Table S1. Associations between maternal prenatal dietary DHA and child cognitive test scores.

|  |  |  |
| --- | --- | --- |
|  |  | Maternal DHA Intake1 |
|  |  | 16 wk | 36 wk |
| PPVT | Rho*P*n | -0.0710.50193 | -0.0210.84193 |
| Beery | Rho*P*n | 0.1400.17894 | 0.0610.56194 |
| KABC |  |  |  |
|  Sequential | Rho*P*n | 0.0650.53693 | 0.1210.24893 |
|  Learning | Rho*P*n | 0.0030.97890 | -0.0430.69090 |
|  Simultaneous | Rho*P*n | -0.1030.32593 | -0.0280.79393 |
|  MPI | Rho*P*n | -0.0160.88190 | -0.0180.86990 |
|  Delayed Recall | Rho*P*n | -0.0110.91393 | -0.0190.85693 |
| TOVA |  |  |  |
|  Response Time | Rho*P*n | -0.0170.87586 | -0.0700.52286 |
|  Response Time Variability | Rho*P*n | 0.0390.72486 | -0.0190.86286 |
|  Commission Errors | Rho*P*n | 0.1250.25086 | 0.1580.14586 |
|  Omission Errors | Rho*P*n | 0.0300.78586 | -0.0160.88386 |

DHA, docosahexaenoic acid; PPVT, Peabody Picture Vocabulary Test; Beery VMI, Beery-Buktenica Developmental Test of Visual-Motor Integration; KABC, Kaufman Assessment Battery for Children, 2nd edition; MPI, Mental Performance Index; TOVA, Test of Variables of Attention

1Data compared with Spearman’s rank correlation coefficient

Table S2. Associations between maternal prenatal fatty acid status and child cognitive test scores1.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  | KABC |  |  |
|  |  | PPVT | Beery |  | Sequential | Learning | Simultaneous | MPI | Delayed Recall |
| **16 wk gestation** |  |  |  |  |  |  |  |  |  |
| PC 22:4n6 | Rho*P*n | 0.1540.14093 | -0.3320.00194 |  | -0.0110.91393 | 0.1160.27790 | -0.0710.49693 | -0.0050.96090 | 0.2080.04693 |
| PC 22:5n6 | Rho*P*n | 0.2010.05393 | -0.2640.01094 |  | 0.0140.89493 | 0.1710.10890 | 0.0040.97393 | 0.0610.56590 | 0.1540.14193 |
| PC 22:6n3 | Rho*P*n | 0.1400.18093 | -0.0380.71494 |  | 0.0630.54693 | 0.0070.94890 | 0.0490.64393 | 0.0110.91590 | 0.0370.72493 |
| PC DHA/ 22:4n6+ 22:5n6  | Rho*P*n | -0.0230.82593 | 0.2750.00794 |  | 0.0550.60493 | -0.0870.41590 | 0.0940.36993 | 0.0440.68090 | -0.1450.16693 |
| PE 22:4n6 | Rho*P*n | 0.1360.19293 | -0.1830.07794 |  | -0.0920.38293 | 0.1730.10390 | -0.0320.76393 | 0.0470.66390 | 0.0720.49493 |
| PE 22:5n6 | Rho*P*n | 0.0840.42393 | -0.1940.06294 |  | -0.0880.40193 | 0.1950.06590 | -0.0350.74393 | 0.0820.44090 | 0.1220.24393 |
| PE 22:6n3 | Rho*P*n | -0.0130.89993 | 0.1610.12294 |  | -0.0070.94493 | 0.0020.98490 | 0.0720.49593 | 0.0620.56390 | 0.0160.87893 |
| PE DHA/ 22:4n6+ 22:5n6  | Rho*P*n | -0.0750.47493 | 0.2470.01694 |  | 0.0570.58893 | -0.1140.28690 | 0.0870.40993 | 0.0130.90790 | -0.0610.56393 |
| **36 wk gestation** |  |  |  |  |  |  |  |  |  |
| PC 22:4n6 | Rho*P*n | -0.0920.37894 | -0.1390.18095 |  | 0.0300.77593 | -0.0790.45991 | -0.0430.68394 | -0.0450.67490 | -0.0580.58194 |
| PC 22:5n6 | Rho*P*n | -0.0850.41694 | -0.1480.15295 |  | 0.0360.73393 | -0.0940.37491 | 0.0170.87094 | -0.0060.95490 | -0.1370.18894 |
| PC 22:6n3 | Rho*P*n | 0.0830.42894 | 0.0890.39395 |  | 0.1160.27093 | -0.1100.29791 | 0.1240.23494 | 0.0220.83490 | -0.1980.05694 |
| PC DHA/ 22:4n6 + 22:5n6  | Rho*P*n | 0.1100.29394 | 0.1460.15895 |  | 0.0590.57293 | -0.0150.89191 | 0.0940.36794 | 0.0650.54390 | -0.0890.39494 |
| PE 22:4n6 | Rho*P*n | 0.0030.97793 | -0.2470.01694 |  | 0.0340.74393 | 0.0480.65590 | -0.0730.48993 | -0.0300.77790 | 0.0650.53593 |
| PE 22:5n6 | Rho*P*n | -0.0400.70193 | -0.1840.07694 |  | -0.0300.77793 | 0.0370.73390 | -0.0590.57493 | -0.0410.70090 | 0.0930.37693 |
| PE 22:6n3 | Rho*P*n | 0.1730.09793 | 0.1520.14294 |  | 0.1550.13993 | -0.0200.85590 | 0.1980.05793 | 0.1600.13290 | -0.1080.30293 |
| PE DHA/ 22:4n6 + 22:5n6  | Rho*P*n | 0.1100.29593 | 0.2210.03294 |  | 0.0380.71793 | -0.0610.57090 | 0.1790.08693 | 0.1010.34290 | -0.1530.14493 |

KABC, Kaufman Assessment Battery for Children, 2nd edition; PPVT, Peabody Picture Vocabulary Test; Beery VMI, Beery-Buktenica Developmental Test of Visual-Motor Integration; MPI, Mental Performance Index; PC, phosphatidylcholine; PE, phosphatidylethanolamine; DHA, docosahexaenoic acid;

1Data compared with Spearman’s rank correlation coefficient

Table S3.Associations between maternal prenatal fatty acid status and child TOVA test scores1.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | Response Time | Response Time Variability | Commission Errors | Omission Errors |
| **16 wk gestation** |  |  |  |  |  |
| PC 22:4n6 | Rho*P*n | -0.0070.94686 | -0.1150.29186 | -0.1060.33286 | -0.1680.12286 |
| PC 22:5n6 | Rho*P*n | 0.0820.45486 | 0.0090.93586 | -0.1780.10186 | -0.1200.27286 |
| PC 22:6n3 | Rho*P*n | -0.0570.60186 | 0.0740.49686 | 0.0780.47586 | 0.0600.58586 |
| PC DHA/ 22:4n6+ 22:5n6  | Rho*P*n | -0.0180.86886 | 0.1020.35186 | 0.1610.13986 | 0.1310.22886 |
| PE 22:4n6 | Rho*P*n | 0.0340.75586 | -0.0120.91286 | -0.1130.30286 | -0.0400.71686 |
| PE 22:5n6 | Rho*P*n | 0.0430.69686 | 0.0280.80186 | -0.1550.15586 | -0.0530.62886 |
| PE 22:6n3 | Rho*P*n | 0.0300.78386 | 0.0810.45986 | 0.1210.26686 | 0.0950.38386 |
| PE DHA/ 22:4n6+ 22:5n6  | Rho*P*n | 0.0260.81486 | 0.0890.41786 | 0.1250.25386 | 0.0800.46686 |
| **36 wk gestation** |  |  |  |  |  |
| PC 22:4n6 | Rho*P*n | 0.0980.36787 | 0.1190.27387 | -0.0680.53387 | -0.0380.72687 |
| PC 22:5n6 | Rho*P*n | 0.1200.26887 | 0.1610.13687 | -0.1920.07587 | 0.1330.21887 |
| PC 22:6n3 | Rho*P*n | 0.0400.71387 | 0.2050.05787 | 0.0030.97787 | 0.0380.73087 |
| PC DHA/ 22:4n6 + 22:5n6  | Rho*P*n | -0.0500.64587 | 0.0010.99187 | 0.0850.43487 | -0.0020.98687 |
| PE 22:4n6 | Rho*P*n | 0.0500.64586 | -0.0110.92186 | -0.1180.27886 | 0.0670.53986 |
| PE 22:5n6 | Rho*P*n | 0.0680.53586 | 0.0200.84586 | -0.1510.16586 | 0.0750.49486 |
| PE 22:6n3 | Rho*P*n | -0.0610.57986 | 0.0490.65286 | 0.0520.63386 | -0.0110.91986 |
| PE DHA/ 22:4n6 + 22:5n6  | Rho*P*n | -0.0510.64086 | 0.0470.66586 | 0.0890.41486 | -0.0410.70686 |

TOVA, Test of Variables of Attention; PC, phosphatidylcholine; PE, phosphatidylethanolamine; DHA, docosahexaenoic acid

1Data compared with Spearman’s rank correlation coefficient

Table S4. Dietary intake of all children, estimated by food frequency questionnaire

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Mean** | **SD** | **Median** | **IQR** | **2.5 – 97.5 (%)** |
| **Intake (n = 98)** |  |  |  |  |  |
|  Energy, Kcal | 1890 | 524 | 1827 | 1531-2185 | 1020 – 3331  |
|  Protein, g | 75.3 | 24.8 | 69.9 | 58.2-88.2 | 40.6 – 141  |
|  Carbohydrate, g | 255 | 65.1 | 251 | 209-297 | 134 – 406  |
|  Total Fat, g | 69.3 | 23.9 | 65.1 | 53.3-83.5 | 33.8 – 134  |
|  Saturated, g | 26.5 | 9.95 | 24.4 | 19.3 – 31.6 | 12.1 – 53.8 |
|  Monounsaturated, g | 24.6 | 8.87 | 22.4 | 19.2 – 29.0 | 11.7 – 52.5 |
|  Polyunsaturated, g | 11.2 | 4.53 | 10.5 | 8.01 – 13.8 | 4.75 – 23.8 |
|  ω-3 fatty acids |  |  |  |  |  |
|  ALA, g | 1.26 | 0.61 | 1.17 | 0.87-1.47 | 0.49 – 2.59 |
|  EPA, mg | 38.4 | 46.1 | 18.4 | 5.48-61.1 | 0.00 – 180 |
|  DHA, mg | 66.7 | 70.2 | 43.2 | 17.4-97.4 | 0.00 –300 |
|  ω-6 fatty acids |  |  |  |  |  |
|  LA, g | 9.71 | 4.26 | 8.86 | 7.06-11.4 | 3.64 – 22.3  |
|  ARA, mg | 73.4 | 44.2 | 63.0  | 45.8-89.2 | 10.0 – 220 |

ALA, α-linolenic acid; EPA, eicosapentaenoic acid; DHA, docosahexaenoic acid LA, linoleic acid; ARA, arachidonic acid