**Supplementary Materials**

**Table S2: RCTs studies addressing the impact of maternal DHA supplementation during pregnancy and offspring neurodevelopmental outcomes**

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| **Author** | **n** | **DHA Supplementation**  **Type; dose (daily)** | **DHA Supplementation**  **Weeks (mean)** | **Neurodevelopment assessment**  **(years)** | **Association between DHA and Neurodevelopment assessment\*** |
| Ostadrahimi et al. 2017 | 150  Preterm and full-term | 120 mg DHA + 180 mg EPA | 24 weeks  (20 weeks’ gestation - 1 mo pp) | ASQ  at 0.3 and 0.5 y | Inconsistent association |
| Gould et al. 2017 | 543  Preterm and full-term | 800 mg DHA | > 19 weeks  (<21 weeks’ gestation – birth) | WASI-II;  FST and ReyCF;  TEACh;  RAVL;  CELF-4;  WRAT-4;  Parent report-behavior: Conners 3 (ADHD) and SDQ;  at 7 y | Conflicting results |
| Gould et al. 2016 | 2399  Preterm and full-term | 800 mg DHA | > 19 weeks  (<21 weeks’ gestation – birth) | BSID III  at 1.5 y;  DAS II  at 4 y. | Inconsistent association |
| Ramakrishnan et al. 2016 | 797  Preterm and full-term | 400 mg DHA | 18-22 weeks  (18-22 weeks’ gestation – birth) | MSCA;  BASC-2;  K-CPT;  at 5 y | Inconsistent association |
| Meldrum et al. 2015 | 50  Full-term | 220 mg DHA + 110 mg EPA | 20 weeks  (20 weeks’ gestation – birth) | WISC-IV;  CBCL;  Beery-Buktenica TVMI;  CCC;  at 12 y | No association |
| Hurtado et al. 2015 | 110  Full-term | 392 mg (DHA + EPA) | 28 weeks  (28 weeks’ gestation - 4 mo pp) | VEPs  at 0.2 and 0.63 y;  BSID-II  at 1 y | No association |
| Ramakrishnan et al. 2015 | 730  Full-term | 400 mg DHA | 18-22 weeks  (18-22 weeks’ gestation – birth) | BSID-II  at 1.5 y | No association |
| Gould et al. 2014 | 158  Full-term | 800 mg DHA | 20 weeks  (20 weeks’ gestation – birth) | Single-object task;  Multiple-object task;  Distractibility task;  WMIC task;  at 2.25 y. | No association |
| Mulder et al. 2014 | 270  Full-term | 400 mg DHA | 24 weeks  (16 weeks’ gestation – birth) | TAC  at 0.17 and 1 y;  McArthur CDI  1.17 and 1.5 y;  BSID-III  at 1.5 y | Positive association |
| Makrides et al. 2014 | 646  Preterm | 800 mg DHA + 100 mg EPA | > 19 weeks  (<21 weeks’ gestation – birth) | BRIEF;  CELF Preschool–2;  DAS II;  at 4 y | No association |
| Gustafson et al. 2013 | 52  Full-term | 600 mg DHA | 20-28 weeks  (12-20 weeks’ gestation – birth) | NBAS  at 1-14 days pp | Positive association |
| van Goor et al. 2011 | 114  Full-term | 1) 220 mg DHA  2) 220 mg DHA + 220 mg ARA | 32-38 weeks  (14-20 weeks’ gestation - 3 mo pp) | BSID-II and Hempel examination at 1.5 y | No association |
| Escolano-Margarit et al. 2011 | 270  Full-term | 500 mg DHA + 150 mg EPA | 20 weeks  (20 weeks’ gestation – birth) | Hempel examination  at 4 y;  Touwen examination  at 5.5 y | No association |
| Campoy et al. 2011 | 315  Full-term | 500 mg DHA + 150 mg EPA | 20 weeks  (20 weeks’ gestation – birth) | K-ABC  at 6.5 y of age | No association  . |
| Makrides et al. 2010 | 694  Preterm | 800 mg DHA + 100 mg EPA | > 19 weeks  (<21 weeks’ gestation – birth) | BSID-III  at 1.5 y | No association |
| Dunstan et al. 2008 | 98  Full-term | 220 mg DHA + 110 mg EPA | 20 weeks  (20 weeks’ gestation – birth) | GMDS;  PPVT;  CBCL;  at 2.5 y | Inconsistent association |
| Judge et al. 2007 | 29  Full-term | 214 mg DHA | 16 weeks  (24 weeks’ gestation – birth) | 2-step problem-solving test: support step and search step;  FTII;  at 0.75 y | Inconsistent association |

Legend: RCTs = Randomized controlled trials; DHA = Docosahexaenoic acid; EPA = Eicosapentaenoic acid; mo = months; pp = postpartum; ASQ = Ages and Stages Questionnaire; mo = months; WASI-II = Wechsler Abbreviated Scale of Intelligence, Second Edition; FST = Fruit Stroop Test; ReyCF = Rey Complex Figure; TEACh = Test of Everyday Attention for Children; RAVL = Rey Auditory Verbal Learning Test; CELF = Clinical Evaluation of Language Fundamentals; WRAT-4 = Wide Range Achievement Test, Fourth Edition; SDQ = Strengths and Difﬁculties Questionnaire; y = years; BSID-III = Bayley Scales of Infant and Toddler Development, Third Edition; DAS II = Differential Ability Scales; MSCA = McCarthy Scales of Children’s Abilities; BASC-2 = Behavioral Assessment System for Children, Second Edition; K-CPT = Conners’ Kiddie Continuous Performance Test; WISC-IV = Wechsler Intelligence Scale for Children-IV; CBCL = Child Behavior Checklist; TVMI = Test of Visual-Motor Integration; CCC = Children’s Communication Checklist; VEPs = Visual Evoked Potentials; BSID-II = Bayley Scales of Infant Development, Second Edition; WMIC = Working Memory and Inhibitory Control; TAC = Teller Acuity Card; CDI = Communicative Developmental Inventory; BRIEF = Behavior Rating Inventory of Executive Function; NBAS = Neonatal Behavioral Assessment Scale; ARA = Arachidonic Acid; K-ABC = Kaufman Assessment Battery for Children; GMDS = Griffiths Mental Development Scales; PPVT = Peabody Picture Vocabulary Test; PUFAs = polyunsaturated fatty acids; FTII = Fagan Test of Infant Intelligence.

\* “Positive association” = significant positive association between DHA and neurodevelopmental outcomes; “Inconsistent association” = lack of association with some of the measured neurodevelopmental outcomes; “No association” = no statistically significant association between the two variables (DHA and neurodevelopment); “Conflicting results” = contradictory associations.