Table S1 Comparison of characteristics of the study population.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | N (%) or mean ± SD | p-value\* |
|  |  | In this study (n=285) | Not in this study (n=219) |  |
| **Child** |  |  |  |
|  Sex | Boys | 127 (44.6) | 119 (52.7) | 0.077 |
| **Mother**  |  |  |  |  |
|  Age (years) |  | 30.4 ± 5.0 | 31.2 ± 4.7 | 0.046 |
|  Pre-pregnancy BMI (kg/m2) | < 18.5 | 46 (16.1) | 32 (14.6) | 0.102 |
|  | 18.5-25.0 | 217 (76.1) | 157 (71.7) |  |
|  | ≧ 25.0 | 21 (7.4) | 30 (13.7) |  |
|  Parity | 0 | 147 (51.6) | 93 (42.5) | 0.025 |
|  | ≧ 1 | 138 (48.4) | 125 (57.1) |  |
|  Education (years) | ≦ 12 | 130 (45.6) | 93 (42.5) | 0.481 |
|  | ≧ 13 | 155 (54.5) | 126 (57.1) |  |
|  Smoking during pregnancy | Yes | 46 (16.1) | 40 (18.3) | 0.530 |
|  Alcohol consumption during pregnancy | Yes | 98 (34.4) | 56 (25.6) | 0.033 |
|  Family income (million yen/year) | < 5 | 202 (70.9) | 141 (64.4) | 0.110 |
|  | ≧ 5 | 81 (28.4) | 77 (35.2) |  |
|  Gestational age (days) |  | 278 ± 7 | 270 ± 12 | < 0.001 |
| **Father** |  |  |  |  |
|  Age (years) |  | 31.8 ± 5.7 | 32.9 ± 5.4 | 0.020 |
|  Education (years) | ≦ 12 | 128 (44.9) | 92 (42.0) | 0.493 |
|  | ≧ 13 | 156 (54.7) | 127 (58.0) |  |

\*t-test or Mann-Whitney’s U test.

Number of children in the whole cohort was N=511 including 7 pairs of twins.

The following categories had missing values; pre-pregnancy BMI, parity, family income, paternal education.

Table S2 Comparison of characteristics of participants at each examination.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | BSID-II at 6mo (n=150) | BSID-II at 18mo (n=105) | CBCL at 42mo (n=181) |
| Child  |  | N (%) or mean ± SD |
|  Sex | Boys | 66 (44.0) | 47 (44.8) | 79 (43.6) |
| Birth weight (g)  |  | 3160 ± 318 | 3164 ± 300 | 3123 ± 312 |
| Mother  |  |  |  |  |
|  Age (years) |  | 30.9 ± 5.1 | 31.7 ± 4.8 | 31.1 ± 4.4 |
|  Pre-pregnancy BMI (kg/m2) | < 18.5 | 24 (16.0) | 13 (12.4) | 28 (15.5) |
|  | 18.5-25.0 | 115 (76.7) | 85 (81.0) | 142 (78.5) |
|  | ≧ 25.0 | 11 (7.3) | 7 (6.7) | 11 (6.1) |
|  Parity | 0 | 83 (55.3) | 56 (53.3) | 97 (53.6) |
|  | ≧ 1 | 67 (44.7) | 49 (46.7) | 84 (46.4) |
|  Education (years) | ≦ 12 | 57 (38.0) | 42 (40.0) | 75 (41.4) |
|  | ≧ 13 | 93 (62.0) | 63 (60.0) | 106 (58.6) |
|  Smoking during pregnancy | Yes | 16 (10.7) | 8 (7.6) | 17 (9.4) |
|  Alcohol consumption during pregnancy | Yes | 51 (34.0) | 39 (37.1) | 65 (35.9) |
|  |  |  |  |
|  Family income (million yen/year) | < 5 | 97 (64.7) | 65 (61.9) | 119 (65.7) |
|  | ≧ 5 | 53 (35.3) | 40 (38.1) | 62 (34.3) |
|  Gestational age (days) |  | 278 ± 7 | 278 ± 7 | 278 ± 7 |
|  BPA (ng/ml)a  |  | 0.050 | 0.048 | 0.052 |
| Father |  |  |  |  |
|  Age (years) |  | 32.7 ± 6.0 | 33.6 ± 6.2 | 32.4 ± 5.5 |
|  Education (years) | ≦ 12 | 51 (34.0) | 32 (30.5) | 73 (40.3) |
|  | ≧ 13 | 99 (66.0) | 73 (69.5) | 107 (59.1) |

a median.

Table S3 Spearman’s correlation coefficients of participants’ characteristics and neurobehavioral test scores.

|  |  |  |  |
| --- | --- | --- | --- |
|  | BSID-II at 6mo (n=150) | BSID-II at 18mo (n=105) | CBCL at 42mo (n=181) |
|  | MDI | PDI | MDI | PDI | Total |
| Child  |  |  |  |  |  |
|  Sex | -0.111 | -0.005 | 0.300 | 0.317 | 0.011 |
| Birth weight  | 0.081 | 0.106 | -0.008 | 0.106 | 0.034 |
| ICEE | 0.052 | 0.058 | 0.122 | 0.183\* | 0.166\* |
| Duration of breast feeding  | 0.040 | 0.001 | -0.006 | 0.086 | -0.012 |
| Mother  |  |  |  |  |  |
|  Age  | 0.091 | -0.039 | -0.019 | 0.005 | 0.034 |
|  Pre-pregnancy BMI  | -0.106 | -0.044 | -0.031 | -0.011 | 0.157\* |
|  Parity | -0.032 | -0.045 | 0.155 | 0.157 | -0.092 |
|  Education  | -0.064 | -0.043 | -0.059 | 0.062 | -0.035 |
|  Smoking during pregnancy | -0.044 | -0.060 | -0.042 | -0.062 | 0.040 |
|  Alcohol consumption during pregnancy | -0.080 | 0.028 | 0.026 | 0.073 | 0.071 |
|  Family income  | 0.085 | 0.013 | 0.192\* | 0.106 | -0.039 |
| Gestational age  | 0.152 | 0.148 | 0.184\* | 0.110 | 0.126 |
| Father |  |  |  |  |  |
|  Age  | 0.106 | -0.135 | -0.062 | -0.032 | 0.019 |
|  Education  | 0.094 | -0.010 | 0.171\* | 0.196\* | -0.025 |

\* p < 0.10

Table S4 Distribution of K-ABC scores and associations between cord blood BPA concentration and K-ABC scores (n=86).

|  |  |  |
| --- | --- | --- |
| Subscale |  Median (range) | β (95% CI) |
| Mental processing | 103 (62-136) | 1.92 (-8.65, 12.50) |
| Achievement processing | 97 (65-138) | 0.14 (-10.07, 10.36) |

Adjusted for parental ages, family income, maternal smoking during pregnancy, maternal alcohol consumption, child sex and tester.