**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 | 150Preterm 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 | 543Preterm 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 | 2399Preterm 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  | 797Preterm 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 | 50Full-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 | 110Full-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  | 158Full-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  | 646Preterm | 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  | 52Full-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 DHA2) 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  | 270Full-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  | 315Full-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 | 694Preterm | 800 mg DHA + 100 mg EPA | > 19 weeks(<21 weeks’ gestation – birth) | BSID-III at 1.5 y | No association |
| Dunstan et al. 2008 | 98Full-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 | 29Full-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.