  | | |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Secondary education | 724 |  |  | | | 387(53.5) | 724 |  |  | NA | 734 |  |  | 546 (74.4) | 743 |  |  | 551 (74.2) |
| Qualification | 689 |  |  | | |  | 724 |  |  |  | 742 |  |  |  | 743 |  |  |  |
| Certificate/Diploma |  |  |  | | | 312 (45.3) |  |  |  | 326 (45.0) |  |  |  | 292 (39.5) |  |  |  | 292 (39.3) |
| Degree |  |  |  | | | 106 (15.4) |  |  |  | 111 (15.3) |  |  |  | 198 (26.9) |  |  |  | 198 (26.7) |
| Higher Degree |  |  |  | | | 27 (3.9) |  |  |  | 28 (4.0) |  |  |  | 73 (9.8) |  |  |  | 73 (9.8) |
| None |  |  |  | | | 244 (35.4) |  |  |  | 259 (35.7) |  |  |  | 179 (24.1) |  |  |  | 179 (24.1) |
| Occupation | 692 |  |  | | |  | 724 |  |  |  | 733 |  |  |  | 743 |  |  |  |
| Managers |  |  |  | | | 126 (18.2) |  |  |  | 130 (17.9) |  |  |  | 86 (11.7) |  |  |  | 87 (11.7) |
| Professionals |  |  |  | | | 299 (43.2) |  |  |  | 310 (42.8) |  |  |  | 220 (30.0) |  |  |  | 222 (29.8) |
| Sales, trades person, clerical service |  |  |  | | | 207 (29.9) |  |  |  | 219 (30.2) |  |  |  | 326 (44.5) |  |  |  | 331 (44.6) |
| Labourers |  |  |  | | | 2 (0.3) |  |  |  | 2 (0.3) |  |  |  | 70 (9.5) |  |  |  | 72 (9.6) |
| Unemployed/pension |  |  |  | | | 33 (4.8) |  |  |  | 36 (5.0) |  |  |  | 16 (2.2) |  |  |  | 16 (2.2) |
| Student |  |  |  | | | 21 (3.0) |  |  |  | 23 (3.2) |  |  |  | 9 (1.2) |  |  |  | 9 (1.2) |
| Home duties |  |  |  | | | 4 (0.6) |  |  |  | 4 (0.6) |  |  |  | 6 (0.8) |  |  |  | 6 (0.8) |
| Child characteristics |  |  |  | | |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sex | 724 |  |  | | |  | 724 |  |  |  | 742 |  |  |  | 743 |  |  |  |
| Female |  |  |  | | | 360 (49.7) |  |  |  | NA |  |  |  | 362 (48.8) |  |  |  | 362 (48.7) |
| Male |  |  |  | | | 364 (50.3) |  |  |  | NA |  |  |  | 380 (51.2) |  |  |  | 381 (51.2) |
| Gestational age at birth, weeks | 724 | 38.7 | 2.2 | | |  | 724 |  |  | NA | 742 | 39.1 | 1.7 |  | 743 | 39.0 | 1.8 |  |
| Birth Weight, gm | 723 | 3391.8 | 607.8 | | |  | 724 | 3390.7 | 608.1 |  | 741 | 3411.8 | 519.4 |  | 743 | 3364.3 | 540.0 |  |
| Birthweight-for-gestational age z score | 723 | 0.2 | 1.0 | | |  | 724 | 0.2 | 1.0 |  | 741 | 0.0 | 1.0 |  | 743 | 0.0 | 1.0 |  |
| Birth Length, cm | 720 | 49.5 | 3.0 | | |  | 724 | 49.5 | 3.0 |  | 721 | 49.9 | 2.4 |  | 743 | 49.7 | 2.7 |  |
| Birth Head circumference, cm | 715 | 34.5 | 2.0 | | |  | 724 | 34.8 | 2.0 |  | 714 | 34.6 | 1.5 |  | 743 | 34.5 | 1.6 |  |
| Age at outcome assessment, months | 695 | 18.8 | 1.7 | | |  | 724 | 18.8 | 1.8 |  | 659 | 19.7 | 2.2 |  | 743 | 19.2 | 7.7 |  |
| 1 minute APGAR score | 720 | 8.2 | 1.4 | | |  | 724 | 8.2 | 1.4 |  | 738 | 8.2 | 1.4 |  | 743 | 8.2 | 1.3 |  |
| 5 minute APGAR score | 720 | 9.0 | 0.9 | | |  | 724 | 9.0 | 0.9 |  | 738 | 8.9 | 0.7 |  | 743 | 8.9 | 0.7 |  |
| Newborn TSHb, mIU/L | 590 | 1.7 | (1.0, 2.9) | | |  | 724 | 1.7 | (1.0, 2.9) |  | 656 | 2.2 | (1.4, 3.2) |  | 743 | 2.2 | (1.4, 3.3) |  |
| Newborn TSH quartiles | 590 |  |  | | |  | 724 |  |  |  | 656 |  |  |  | 743 |  |  |  |
| First |  |  |  | | | 148 (25.1) |  |  |  | 183 (25.3) |  |  |  | 164 (25.0) |  |  |  | 186 (25.0) |
| Second |  |  |  | | | 147 (24.9) |  |  |  | 177 (24.4) |  |  |  | 164 (25.0) |  |  |  | 184 (24.7) |
| Third |  |  |  | | | 148 (25.1) |  |  |  | 187 (25.8) |  |  |  | 164 (25.0) |  |  |  | 185 (25.0) |
| Fourth |  |  |  | | | 147 (24.9) |  |  |  | 177 (24.5) |  |  |  | 164 (25.0) |  |  |  | 188 (25.3) |
| Newborn TSH category | 590 |  |  | | |  | 724 |  |  |  | 678 |  |  |  | 743 |  |  |  |
| >5 mIU/L |  |  |  | | | 29 (4.9) |  |  |  | 33 (4.6) |  |  |  | 35 (5.3) |  |  |  | 41 (5.5) |
| ≤5 mIU/L |  |  |  | | | 561 (95.1) |  |  |  | 691 (95.4) |  |  |  | 621 (94.7) |  |  |  | 702 (94.5) |
| Weight, kg | 684 | 11.5 | 1.5 | | |  | 724 | 11.5 | 1.5 |  | 662 | 11.6 | 1.5 |  | 743 | 11.6 | 1.5 |  |
| Length, cm | 685 | 82.4 | 3.4 | | |  | 724 | 82.5 | 3.4 |  | 651 | 83.0 | 3.8 |  | 743 | 82.9 | 4.4 |  |
| Head circumference, cm | 685 | 47.8 | 1.5 | | |  | 724 | 47.9 | 1.5 |  | 640 | 48.2 | 2.1 |  | 743 | 48.3 | 2.8 |  |
| WLZ | 682 | 0.7 | 1.0 | | |  | 724 | 0.7 | 1.0 |  | 649 | 0.6 | 1.3 |  | 743 | 0.7 | 1.6 |  |
| LAZ | 685 | 0.1 | 1.1 | | |  | 724 | 0.1 | 1.1 |  | 650 | -0.1 | 1.2 |  | 743 | -0.1 | 1.3 |  |
| WAZ | 684 | 0.5 | 1.0 | | |  | 724 | 0.5 | 1.0 |  | 661 | 0.5 | 1.4 |  | 743 | 0.5 | 1.9 |  |
| HCZ | 685 | 0.7 | 1.0 | | |  | 724 | 0.7 | 1.0 |  | 638 | 0.8 | 1.3 |  | 743 | 0.9 | 2.3 |  |
| WLZ < - 1 | 682 |  |  | | | 23 (3.4) | 724 |  |  | 25 (3.5) | 649 |  |  | 31 (4.8) | 743 |  |  | 39 (5.3) |
| LAZ < - 1 | 685 |  |  | | | 104 (15.2) | 724 |  |  | 112 (15.5) | 650 |  |  | 95 (14.6) | 743 |  |  | 113 (15.2) |
| WAZ < - 1 | 684 |  |  | | | 35 (5.1) | 724 |  |  | 39 (5.3) | 661 |  |  | 41 (6.2) | 743 |  |  | 51 (6.8) |
| HCZ < - 1 | 685 |  |  | | | 28 (4.1) | 724 |  |  | 30 (4.1) | 638 |  |  | 20 (3.1) | 743 |  |  | 28 (3.8) |
| Cognitive score | 694 | 102.0 | 11.8 | | |  | 724 | 101.9 | 11.9 |  | 680 | 96.8 | 11.5 |  | 743 | 95.3 | 12.2 |  |
| Language score | 692 | 97.4 | 14.5 | | |  | 724 | 97.4 | 14.7 |  | 678 | 94.8 | 17.7 |  | 743 | 93.2 | 18.4 |  |
| Motor score | 694 | 102.6 | 11.1 | | |  | 724 | 102.6 | 11.2 |  | 678 | 99.6 | 10.6 |  | 743 | 98.4 | 12.8 |  |
| Social emotional score | 681 | 107.0 | 17.5 | | |  | 724 | 106.7 | 17.8 |  | 678 | 104.1 | 14.5 |  | 743 | 102.9 | 14.7 |  |
| Adaptive behaviour score | 680 | 100.0 | 14.3 | | |  | 724 | 100.1 | 14.5 |  | 679 | 100.4 | 13.8 |  | 743 | 99.4 | 13.9 |  |
| Cognitive delay (<85) | 694 |  |  | | | 31 (4.5) | 724 |  |  | 35 (4.9) | 680 |  |  | 58 (8.5) | 743 |  |  | 69 (9.2) |
| Language delay (<85) | 692 |  |  | | | 118 (17.1) | 724 |  |  | 126 (17.3) | 678 |  |  | 184(27.1) | 743 |  |  | 208 (28.0) |
| Motor delay (<85) | 694 |  |  | | | 33 (4.8) | 724 |  |  | 37 (5.1) | 678 |  |  | 22 (3.2) | 743 |  |  | 31 (4.1) |
| Social emotional delay (<85) | 681 |  |  | | | 31 (4.6) | 724 |  |  | 36 (5.0) | 678 |  |  | 34 (5.0) | 743 |  |  | 40 (5.4) |
| Adaptive behaviour delay (<85) | 680 |  |  | | | 80 (11.8) | 724 |  |  | 87 (12.0) | 679 |  |  | 70 (10.3) | 743 |  |  | 82 (11.0) |

BMI, body mass index; DOMInO, DHA to Optimize Mother Infant Outcome; HCZ, head circumference-for-age z score; HSQ, home screening questionnaire; LAZ, length-for-age z score; n, total sample size; NA, not applicable; PINK, Pregnancy Iodine and Neurodevelopment in Kids; SD, standard deviation; TSH, thyroid-stimulating hormone; WAZ, weight-for-age z score; WLZ, weight-for-length z score.

aNA when data were complete.

bMedian (IQR).

**Supplemental Table 2** Adjusted associations between newborn TSH tertiles and Bayley-III outcomes at 18 months of age

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | DOMInOa | | | PINKb | | |
|  | n | Bayley-III score | Developmental delayc | n | Bayley-II score | Developmental delayc |
|  |  | MD (95% CI)d | RR (95% CI)e |  | MD (95% CIs)d | RR (95% CI)e |
| Cognitive scale |  |  |  |  |  |  |
| Tertile 1 | 276 | ref | ref | 248 | ref | ref |
| Tertile 2 | 213 | -1.5 (-3.8, 0.8) | 1.5 (0.5, 4.5) | 244 | -0.1 (-2.4, 2.2) | 0.9 (0.5, 1.6) |
| Tertile 3 | 235 | -1.8 (-4.1, 0.4) | 1.4 (0.5, 4.0) | 251 | 1.6 (-0.8, 4.0) | 0.5 (0.2, 0.9) |
| Language scale |  |  |  |  |  |  |
| Tertile 1 | 276 | ref | ref | 248 | ref | ref |
| Tertile 2 | 213 | -0.9 (-3.7, 1.9) | 1.4 (0.9, 2.2) | 244 | 0.4 (-2.8, 3.6) | 1.0 (0.7, 1.4) |
| Tertile 3 | 235 | -1.6 (-4.4, 1.2) | 1.4 (0.9, 2.2) | 251 | 2.7 (-0.4, 5.8) | 1.0 (0.7, 1.3) |
| Motor scale |  |  |  |  |  |  |
| Tertile 1 | 276 | ref | ref | 248 | ref | ref |
| Tertile 2 | 213 | -1.3 (-3.4, 0.8) | 2.3 (0.9, 5.6) | 244 | -0.9 (-3.3, 1.3) | 0.7 (0.3, 1.8) |
| Tertile 3 | 235 | -1.7 (-3.9, 0.6) | 2.0 (0.7, 5.4) | 251 | 1.0 (-1.1, 3.1) | 0.5 (0.2, 1.3) |
| Social emotional scale |  |  |  |  |  |  |
| Tertile 1 | 276 | ref | ref | 248 | ref | ref |
| Tertile 2 | 213 | -0.9 (-4.4, 2.7) | 0.8 (0.3, 2.3) | 244 | 1.6 (-1.2, 4.4) | 1.1 (0.5, 2.8) |
| Tertile 3 | 235 | -1.2 (-5.0, 2.4) | 0.8 (0.3, 1.9) | 251 | 3.0 (0.03, 6.0) | 1.7 (0.4, 3.5) |
| Adaptive behaviour scale |  |  |  |  |  |  |
| Tertile 1 | 276 | ref | ref | 248 | ref | ref |
| Tertile 2 | 213 | -1.0 (-3.9, 1.8) | 1.5 (0.8, 2.6) | 244 | 0.4 (-2.2, 3.1) | 0.9 (0.5, 1.6) |
| Tertile 3 | 235 | -0.4 (-3.3, 2.4) | 1.1 (0.6, 2.0) | 251 | 1.6 (-1.2, 4.5) | 0.7 (0.4, 1.3) |

CI, confidence interval; DOMInO, DHA to Optimize Mother Infant Outcome; MD, mean difference; n, number of participants, PINK, Pregnancy Iodine and Neurodevelopment in Kids; ref, reference category; RR, relative risks; TSH, thyroid-stimulating hormone.

aTSH was categorised into tertiles in DOMInO. DOMInO tertile 1 (Lowest): <1.3 mIU/L; tertile 2: 1.4-2.5 mIU/L; tertile 3 (Highest): ≥2.6 mIU/L.

bTSH was categorised into tertiles in PINK. PINK tertile 1 (Lowest): <1.6 mIU/L; tertile 2: 1.7-2.7 mIU/L; tertile 3 (Highest): ≥2.8 mIU/L.

cDevelopmental delay was defined as Bayley-III scores below 85.

dThe Mean Differences (95% CIs) were estimated with multivariable linear regression model.

eThe Relative Risks (95% CIs) were estimated with multivariable Poisson regression model.

d,eThe regression models were adjusted for sex, parity, race, occupation, education, qualification, smoking during second trimester, previous smoking, alcohol consumption during second trimester, previous alcohol consumption, supplement intake during second trimester, previous depression, depression during second trimester, mode of delivery, mothers age, gestational age at birth, 5 minute Apgar score, mothers BMI, home screening questionnaire score and birthweight-for-gestational age z score in both DOMInO and PINK studies. In addition, treatment group in the DOMInO study was also added to the adjusted models when analysing the DOMInO data.

**Supplemental Table 3** Adjusted associations between newborn TSH quintile and Bayley-III outcomes at 18 months of age

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | DOMInOa | | | PINKb | | |
|  | n | Bayley-III score | Developmental delayc | n | Bayley-III score | Developmental delayc |
|  |  | MD (95% CI)d | RR (95% CI)e |  | MD (95% CIs)d | RR (95% CI)e |
| Cognitive scale |  |  |  |  |  |  |
| Quintile 1 | 166 | ref | ref | 150 | ref | ref |
| Quintile 2 | 147 | -0.5 (-3.6, 2.5) | 1.0 (0.2, 4.9) | 148 | -0.1 (-3.0, 2.9) | 1.5 (0.7, 3.4) |
| Quintile 3 | 116 | -1.5 (-4.7, 1.7) | 1.8 (0.5, 7.1) | 144 | -0.8 (-3.5, 1.9) | 1.1 (0.5, 2.4) |
| Quintile 4 | 143 | -1.3 (-4.2, 1.6) | 1.2 (0.3, 4.7) | 150 | 0.1 (-3.1, 3.2) | 1.1 (0.5, 2.6) |
| Quintile 5 | 152 | -2.3 (-5.2, 0.7) | 1.8 (0.5, 6.0) | 150 | 1.6 (-1.2, 4.5) | 0.5 (0.1, 1.4) |
| Language scale |  |  |  |  |  |  |
| Quintile 1 | 166 | ref | ref | 150 | ref | ref |
| Quintile 2 | 147 | 0.0 (-3.4, 3.4) | 1.2 (0.7, 2.1) | 148 | -2.0 (-6.2, 2.1) | 1.4 (1.0, 2.2) |
| Quintile 3 | 116 | -1.0 (-5.0, 2.9) | 1.5 (0.8, 2.7) | 144 | 0.6 (-3.4, 4.6) | 0.9 (0.6, 1.4) |
| Quintile 4 | 143 | -0.3 (-3.9, 3.3) | 1.4 (0.8, 2.4) | 150 | 0.2 (-3.9, 4.2) | 1.3 (0.9, 2.0) |
| Quintile 5 | 152 | -2.6 (-6.2, 0.9) | 1.4 (0.8, 2.6) | 150 | 2.4 (-1.6, 6.3) | 1.1 (0.7, 1.6) |
| Motor scale |  |  |  |  |  |  |
| Quintile 1 | 166 | ref | ref | 150 | ref | ref |
| Quintile 2 | 147 | -0.1 (-2.8, 2.6) | 1.0 (0.2, 3.8) | 148 | -0.3 (-2.8, 2.2) | 0.9 (0.2, 3.1) |
| Quintile 3 | 116 | -2.0 (-5.1, 1.1) | 2.4 (0.8, 7.3) | 144 | -1.3 (-4.4, 1.8) | 0.7 (0.2, 2.6) |
| Quintile 4 | 143 | -1.0 (-3.8, 1.9) | 0.8 (0.2, 3.5) | 150 | -1.2 (-3.9, 1.4) | 0.8 (0.2, 2.5) |
| Quintile 5 | 152 | -2.3 (-5.3, 0.7) | 2.6 (0.8, 7.9) | 150 | 1.8 (-0.7, 4.4) | 0.4 (0.1, 1.7) |
| Social emotional scale |  |  |  |  |  |  |
| Quintile 1 | 166 | ref | ref | 150 | ref | ref |
| Quintile 2 | 147 | -0.6 (-5.1, 3.9) | 1.0 (0.3, 3.2) | 148 | -1.1 (-5.1, 2.8) | 1.9 (0.6, 6.7) |
| Quintile 3 | 116 | -2.7 (-7.5, 2.1) | 0.7 (0.2, 2.6) | 144 | 1.6 (-2.0, 5.3) | 1.1 (0.3, 4.4) |
| Quintile 4 | 143 | -0.1 (-4.5, 4.4) | 0.7 (0.2, 2.1) | 150 | 0.2 (-3.5, 4.0) | 3.6 (1.1, 11.6) |
| Quintile 5 | 152 | -2.2 (-6.9, 2.4) | 0.7 (0.2, 2.3) | 150 | 3.1 (-0.6, 6.9) | 0.7 (0.1, 3.8) |
| Adaptive Behaviour scale |  |  |  |  |  |  |
| Quintile 1 | 166 | ref | ref | 150 | ref | ref |
| Quintile 2 | 147 | 1.1 (-2.5, 4.7) | 0.8 (0.4, 1.6) | 148 | -2.6 (-6.2, 1.0) | 1.5 (0.7, 305) |
| Quintile 3 | 116 | -1.0 (-4.9, 2.9) | 1.4 (0.7, 2.9) | 144 | -0.6 (-4.1, 2.8) | 1.1 (0.5, 2.8) |
| Quintile 4 | 143 | -0.1 (-3.6, 3.5) | 0.9 (0.4, 1.9) | 150 | -0.03 (-3.6, 3.5) | 1.0 (0.5, 2.1) |
| Quintile 5 | 152 | -0.1 (-3.7, 3.4) | 1.1 (0.6, 2.1) | 150 | 0.4 (-2.9, 3.6) | 0.8 (0.3, 1.8) |

CI, confidence interval; DOMInO, DHA to Optimize Mother Infant Outcome; MD, mean difference; n, number of participants, PINK, Pregnancy Iodine and Neurodevelopment in Kids; ref, reference category; RR, relative risks; TSH, thyroid-stimulating hormone.

aTSH was categorised into quintiles in DOMInO. DOMInO quintile 1 (Lowest): <0.9 mIU/L; quintile 2: 1.0-1.5 mIU/L; quintile 3: 1.6-2.1 mIU/L; quintile 4 : 2.2-3.0 mIU/L, quintile 5 (Highest): ≥3.1 mIU/L.

bTSH was categorised into quintiles in PINK. PINK quintile 1 (Lowest): <1.3 mIU/L; quintile 2: 0.4-1.8 mIU/L; quintile 3: 1.9-2.4 mIU/L; quintile 4 : 2.5-3.4 mIU/L, quintile 5 (Highest): ≥3.5 mIU/L.

cDevelopmental delay was defined as Bayley-III scores below 85.

dThe Mean Differences (95% CIs) were estimated with multivariable linear regression model.

eThe Relative Risks (95% CIs) were estimated with multivariable Poisson regression model.

d,eThe regression models were adjusted for sex, parity, race, occupation, education, qualification, smoking during second trimester, previous smoking, alcohol consumption during second trimester, previous alcohol consumption, supplement intake during second trimester, previous depression, depression during second trimester, mode of delivery, mothers age, gestational age at birth, 5 minute Apgar score, mothers BMI, home screening questionnaire score and birthweight-for-gestational age z score in both DOMInO and PINK studies. In addition, treatment group in the DOMInO study was also added to the adjusted models when analysing the DOMInO data.

**Supplemental Table 4** Adjusted associations between newborn TSH dichotomised at 5 mIU/L and Bayley-III outcomes at 18 months of age

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | DOMInOa | | | PINKa | | |
|  |  | Bayley-III score | Developmental delayb |  | Bayley-III score | Developmental delayb |
|  | n | MD (95% CI)c | RR (95% CI)d | n | MD (95% CI)c | RR (95% CI)d |
| Cognitive scale |  |  |  |  |  |  |
| TSH ≤5 mIU/L | 691 | ref | ref | 702 | ref |  |
| TSH >5 mIU/L | 33 | 0.6 (-4.0, 5.2) | 0.7 (0.1, 5.5) | 41 | -0.8 (-3.9, 2.4) | 0.3 (0.1, 1.9) |
| Language scale |  |  |  |  |  |  |
| TSH ≤5 mIU/L | 691 | ref | ref | 702 | ref |  |
| TSH >5 mIU/L | 33 | -1.8 (-7.3, 3.7) | 1.3 (0.6, 2.6) | 41 | 0.1 (-5.4, 5.5) | 1.1 (0.7, 1.7) |
| Motor scale |  |  |  |  |  |  |
| TSH ≤5 mIU/L | 691 | ref | ref | 702 | ref |  |
| TSH >5 mIU/L | 33 | 0.6 (-4.9, 5.9) | 3.9 (1.2, 12.8) | 41 | 2.2 (-1.2, 5.6) | 0.8 (0.1, 5.1) |
| Social emotional scale |  |  |  |  |  |  |
| TSH ≤5 mIU/L | 691 | ref | ref | 702 | ref |  |
| TSH >5 mIU/L | 33 | -0.2 (-7.0, 6.9) | 0.6 (0.1, 2.9) | 41 | -0.03 (-4.2, 4.1) | 0.9 (0.2, 4.0) |
| Adaptive behaviour scale |  |  |  |  |  |  |
| TSH ≤5 mIU/L | 691 | ref | ref | 702 | ref |  |
| TSH >5 mIU/L | 33 | -0.2 (-6.2, 5.7) | 1.1 (0.3, 3.1) | 41 | -1.6 (-6.4, 3.2) | 1.5 (0.6, 3.6) |

CI, confidence interval; DOMInO, DHA to Optimize Mother Infant Outcome; MD; mean difference; n, number of participants, PINK, Pregnancy Iodine and Neurodevelopment in Kids; ref, reference category; RR, relative risks; TSH, thyroid-stimulating hormone.

aThe TSH classification was based on the World Health Organization‘s recommendation to classify population iodine status based on the percentage of TSH >5 mIU/L.

bDevelopmental delay was defined as Bayley-III scores below 85.

cThe Mean Differences (95% CIs) were estimated with Univariable and multivariable linear regression model.

dThe Relative Risks (95% CIs) were estimated with Univariable and multivariable log Poisson regression model with robust variance estimation.

c,dThe regression models were adjusted for sex, parity, race, occupation, education, qualification, smoking during second trimester, previous smoking, alcohol consumption during second trimester, previous alcohol consumption, supplement intake during second trimester, previous depression, depression during second trimester, mode of delivery, mothers age, gestational age at birth, 5 minute Apgar score, mothers BMI, home screening questionnaire score and birthweight-for-gestational age z score in both DOMInO and PINK studies. In addition, treatment group in the DOMInO study was also added to the adjusted models when analysing the DOMInO data.

**Supplemental Table 5** Adjusted associations between newborn TSH quartiles, Bayley-III outcomes at 18 months of age

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | DOMInOa | |  | PINKb | |
|  | n | Bayley –III score | Developmental delayc | n | Bayley –III score | Developmental delayc |
|  |  | MD (95% CI)d | RR (95% CI)e |  | MD (95% CI)d | RR (95% CI)e |
| Cognitive scale |  |  |  |  |  |  |
| Quartile 1 | 293 | ref | ref | 122 | ref | ref |
| Quartile 2 | 153 | -1.1 (-3.6, 1.5) | 1.0 (0.2, 4.5) | 148 | -0.9 (-4.0, 2.3) | 1.8 (0.8, 4.0) |
| Quartile 3 | 154 | -1.5 (-4.1, 1.1) | 2.1 (0.6, 7.4) | 243 | -1.2 (-3.9, 1.5) | 1.3 (0.6, 2.9) |
| Quartile 4 | 124 | -1.9 (-4.4, 0.7) | 1.7 (0.5, 5.6) | 229 | 0.9 (-1.9, 3.4) | 0.7 (0.3, 1.5) |
| Language scale |  |  |  |  |  |  |
| Quartile 1 | 293 | ref | ref | 122 | ref | ref |
| Quartile 2 | 153 | -0.3 (-3.5, 2.8) | 1.4 (0.8, 2.3) | 148 | -2.3 (-6.4, 2.0) | 1.8 (1.1, 2.6) |
| Quartile 3 | 154 | -0.8 (-3.9, 2.3) | 1.3 (0.8, 2.1) | 243 | -0.8 (-4.8, 3.1) | 1.3 (0.8, 1.9) |
| Quartile 4 | 124 | -2.3 (-5.6, 1.0) | 1.4 (0.8, 2.3) | 229 | 1.7 (-2.1, 5.5) | 1.2 (0.8, 1.9) |
| Motor scale |  |  |  |  |  |  |
| Quartile 1 | 293 | ref | ref | 122 | ref | ref |
| Quartile 2 | 153 | -2.1 (-4.6, 0.3) | 3.5 (1.3, 9.3) | 148 | -0.5 (-3.2, 2.2) | 1.2 (0.3, 4.4) |
| Quartile 3 | 154 | -1.1 (-3.6, 1.4) | 1.1 (0.2, 4.6) | 243 | -1.5 (-4.0, 1.1) | 0.9 (0.3, 3.0) |
| Quartile 4 | 124 | -1.9 (-4.7, 0.9) | 2.8 (1.0, 8.1) | 229 | 0.8 (-1.6, 3.2) | 0.6 (0.2, 2.1) |
| Social emotional scale |  |  |  |  |  |  |
| Quartile 1 | 293 | ref | ref | 122 | ref | ref |
| Quartile 2 | 153 | -1.6 (-5.5, 2.3) | 0.8 (0.3, 2.4) | 148 | -1.7 (-5.9, 2.6) | 2.2 (0.6, 7.7) |
| Quartile 3 | 154 | -0.7 (-4.6, 3.2) | 0.6 (0.2, 1.8) | 243 | 0.9 (-2.6, 4.5) | 1.6 (0.5, 5.6) |
| Quartile 4 | 124 | -1.5 (-5.7, 2.7) | 0.9 (0.3, 2.4) | 229 | 1.6 (-2.2, 5.4) | 1.6 (0.4, 5.8) |
| Adaptive behaviour scale |  |  |  |  |  |  |
| Quartile 1 | 293 | ref | ref | 122 | ref | ref |
| Quartile 2 | 153 | -1.2 (-4.4, 1.9) | 1.6 (0.9, 3.0) | 148 | -3.7 (-7.4, 0.1) | 1.6 (0.7, 3.4) |
| Quartile 3 | 154 | -0.7 (-3.9, 2.5) | 1.1 (0.5, 2.1) | 243 | -1.1 (-4.4, 2.2) | 1.1 (0.6, 2.3) |
| Quartile 4 | 124 | -0.4 (-3.7, 3.0) | 1.3 (0.7, 2.4) | 229 | -0.3 (-4.0, 2.9) | 0.9 (0.4, 1.9) |

DOMInO, DHA to Optimize Mother Infant Outcome; MD, mean difference; PINK, Pregnancy Iodine and Neurodevelopment in Kids; ref, reference category; RR, relative risks; TSH, thyroid-stimulating hormone.

aTSH in the DOMInO study was categorised into quartiles based on the PINK quartile cut-points (quartile 1 (Lowest): <1.5 mIU/L; quartile 2: 1.5-2.2 mIU/L; quartile 3: 2.3-3.3 mIU/L; quartile 4 (Highest): ≥3.4 mIU/L).

bTSH in the PINK study was categorised into quartiles based on the DOMInO quartile cut-points (quartile 1 (Lowest): <1.1 mIU/L; quartile 2: 1.1-1.7 mIU/L; quartile 3: 1.8-2.9 mIU/L; quartile 4 (Highest): ≥3.0 mIU/L).

cDevelopmental delay was defined as Bayley-III scores below 85.

dThe Mean Differences (95% CIs) were estimated with multivariable linear regression model.

eThe Relative Risks (95% CIs) were estimated with multivariable Poisson regression model with robust variance estimation.

d,eThe regression models were adjusted for sex, parity, race, occupation, education, qualification, smoking during second trimester, previous smoking, alcohol consumption during second trimester, previous alcohol consumption, supplement intake during second trimester, previous depression, depression during second trimester, mode of delivery, mothers age, gestational age at birth, 5 minute Apgar score, mothers BMI, home screening questionnaire score, birthweight-for-gestational age z score and treatment group in both DOMInO and PINK studies. In addition, treatment group in the DOMInO study was also added to the adjusted models when analysing the DOMInO data.

**Supplemental Table 6** Adjusted associations between newborn TSH~age and Bayley-III outcomes at 18 months of age

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | DOMInO | | | PINK | | |
|  | n | Bayley-III score | Developmental delaya | n | Bayley-III Score | Developmental delaya |
|  |  | MD (95% CI)b | RR (95% CI)c |  | MD (95% CIs)b | RR (95% CI)c |
| Cognitive scale |  |  |  |  |  |  |
| 1 mIU/L increase in TSH~aged | 724 | -0.2 (-0.8, 0.3) | 1.0 (0.8, 1.2) | 743 | 0.2 (-0.3, 0.7) | 0.8 (0.7, 0.9) |
| TSH~age in quartilese |  |  |  |  |  |  |
| Quartile 1 | 198 | ref | ref | 186 | ref | ref |
| Quartile 2 | 162 | -0.7 (-3.4, 2.1) | 1.3 (0.3, 4.8) | 184 | -0.1 (-2.8, 2.7) | 1.1 (0.5, 2.2) |
| Quartile 3 | 172 | -1.1 (-3.8, 1.5) | 1.4 (0.4, 4.5) | 186 | -1.3 (-4.0, 1.5) | 1.2 (0.6, 2.4) |
| Quartile 4 | 192 | -2.0 (-4.5, 0.6) | 1.4 (0.4, 4.0) | 187 | 1.2 (-1.5, 3.8) | 0.5 (0.2, 1.2) |
| Language scale |  |  |  |  |  |  |
| 1 mIU/L increase in TSH~aged | 724 | -0.3 (-1.0, 0.5) | 1.0 (0.9, 1.1) | 743 | 0.4 (-0.3, 1.2) | 1.0 (1.0, 1.1) |
| TSH~age in quartilese |  |  |  |  |  |  |
| Quartile 1 | 198 | ref | ref | 186 | ref | ref |
| Quartile 2 | 162 | 0.8 (-2.4, 3.9) | 1.1 (0.6, 1.9) | 184 | -2.3 (-5.9, 1.4) | 1.1 (0.8, 1.6) |
| Quartile 3 | 172 | -0.5 (-3.8, 2.8) | 1.3 (0.8, 2.2) | 186 | 0.5 (-3.3, 4.3) | 1.1 (0.7, 1.5) |
| Quartile 4 | 192 | -1.6 (-4.8, 1.6) | 1.4 (0.8, 2.2) | 187 | 1.3 (-2.3, 4.9) | 1.1 (0.7, 1.6) |
| Motor scale |  |  |  |  |  |  |
| 1 mIU/L increase in TSH~aged | 724 | -0.2 (-0.8, 0.4) | 1.2 (1.0, 1.4) | 743 | 0.3 (-0.2, 0.7) | 0.9 (0.7, 1.1) |
| TSH~age in quartilese |  |  |  |  |  |  |
| Quartile 1 | 198 | ref | ref | 186 | ref | ref |
| Quartile 2 | 162 | 0.0 (-2.6, 2.6) | 1.7 (0.6, 5.4) | 184 | -0.8 (-3.1, 1.) | 1.0 (0.3, 2.8) |
| Quartile 3 | 172 | -1.3 (-3.8, 1.3) | 1.6 (0.5, 5.1) | 186 | -2.1 (-4.7, 0.5) | 1.0 (0.3, 2.8) |
| Quartile 4 | 192 | -1.5 (-4.1, 1.1) | 2.1 (0.7, 6.4) | 187 | 0.8 (-1.6, 3.1) | 0.6 (0.2, 2.1) |
| Social emotional scale |  |  |  |  |  |  |
| 1 mIU/L increase in TSH~aged | 724 | 0.3 (-0.7, 1.3) | 0.9 (0.7, 1.2) | 743 | 0.5 (-0.2, 1.2) | 1.0 (0.8, 1.2) |
| TSH~age in quartilese |  |  |  |  |  |  |
| Quartile 1 | 198 | ref | ref | 186 | ref | ref |
| Quartile 2 | 162 | -1.1 (-5.1, 3.0) | 1.0 (0.3, 2.9) | 184 | 0.2 (-3.4, 3.7) | 2.3 (0.8, 7.1) |
| Quartile 3 | 172 | -1.5 (-5.5, 2.6) | 0.8 (0.3, 2.1) | 186 | 1.5 (-1.8, 4.8) | 1.6 (0.5, 5.0) |
| Quartile 4 | 192 | 0.2 (-3.9, 3.0) | 0.8 (0.3, 2.9) | 187 | 2.6 (-0.9, 6.1) | 1.7 (0.5, 6.1) |
| Adaptive behaviour scale |  |  |  |  |  |  |
| 1 mIU/L increase in TSH~aged | 724 | 0.1 (-0.6, 0.8) | 1.0 (0.9, 1.1) | 743 | -0.03 (-0.7, 0.8) | 1.0 (0.8, 1.2) |
| TSH~age in quartilese |  |  |  |  |  |  |
| Quartile 1 | 198 | ref | ref | 186 | ref | ref |
| Quartile 2 | 162 | -0.2 (-3.5, 3.1) | 1.0 (0.4, 1.9) | 184 | -3.3 (-6.4, -0.1) | 1.5 (0.8, 2.8) |
| Quartile 3 | 172 | -1.6 (-4.8, 1.6) | 1.4 (0.7, 2.5) | 186 | 0.8 (-2.3, 3.8) | 0.9 (0.4, 1.8) |
| Quartile 4 | 192 | 0.1 (-3.2, 3.3) | 1.0 (0.6, 1.9) | 187 | -0.1 (-3.1, 2.9) | 0.9 (0.4, 1.8) |

CI, confidence interval; DOMInO, DHA to Optimize Mother Infant Outcome; MD, mean difference; n, number of participants, PINK, Pregnancy Iodine and Neurodevelopment in Kids; ref, reference category; RR, relative risks; TSH, thyroid-stimulating hormone; TSH~age, thyroid-stimulating hormone corrected for age at blood sampling.

aDevelopmental delay was defined as Bayley-III scores below 85.

bThe Mean Differences (95% CIs) were estimated with multivariable linear regression model.

cThe Relative Risks (95% CIs) were estimated with multivariable Poisson regression model with robust variance estimation.

b,cThe regression models were adjusted for sex, parity, race, occupation, education, qualification, smoking during second trimester, previous smoking, alcohol consumption during second trimester, previous alcohol consumption, supplement intake during second trimester, previous depression, depression during second trimester, mode of delivery, mothers age, gestational age at birth, 5 minute Apgar score, mothers BMI, home screening questionnaire score and birthweight-for-gestational age z score in both DOMInO and PINK studies. In addition, treatment group in the DOMInO study was also added to the adjusted models when analysing the DOMInO data.

dTSH~age is modelled continuously.

eTSH~age was categorised into quartiles in both DOMInO and PINK. TSH~age was created by regressing TSH on age at blood sampling (1; 2). DOMInO quartile 1 (Lowest): <1.0 mIU/L; quartile 2: 1.1-1.8 mIU/L; quartile 3: 1.9-2.8 mIU/L; quartile 4 (Highest): ≥2.9 mIU/L. PINK quartile 1 (Lowest): <1.4 mIU/L; quartile 2: 1.4-2.1 mIU/L; quartile 3: 2.2-3.1 mIU/L; quartile 4 (Highest): ≥3.2 mIU/L.

**Supplemental Table 7** Adjusted associations between newborn TSH concentration and Bayley-III outcomes at 18 months of age stratified by the treatment group in the DOMInO study

|  |  | DOMInO Treatment Group |  | DOMInO Control Group |
| --- | --- | --- | --- | --- |
|  | n | Bayley-III Score | n | Bayley-III Score |
|  |  | MD (95% CI)a,b |  | MD (95% CIs)a,b |
| Cognitive scale |  |  |  |  |
| 1 mIU/L increase in TSHc | 350 | -0.2 (-1.1, 0.6) | 374 | -0.3 (-1.2, 0.5) |
| TSH in quartilesd |  |  |  |  |
| Quartile 1 | 82 | ref | 101 | ref |
| Quartile 2 | 84 | -2.2 (-5.7, 1.3) | 92 | -1.2 (-4.7, 2.4) |
| Quartile 3 | 102 | -0.9 (-4.2, 2.4) | 85 | -3.3 (-6.9, 0.5) |
| Quartile 4 | 82 | -2.3 (-5.9, 1.3) | 96 | -2.2 (-5.8, 1.4) |
| Language scale |  |  |  |  |
| 1 mIU/L increase in TSHc | 350 | -0.1 (-1.0, 0.8) | 374 | -1.0 (-2.0, 0.0) |
| TSH in quartilesd |  |  |  |  |
| Quartile 1 | 82 | ref | 101 | ref |
| Quartile 2 | 84 | -1.0 (-5.3, 3.2) | 92 | -0.1 (-4.3, 4.0) |
| Quartile 3 | 102 | -0.6 (-4.7, 3.4) | 85 | -3.0 (-7.3, 1.4) |
| Quartile 4 | 82 | -1.3 (-5.7, 3.1) | 96 | -3.2 (-7.4, 1.0) |
| Motor scale |  |  |  |  |
| 1 mIU/L increase in TSHc | 350 | -0.2 (-0.9, 0.5) | 374 | -0.6 (-1.4, 0.2) |
| TSH in quartilesd |  |  |  |  |
| Quartile 1 | 82 | ref | 101 | ref |
| Quartile 2 | 84 | -1.3 (-4.7, 2.1) | 92 | -0.2 (-3.4, 3.1) |
| Quartile 3 | 102 | -1.6 (-5.2, 2.0) | 85 | 0.4 (-2.7, 3.6) |
| Quartile 4 | 82 | -2.3 (-5.8, 1.1) | 96 | -1.7 (-5.1, 1.6) |
| Social emotional scale |  |  |  |  |
| 1 mIU/L increase in TSHc | 350 | 0.2 (-1.0, 1.4) | 374 | -0.1 (-1.3, 1.2) |
| TSH in quartilesd |  |  |  |  |
| Quartile 1 | 82 | ref | 101 | ref |
| Quartile 2 | 84 | 1.2 (-4.4, 6.7) | 92 | -1.9 (-7.1, 3.2) |
| Quartile 3 | 102 | 2.0 (-3.3, 7.4) | 85 | -1.6 (-7.1, 3.7) |
| Quartile 4 | 82 | -0.3 (-6.0, 5.5) | 96 | -3.3 (-8.6, 1.8) |
| Adaptive behaviour scale |  |  |  |  |
| 1 mIU/L increase in TSHc | 350 | 0.7 (-0.2, 1.6) | 374 | -0.9 (-1.9, 0.0) |
| TSH in quartilesd |  |  |  |  |
| Quartile 1 | 82 | ref | 101 | ref |
| Quartile 2 | 84 | 0.5 (-3.8, 4.8) | 92 | -0.9 (-5.0, 3.1) |
| Quartile 3 | 102 | 2.9 (-1.2, 6.9) | 85 | -2.2 (-6.4, 2.0) |
| Quartile 4 | 82 | 3.2 (-1.1, 7.6) | 96 | -2.8 (-6.9, 1.3) |

CI, confidence interval; DOMInO, DHA to Optimize Mother Infant Outcome; MD, mean difference; n, number of participants, ref, reference category; TSH, thyroid-stimulating hormone.

aThe Mean Differences (95% CIs) were estimated with multivariable linear regression model.

bThe regression models were adjusted for sex, parity, ethnicity, occupation, education, smoking during second trimester, previous smoking, alcohol consumption during second trimester, previous alcohol consumption, supplement intake during second trimester, previous depression, depression during second trimester, mode of delivery, mothers age, gestational age at birth, 5 minute Apgar score, mothers BMI, home screening questionnaire score and birthweight-for-gestational age z score.

cTSH is modelled continuously.

dDOMInO TSH quartile 1 (Lowest): <1.1 mIU/L; quartile 2: 1.1-1.7 mIU/L; quartile 3: 1.8-2.9 mIU/L; quartile 4 (Highest): ≥3.0 mIU/L.

**Supplemental Table 8** Unadjustedassociations between newborn TSH concentration and Bayley-III outcomes at 18 months of age

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | DOMInO | | | PINK | | |
|  | n | Bayley-III Score | Developmental delaya | n | Bayley-III Score | Developmental delaya |
|  |  | MD (95% CI)b | RR (95% CI)c |  | MD (95% CIs)b | RR (95% CI)c |
| Cognitive scale |  |  |  |  |  |  |
| 1 mIU/L increase in TSHd | 724 | -0.5 (-1.0, 0.1) | 1.1 (0.9, 1.3) | 743 | 0.2 (-0.3, 0.7) | 0.9 (0.7, 1.0) |
| TSH in quartilese |  |  |  |  |  |  |
| Quartile 1 | 183 | ref | ref | 186 | ref | ref |
| Quartile 2 | 177 | -1.4 (-4.2, 1.3) | 0.8 (0.2, 3.1) | 184 | -1.5 (-4.3, 1.3) | 1.4 (0.7, 2.9) |
| Quartile 3 | 187 | -1.4 (-4.1, 1.3) | 1.3 (0.4, 4.1) | 185 | -1.9 (-4.8, 1.0) | 1.4 (0.7, 2.9) |
| Quartile 4 | 177 | -2.9 (-5.7, -0.2) | 1.6 (0.5, 4.8) | 188 | 0.9 (-1.7, 3.6) | 0.6 (0.2, 1.5) |
| Language scale |  |  |  |  |  |  |
| 1 mIU/L increase in TSHd | 724 | -0.7 (-1.5, 0.0) | 1.1 (1.0, 1.2) | 743 | 0.4 (-0.5, 1.3) | 1.0 (0.9, 1.1) |
| TSH in quartilese |  |  |  |  |  |  |
| Quartile 1 | 183 | ref | ref | 186 | ref | ref |
| Quartile 2 | 177 | -0.3 (-3.6, 3.0) | 1.3 (0.7, 2.2) | 184 | -2.7 (-6.6, 1.2) | 1.2 (0.8, 1.7) |
| Quartile 3 | 187 | -1.7 (-5.1, 1.7) | 1.4 (0.9, 2.5) | 185 | 0.0 (-4.0, 4.2) | 1.1 (0.8, 1.6) |
| Quartile 4 | 177 | -3.7 (-7.2, -0.1) | 1.6 (1.0, 2.8) | 188 | 1.3 (-2.7, 5.3) | 1.1 (0.8, 1.6) |
| Motor scale |  |  |  |  |  |  |
| 1 mIU/L increase in TSHd | 724 | -0.4 (-1.0, 0.2) | 1.2 (1.0, 1.4) | 743 | 0.2 (-0.4, 0.7) | 1.0 (0.7, 1.2) |
| TSH in quartilese |  |  |  |  |  |  |
| Quartile 1 | 183 | ref | ref | 186 | ref | ref |
| Quartile 2 | 177 | -1.0 (-3.5, 1.6) | 1.2 (0.4, 4.1) | 184 | -1.0 (-3.5, 1.5) | 0.9 (0.3, 2.5) |
| Quartile 3 | 187 | -1.0 (-3.5, 1.6) | 1.2 (0.4, 3.9) | 185 | -1.8 (-4.5, 0.9) | 0.9 (0.3, 2.7) |
| Quartile 4 | 177 | -2.7 (-5.4, 0.0) | 2.4 (0.8, 7.0) | 188 | 1.2 (-1.2, 3.6) | 0.6 (0.2, 1.9) |
| Social emotional scale |  |  |  |  |  |  |
| 1 mIU/L increase in TSHd | 724 | -0.3 (-1.2, 0.7) | 1.0 (0.8, 1.2) | 743 | 0.2 (-0.5, 0.9) | 1.0 (0.8, 1.2) |
| TSH in quartilese |  |  |  |  |  |  |
| Quartile 1 | 183 | ref | ref | 186 | ref | ref |
| Quartile 2 | 177 | -0.1 (-4.2, 3.9) | 0.9 (0.3, 2.3) | 184 | 0.9 (-4.4, 2.6) | 2.0 (0.7, 5.8) |
| Quartile 3 | 187 | -0.6 (-4.8, 3.6) | 0.9 (0.3, 2.2) | 185 | 0.6 (-2.7, 4.0) | 1.6 (0.5, 4.8) |
| Quartile 4 | 177 | -3.1 (-7.3, 1.2) | 0.9 (0.4, 2.4) | 188 | 0.9 (-2.4, 4.2) | 1.6 (0.5, 5.0) |
| Adaptive behaviour scale |  |  |  |  |  |  |
| 1 mIU/L increase in TSHd | 724 | -0.2 (-1.0, 0.5) | 1.0 (0.9, 1.2) | 743 | 0.01 (-0.8, 0.8) | 1.0 (0.9, 1.2) |
| TSH in quartilese |  |  |  |  |  |  |
| Quartile 1 | 183 | ref | ref | 186 | ref | ref |
| Quartile 2 | 177 | 0.3 (-3.2, 3.8) | 1.1 (0.6, 2.1) | 184 | -2.8 (-6.1, 0.4) | 1.7 (0.9, 3.1) |
| Quartile 3 | 187 | -0.1 (-3.6, 3.4) | 1.0 (0.5, 2.0) | 185 | -0.4 (-3.5, 2.8) | 1.3 (0.6, 2.6) |
| Quartile 4 | 177 | -1.0 (-4.4, 2.4) | 1.3 (0.7, 2.4) | 188 | 0.1 (-3.1, 3.2 | 1.0 (0.5, 212) |

CI, confidence interval; DOMInO, DHA to Optimize Mother Infant Outcome; MD, mean difference; n, number of participants, PINK, Pregnancy Iodine and Neurodevelopment in Kids; ref, reference; RR, relative risks; TSH, thyroid-stimulating hormone; SD, standard deviation.

aDevelopmental delay was defined as Bayley-III scores below 85.

bThe Mean Differences (95% CIs) were estimated using Univariable linear regression model.

cThe Relative Risks (95% CIs) were estimated using Univariable Poisson regression model with robust variance estimation.

dTSH is modelled continuously.

eTSH was categorised into quartiles in both DOMInO and PINK. DOMInO quartile 1 (Lowest): <1.1 mIU/L; quartile 2: 1.1-1.7 mIU/L; quartile 3: 1.8-2.9 mIU/L; quartile 4 (Highest): ≥3.0 mIU/L. PINK quartile 1 (Lowest): <1.5 mIU/L; quartile 2: 1.5-2.2 mIU/L; quartile 3: 2.3-3.3 mIU/L; quartile 4 (Highest): ≥3.4 mIU/L.

**Supplemental Table 9** Growth outcomes at 18 months of age by newborn TSH concentration in quartiles

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | DOMInOa |  |  |  | PINKb |  |  |
|  |  | Anthropometric z score | | Growth delayc |  | Anthropometric z score | | Growth delayc |
|  | N | Mean | SD | n (%) | N | Mean | SD | n (%) |
| WLZ |  |  |  |  |  |  |  |  |
| All children | 724 | 0.7 | 1.0 | 25 (3.5) | 743 | 0.6 | 1.3 | 39 (5.3) |
| Quartile 1 | 183 | 0.7 | 1.0 | 6 (3.5) | 186 | 0.9 | 1.2 | 5 (2.9) |
| Quartile 2 | 177 | 0.6 | 1.0 | 5 (2.6) | 184 | 0.6 | 1.1 | 9 (4.8) |
| Quartile 3 | 187 | 0.6 | 1.1 | 10 (5.5) | 185 | 0.6 | 1.1 | 11 (6.0) |
| Quartile 4 | 177 | 0.7 | 1.0 | 4 (2.3) | 188 | 0.6 | 1.8 | 14 (7.3) |
| LAZ |  |  |  |  |  |  |  |  |
| All children | 724 | 0.1 | 1.1 | 112 (15.5) | 743 | -0.1 | 1.3 | 113 (15.2) |
| Quartile 1 | 183 | 0.2 | 1.1 | 25 (13.5) | 186 | 0.0 | 1.1 | 21 (11.5) |
| Quartile 2 | 177 | 0.1 | 1.0 | 26 (14.4) | 184 | 0.03 | 1.3 | 24 (12.8) |
| Quartile 3 | 187 | 0.1 | 1.1 | 26 (14.2) | 185 | -0.1 | 1.4 | 37 (19.9) |
| Quartile 4 | 177 | -0.1 | 1.1 | 35 (20.1) | 188 | -0.2 | 1.4 | 31 (16.3) |
| WAZ |  |  |  |  |  |  |  |  |
| All children | 724 | 0.5 | 1.0 | 39 (5.3) | 743 | 0.5 | 1.5 | 51 (6.8) |
| Quartile 1 | 183 | 0.6 | 1.0 | 12 (6.5) | 186 | 0.9 | 2.2 | 7 (4.0) |
| Quartile 2 | 177 | 0.5 | 1.0 | 5 (2.7) | 184 | 0.5 | 1.3 | 10 (5.5) |
| Quartile 3 | 187 | 0.5 | 1.1 | 8 (4.1) | 185 | 0.4 | 1.2 | 15 (7.9) |
| Quartile 4 | 177 | 0.5 | 1.0 | 14 (7.9) | 188 | 0.3 | 1.2 | 19 (9.9) |
| HCZ |  |  |  |  |  |  |  |  |
| All children | 724 | 0.7 | 1.0 | 30 (4.1) | 743 | 0.9 | 2.0 | 28 (3.8) |
| Quartile 1 | 183 | 0.8 | 1.0 | 6 (3.1) | 186 | 1.0 | 1.5 | 6 (3.4) |
| Quartile 2 | 177 | 0.7 | 0.9 | 5 (2.8) | 184 | 0.8 | 1.6 | 7 (3.7) |
| Quartile 3 | 187 | 0.7 | 1.0 | 9 (5.0) | 185 | 0.7 | 1.5 | 10 (5.3) |
| Quartile 4 | 177 | 0.6 | 1.0 | 10 (5.7) | 188 | 0.9 | 2.9 | 5 (2.7) |

DOMInO, DHA to Optimize Mother Infant Outcome; HAZ, length-for-age z score; HCZ, head circumference-for-age z score; n, number of participants; PINK, Pregnancy Iodine and Neurodevelopment in Kids; SD, standard deviation; TSH, thyroid-stimulating hormone; WAZ, weight-for-age z score; WLZ, weight-for-length z score.

aTSH was categorised into quartiles: quartile 1: <1.1 mIU/l; quartile 2: 1.1-1.7 mIU/l; quartile 3: 1.8-2.9 mIU/L; quartile 4: ≥3.0 mIU/L.

bTSH was categorised into quartiles: quartile 1: <1.5 mIU/L; quartile 2: 1.5-2.2 mIU/L; quartile 3: 2.3-3.3 mIU/L; quartile 4: ≥3.4 mIU/L.

cGrowth delay was defined as z scores below 1 SD.

**Supplemental Table 10** Adjusted associations between newborn TSH dichotomised at 5 mIU/L and growth outcomes at 18 months of age

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | DOMInOa | | | PINKa | | |
|  |  | Anthropometric z score | Growth delayb |  | Anthropometric z score | Growth delayb |
|  | n | MD (95% CI)c | RR (95% CI)d | n | MD (95% CI)c | RR (95% CI)d |
| WLZ |  |  |  |  |  |  |
| TSH ≤5 mIU/L | 691 | ref |  | 702 | ref | ref |
| TSH >5 mIU/L | 33 | -0.2 (-0.5, 0.1) | e | 41 | 0.01 (-0.4, 0.4) | 0.7 (0.2, 3.4) |
| LAZ |  |  |  |  |  |  |
| TSH ≤5 mIU/L | 691 | ref | ref | 702 | ref | ref |
| TSH >5 mIU/L | 33 | 0.1 (-0.3, 0.5) | 1.0 (0.4, 2.4) | 41 | 0.2 (-0.2, 0.5) | 0.5 (0.1, 1.5) |
| WAZ |  |  |  |  |  |  |
| TSH ≤5 mIU/L | 691 | ref | ref | 702 | ref | ref |
| TSH >5 mIU/L | 33 | -0.1 (-0.4, 0.3) | 1.0 (0.2, 4.5) | 41 | 0.03 (-0.3, 0.4) | 0.7 (0.1, 3.0) |
| HCZ |  |  |  |  |  |  |
| TSH ≤5 mIU/L | 691 | ref |  | 702 | ref | ref |
| TSH >5 mIU/L | 33 | -0.1 (-0.4, 0.2) | e | 41 | -0.1 (-0.6, 0.4) | 0.5 (0.1, 3.8) |

CI, confidence interval; DOMInO, DHA to Optimize Mother Infant Outcome; HAZ, length-for-age z score; HCZ, head circumference-for-age z score; MD; mean difference; n, number of participants, PINK, Pregnancy Iodine and Neurodevelopment in Kids; ref, reference category; RR, relative risks; TSH, thyroid-stimulating hormone; WAZ, weight-for-age z score; WLZ, weight-for-length z score.

aThe TSH classification was based on the World Health Organization‘s recommendation to classify population iodine status based on the percentage of TSH >5 mIU/L.

bGrowth delay was defined as z scores below 1 SD.

cThe Mean Differences (95% CIs) were estimated with Univariable and multivariable linear regression model.

dThe Relative Risks (95% CIs) were estimated with Univariable and multivariable log Poisson regression model with robust variance estimation.

c,dThe regression models were adjusted for sex, parity, race, occupation, education, qualification, smoking during second trimester, previous smoking, alcohol consumption during second trimester, previous alcohol consumption, supplement intake during second trimester, previous depression, depression during second trimester, mode of delivery, mothers age, gestational age at birth, 5 minute Apgar score, mothers BMI, home screening questionnaire score and birthweight-for-gestational age z score in both DOMInO and PINK studies. In addition, treatment group in the DOMInO study was also added to the adjusted models when analysing the DOMInO data.

eThe Relative Risks (95% CIs) and the confidence intervals are not presented because the model did not converge.

**Supplemental Table 11** Adjusted associations between newborn TSH~age and growth outcomes at 18 months of age

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | DOMInO | | | PINK | | |
|  | n | Anthropometric z core | Growth delaya | n | Anthropometric z score | Growth delaya |
|  |  | MD (95% CI)b | RR (95% CI)c |  | MD (95% CI)b | RR (95% CI)c |
| WLZ |  |  |  |  |  |  |
| 1 mIU/L increase in TSH~aged | 724 | 0.0 (0.0, 0.1) | 0.8 (0.5, 1.2) | 743 | 0.0 (-0.1, 0.0) | 1.0 (0.9, 1.2) |
| TSH~age in quartilese |  |  |  |  |  |  |
| Quartile 1 | 198 | ref | ref | 186 | ref | ref |
| Quartile 2 | 162 | 0.0 (-0.2, 0.2) | 1.1 (0.2, 4.7) | 184 | -0.2 (-0.4, 0.0) | 1.5 (0.4, 5.2) |
| Quartile 3 | 172 | 0.0 (-0.2, 0.2) | 1.1 (0.3, 4.1) | 186 | -0.2 (-0.4, 0.0) | 1.7 (0.5, 6.0) |
| Quartile 4 | 192 | 0.1 (-0.1, 0.3) | 0.4 (0.1, 2.3) | 187 | -0.2 (-0.5, 0.1) | 1.8 (0.5, 6.2) |
| LAZ |  |  |  |  |  |  |
| 1 mIU/L increase in TSH~aged | 724 | 0.0 (-0.1, 0.1) | 1.0 (0.9, 1.1) | 743 | 0.0 (-0.1, 0.0) | 1.0 (0.9, 1.1) |
| TSH~age in quartilese |  |  |  |  |  |  |
| Quartile 1 | 198 | ref | ref | 186 | ref | ref |
| Quartile 2 | 162 | -0.1 (-0.3, 0.1) | 1.3 (0.8, 2.3) | 184 | 0.1 (-0.1, 0.3) | 1.2 (0.6, 2.1) |
| Quartile 3 | 172 | -0.2 (-0.4, 0.1) | 1.1 (0.6, 2.0) | 186 | 010 (-0.2, 0.3) | 1.3 (0.7, 2.2) |
| Quartile 4 | 192 | -0.2 (-0.4, 0.1) | 1.3 (0.7, 2.1) | 187 | -0.1 (-0.4, 0.2) | 1.5 (0.8, 2.6) |
| WAZ |  |  |  |  |  |  |
| 1 mIU/L increase in TSH~aged | 724 | 0.0 (0.0, 0.1) | 1.0 (0.8, 1.2) | 743 | -0.1 (-0.1, 0.0) | 1.1 (0.9, 1.3) |
| TSH~age in quartilese |  |  |  |  |  |  |
| Quartile 1 | 198 | ref | ref | 186 | ref | ref |
| Quartile 2 | 162 | 0.0 (-0.3, 0.2) | 0.5 (0.1, 2.3) | 184 | -0.2 (-0.6, 0.2) | 1.2 (0.4, 4.1) |
| Quartile 3 | 172 | -0.1 (-0.3, 0.1) | 1.3 (0.5, 3.6) | 186 | -0.4 (-0.7, 0.0) | 1.6 (0.6, 4.4) |
| Quartile 4 | 192 | 0.0 (-0.2, 0.2) | 1.0 (0.4, 2.8) | 187 | -0.5 (-0.8, -0.1) | 2.4 (0.8, 6.8) |
| HCZ |  |  |  |  |  |  |
| 1 mIU/L increase in TSH~aged | 724 | 0.0 (-0.1, 0.0) | 1.1 (0.9, 1.4) | 743 | 0.0 (-0.1, 0.1) | 0.8 (0.6, 1.1) |
| TSH~age in quartilese |  |  |  |  |  |  |
| Quartile 1 | 198 | ref | ref | 186 | ref | ref |
| Quartile 2 | 162 | -0.2 (-0.4, 0.1) | 1.8 (0.5, 7.1) | 184 | 0.2 (-0.5, 0.1) | 1.4 (0.4, 4.7) |
| Quartile 3 | 172 | -0.2 (-0.4, 0.1) | 2.8 (0.8, 9.6) | 186 | -0.2 (-0.5, 0.1) | 1.0 (0.3, 4.0) |
| Quartile 4 | 192 | -0.1 (-0.3, 0.1) | 2.3 (0.7, 7.9) | 187 | 0.0 (-0.5, 0.5) | 0.8 (0.2, 3.2) |

CI, confidence interval; DOMInO, DHA to Optimize Mother Infant Outcome; HAZ, length-for-age z score; HCZ, head circumference-for-age z score; MD, mean difference; n, number of participants, PINK, Pregnancy Iodine and Neurodevelopment in Kids; ref, reference category; RR, relative risks; TSH, thyroid-stimulating hormone; TSH~age, thyroid stimulating hormone corrected for age at blood sampling; WAZ, weight-for-age z score; WLZ, weight-for-length z score.

aGrowth delay was defined as z scores below 1 SD.

bThe Mean Differences (95% CIs) were estimated with multivariable linear regression model.

cThe Relative Risks (95% CIs) were estimated with multivariable Poisson regression model with robust variance estimation.

b,cThe regression models were adjusted for sex, parity, race, occupation, education, qualification, smoking during second trimester, previous smoking, alcohol consumption during second trimester, previous alcohol consumption, supplement intake during second trimester, previous depression, depression during second trimester, mode of delivery, mothers age, gestational age at birth, 5 minute Apgar score, mothers BMI, home screening questionnaire score and birthweight-for-gestational age z score in both DOMInO and PINK studies. In addition, treatment group in the DOMInO study was also added to the adjusted models when analysing the DOMInO data.

dTSH~age is modelled continuously.

eTSH~age was categorised into quartiles in both DOMInO and PINK. TSH~age was created by regressing TSH on age at blood sampling (1; 2). DOMInO quartile 1 (Lowest): <1.0 mIU/L; quartile 2: 1.1-1.8 mIU/L; quartile 3: 1.9-2.8 mIU/L; quartile 4 (Highest): ≥2.9 mIU/L. PINK quartile 1 (Lowest): <1.4 mIU/L; quartile 2: 1.4-2.1 mIU/L; quartile 3: 2.2-3.1 mIU/L; quartile 4 (Highest): ≥3.2 mIU/L.

**Supplemental Table 12** Unadjusted associations between newborn TSH concentration and growth outcomes at 18 months of age

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | DOMInO | | | PINK | | |
|  | n | Anthropometric z score | Growth delaya | n | Anthropometric z score | Growth delaya |
|  |  | MD (95% CI)b | RR (95% CI)c |  | MD (95% CIs)b | RR (95% CI)c |
| WLZ |  |  |  |  |  |  |
| 1 mIU/L increase in TSHd | 724 | 0.0 (-0.1, 0.0) | 0.9 (0.6, 1.2) | 743 | -0.1 (-0.1, 0.0) | 1.2 (1.0, 1.4) |
| TSH in quartilese |  |  |  |  |  |  |
| Quartile 1 | 183 | ref | ref | 186 | ref | ref |
| Quartile 2 | 177 | -0.1 (-0.3, 0.2) | 0.7 (0.2, 2.9) | 184 | -0.2 (-0.5, 0.0) | 1.6 (0.5, 5.9) |
| Quartile 3 | 187 | -0.1 (-0.3, 0.2) | 1.6 (0.5, 5.1) | 186 | -0.3 (-0.5, 0.0) | 2.1 (0.7, 6.4) |
| Quartile 4 | 177 | 0.0 (-0.2, 0.2) | 0.6 (0.1, 3.0) | 187 | -0.3 (-0.6, 0.0) | 2.5 (0.8, 8.1) |
| LAZ |  |  |  |  |  |  |
| 1 mIU/L increase in TSHd | 724 | 0.0 (-0.1, 0.0) | 1.0 (0.9, 1.1) | 743 | -0.04 (-0.1, 0.0) | 1.0 (0.9, 1.2) |
| TSH in quartilese |  |  |  |  |  |  |
| Quartile 1 | 183 | ref | ref | 186 | ref | ref |
| Quartile 2 | 177 | 0.0 (-0.3, 0.2) | 1.1 (0.6, 1.9) | 184 | 0.02 (-0.2, 0.3) | 1.1 (0.6, 2.0) |
| Quartile 3 | 187 | -0.1 (-0.3, 0.2) | 1.0 (0.6, 1.8) | 186 | -0.1 (-0.3, 0.2) | 1.7 (1.0, 3.0) |
| Quartile 4 | 177 | -0.2 (-0.4, 0.1) | 1.5 (0.9, 2.5) | 187 | -0.2 (-0.5, 0.1) | 1.4 (0.8, 2.5) |
| WAZ |  |  |  |  |  |  |
| 1 mIU/L increase in TSHd | 724 | 0.0 (-0.1, 0.0) | 1.0 (0.8, 1.2) | 743 | -0.1 (-0.2, -0.04) | 1.2 (1.1, 1.4) |
| TSH in quartilese |  |  |  |  |  |  |
| Quartile 1 | 183 | ref | ref | 186 | ref | ref |
| Quartile 2 | 177 | -0.1 (-0.3, 0.2) | 0.4 (0.1, 1.3) | 184 | -0.4 (-0.8, -0.04) | 1.4 (0.4, 4.3) |
| Quartile 3 | 187 | -0.1 (-0.3, 0.2) | 0.6 (0.2, 1.7) | 186 | -0.5 (-0.9, -0.1) | 2.0 (0.8, 5.3) |
| Quartile 4 | 177 | -0.1 (-0.3, 0.1) | 1.2 (0.5, 2.7) | 187 | -0.6 (-1.0, -0.2) | 2.5 (1.0, 6.8) |
| HCZ |  |  |  |  |  |  |
| 1 mIU/L increase in TSHd | 724 | 0.0 (-0.1, 0.0) | 1.1 (0.9, 1.3) | 743 | -0.1 (-0.1, 0.0) | 0.9 (0.7, 1.2) |
| TSH in quartilese |  |  |  |  |  |  |
| Quartile 1 | 183 | ref | ref | 186 | ref | ref |
| Quartile 2 | 177 | -0.1 (-0.3, 0.1) | 1.0 (0.2, 3.4) | 184 | -0.2 (-0.5, 0.1) | 1.1 (0.3, 4.2) |
| Quartile 3 | 187 | -0.2 (-0.3, 0.1) | 1.9 (0.5, 5.1) | 186 | -0.3 (-0.6, 0.0) | 1.6 (0.5, 4.9) |
| Quartile 4 | 177 | -0.2 (-0.4, 0.1) | 1.9 (0.6, 5.8) | 187 | -0.1 (-0.6, 0.4) | 0.8 (0.2, 3.5) |

CI, confidence interval; DOMInO, DHA to Optimize Mother Infant Outcome; HAZ, length-for-age z score; HCZ, head circumference-for-age z score; MD; mean difference; N, number of participants, p, p-value; PINK, Pregnancy Iodine and Neurodevelopment in Kids; ref, reference; RR, relative risks; TSH, thyroid-stimulating hormone; SD, standard deviation; WAZ, weight-for-age z score; WLZ, weight-for-length z score.

aGrowth delay was defined as z scores below 1 SD.

bThe Mean Differences (95% CIs) were estimated with Univariable linear regression model.

cThe Relative Risks (95% CIs) were estimated with Univariable Poisson regression model with robust variance estimation.

dTSH~age is modelled continuously.

eTSH was categorised into quartiles in both DOMInO and PINK. DOMInO quartile 1 (Lowest): <1.1 mIU/L; quartile 2: 1.1-1.7 mIU/L; quartile 3: 1.8-2.9 mIU/L; quartile 4 (Highest): ≥3.0 mIU/L. PINK quartile 1 (Lowest): <1.5 mIU/L; quartile 2: 1.5-2.2 mIU/L; quartile 3: 2.3-3.3 mIU/L; quartile 4 (Highest): ≥3.4 mIU/L.

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