Table C1. Evidence table for randomized controlled trials

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Agostoni et al., 2009[139] Study name: NR Study dates: Enrollment occurred May and June 2005; 1-year follow-up Study design: Trial randomized parallel Location: Italy Funding source / conflict: Manufacturer supplied product	Study Population: Healthy infants Infants enrolled 1160 Infants withdrawals 69 Infants completers 1091 Mother age: 32 years (4.5 years) NR Infant age: intervention began 1 day after discharge (NA) NA Race of Mother: White European (100%)	Inclusion Criteria: weight at birth 2500 g or more, gestational age between 37 and 42 completed weeks, single birth, absence of neonatal or birth abnormalities, Apgar score 7 or higher at 5 min, and white parents. Exclusion Criteria: presence of neonatal diseases requiring hospitalization for 7 days or more; involvement of neonate in another clinical study; unknown father; and parents unable to understand the protocol requirements, to fill out the infant's diary, or to understand and speak the Italian language adequately.	Start time: Infants 1 day after discharge from birth hospital Duration: Infants 1 year Arm 1: placebo Description: oral liquid Manufacturer: Humana Italia SpA Active ingredients: 400 IU vitamin D3 Viability: Parents were advised to store the bottles in a dry and fresh environment. Dose: 1 mL once per day Blinding: Intervention and placebo preparations were identical in aroma, taste, and texture Total N-3: 0 Arm 2: Human Italia SpA Active ingredients: 400 IU vitamin D3 Viability: Parents were advised to store the bottles in a dry and fresh environment. Dose: 1 mL once per day DHA: 20 mg DHA/ml	Outcome domain: Neurological development Outcome: age achieving gross motor: hands-and-knees crawling (weeks) (Primary) Follow-up time: varies Arm 1: Sample size 476; mean 39.4; SD (6.2) Arm 2: Sample size 482; mean 38.9; SD (6.4) Outcome: age achieving gross motor: sitting without support (weeks) (Primary) Follow-up time: varies Arm 1: Sample size 542; mean 28.3; SD (4.2) Arm 2: Sample size 551; mean 26.8; SD (4.2) Outcome: age achieving gross motor: standing alone (weeks) (Primary) Follow-up time: varies Arm 1: Sample size 542; mean 50.1; SD (8.1) Arm 2: Sample size 549; mean 49.2; SD (7.6) Outcome: age achieving gross motor: walking alone (weeks) (Primary) Follow-up time: varies Arm 1: Sample size 542; mean 55.8; SD (6.7) Arm 2: Sample size 549; mean 54.9; SD (6.8)
Almaas et al., 2015[126] Study name: Unnamed	Study Population: Preterm infants Low birth weight infants	Inclusion Criteria: Very low birth weight infants (birth weight <1500 g)	Start time: Infants (intervention began when the infant received most of his nutrients enterally: >100ml human milk/kg body weight/day	Outcome domain: Cognitive development Outcome: Weschler Abbreviated Scale of Intelligence: Full Scale IQ (Secondary)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Trial D Study dates: 2003-2014 Study design: Trial randomized parallel Location: Norway Funding source / conflict: Government, None Study follow-up: 8 years Original, same study, or follow-up studies: Henriksen, 20008[107]; Ane, 2011[125]	Infants enrolled 129 Infants completers 98 Mother age: Median: Intervention: 31 years Control: 32 years 28-35 years Infant age: Median Gestational age: Control: 28.9 weeks Intervention: 28.4 weeks Gestational age: 26.6-30.9 weeks Race of Mother: NR	Exclusion Criteria: Major congenital abnormalities and cerebral hemorrhage	Duration: Infants Until discharge or bottle of study oil was empty (average 63 days of age) Arm 1: Control Description: Study oil: soy oil and medium chain triglycerides Active ingredients: 127mg linolenic acid/100 ml milk(27.1% total fatty acids) Dose: 0.5 ml study oil/100 ml human milk Blinding: Study oils packed in numbered bottles in hospital pharmacy Maternal conditions Infant conditions ALA: 16mg/100 ml milk; 3.4% total fatty acids Current smoker 15% Low birth weight 100% Other conditions 1 Small for gestational age: 30% Arm 2: Intervention Description: DHA and AA-containing oil Manufacturer: Martek Biosciences Active ingredients: 88mg/100 ml linoleic acid per 100 ml milk (18.8%) Dose: 0.5 ml study oil per 100 ml milk, ad lib Maternal conditions Infant conditions DHA: 32mg/100ml milk (6.9%) AA: 31 mg/100 ml milk (6.7% total fatty acids Current smoker 19% Low birth weight 100% Other conditions 1 Small for gestational age: 29%	Follow-up time: 8 years Arm 1: Sample size 52; mean 93.9; SD (10) Arm 2: Sample size 45; mean 92.7; SD (8.8) Outcome: Weschler Abbreviated Scale of Intelligence: Verbal IQ (Secondary) Follow-up time: 8 years Arm 1: Sample size 52; mean 90.3; SD (12.5) Arm 2: Sample size 45; mean 88.8; SD (10.3) Outcome: Weschler Abbreviated Scale of Intelligence: performance IQ (Secondary) Follow-up time: 8 years Arm 1: Sample size 52; mean 95.9; SD (14.4) Arm 2: Sample size 45; mean 95.0; SD (12.6)
Ane C. Westerberg et	Study Population:	Inclusion Criteria: All	Start time: Infants at start of enteral feeding	Outcome domain: Cognitive development

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
al., 2011[125] Study name: Unnamed Trial D Study dates: Enrollment: December 2003 and October 2005 Study design: Trial randomized parallel Location: Norway Funding source / conflict: Multiple foundations and Societies, Manufacturer supplied product Study follow-up: 20 months	Preterm infants Infants enrolled 141 Infants completers 92 Mother age: Intervention: 30.8 years Control: 31.7 years (Intervention: 4.9 years Control: 5.0 years) 28-35 years Infant age: Mean Gestational age: Intervention: 28.7 weeks Control: 28.9 weeks (Intervention: 2.9 weeks Control: 2.7 weeks) Gestational age: 26.6-30.9 weeks Race of Mother: NR Baseline biomarker information: DHA: intervention[64.2 (23.5) mg/mL] and control group [61.3 (18.7)mg / mL], AA: intervention[205.6 (52.8) mg/mL] and control group [199.6 (48.7)mg / mL],	VLBW infants (<1500g) born between December 2003 and November 2005 at Rikshospitalet-Radiumhospitalet Medical Center, Akershus University Hospital, Buskerud Hospital, and Vestfold Hospital in Norway Exclusion Criteria: Major congenital abnormalities or cerebral hemorrhage (grade 3 or 4) as determined through ultrasonography	Duration: Infants until discharge or until the study oil bottle was empty (mean duration of supplementation was 63 days) Arm 1: Placebo Description: Soy oil Active ingredients: 127mg linolenic acid/100 ml milk(27.1% total fatty acids) Dose: 0.5 ml study oil/100 ml human milk Blinding: Study oils packed in numbered bottles in hospital pharmacy ALA: 16mg/100 ml milk; 3.4% total fatty acids Arm 2: DHA + AA group Description: DHA and AA-containing oil Manufacturer: Martek Active ingredients: 88mg/100 ml linoleic acid per 100 ml milk (18.8%) Dose: 0.5 ml study oil per 100 ml milk, ad lib Maternal conditions ALA: 11mg/100 ml milk; 3.4% total fatty acids DHA: 32mg/100ml milk (6.9%) AA: 31 mg/100 ml milk (6.7% total fatty acids Current smoker 22% during pregnancy	Outcome: Bayley Mental Development Index (MDI) (Secondary) Follow-up time: 20 months Arm 1: Sample size 42; mean 82.9; SD (13.3) Arm 2: Sample size 40; mean 83.5; SD (10.5)
Atwell et al., 2013[119]	Study Population: Preterm infants	Inclusion Criteria: Infants were eligible if	Start time: Infants birth	Outcome domain: respiratory illness Outcome: one or more hospitalizations for

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study name: DINO Study dates: 2001-2005 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, Multiple foundations and Societies, Manufacturer supplied product, Some authors serve on scientific advisory boards for corporations Study follow-up: 18 months corrected age Original, same study, or follow-up studies: Smithers, 2008[104]; Makrides, 2009[116]; Smithers, 2010[117]; Manley, 2011[118]; Collins, 2011[105]; Collins, 2015[120]	Infants enrolled 657 Infants completers 648 Infant age: birth Race of Mother: White European (90.5%) Other race/ethnicity (9.5%)	born before 33 weeks' gestation Exclusion Criteria: Infants in other trials of fatty acid supplementation, or with major congenital or chromosomal abnormalities, or maternal contraindication for tuna oil ingestion (allergy or coagulopathy) were excluded.	Duration: Infants to 40 weeks' postmenstrual age (term) Arm 1: Standard DHA Description: Placebo/control group (soy oil) Dose: 6 soy oil capsules/ daily Blinding: capsules given to breastfeeding mothers or added to formula DHA: 0.35% in preterm formula Arm 2: High DHA Description: DHA maternal supplements or supplemented preterm formula Dose: 6 tuna oil capsules daily DHA: 900 mg in capsules or 1% infant formula	lower respiratory conditions (Secondary) Follow-up time: 18 months Arm 1: 82/335 (24.48%) Arm 2: 72/322 (22.36%)
Bergmann et al., 2012[52] Study name: NR Study dates: 2000-2009 Study design: Trial	Study Population: Healthy infants Pregnant enrolled 144 Pregnant completers 115	Inclusion Criteria: Healthy pregnant Caucasian women who were at least 18 years and willing to breastfeed for at least 3 months were	Start time: Pregnant 21 weeks gestation Duration: Pregnant 21 weeks until 3 months after delivery Arm 1: Vitamins and minerals ("basic") Description: Control 1	Outcome domain: growth Outcome: BMI (kg/m2) (Secondary) Follow-up time: 6 yrs Arm 1: Sample size 74; mean 15.5; SD (1.3) Arm 2: Sample size 41; mean 15.7; SD (1.5)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
randomized parallel Location: Germany Funding source / conflict: NR, None, Manufacturer supplied product Study follow-up: 6 years Original, same study, or follow-up studies: Bergmann, 2012[41]	Infants enrolled 123 Infants completers 115 Pregnant age: 30.9 years (4.89) Infant age: 21 weeks gestation Race of Mother: White European (100) Baseline biomarker information: In previous study, see refid 2803	enrolled at 21 weeks of gestation Exclusion Criteria: Mothers: increased risk of premature delivery or multiple pregnancy, allergy to cow milk protein, lactose intolerance, diabetes, smoking, consumption of alcohol (>20 g/week), or participation in another study Infants: Premature at birth (<37 weeks' gestation), had any major malformations, or were hospitalized for more than one week	Manufacturer: Nestle Arm 2: Basic supplements plus a prebiotic fructooligosaccharide (FOS) Description: Control 2 Manufacturer: Nestle Arm 3: Basic supplements, FOS, and fish oil Description: Intervention Manufacturer: Nestle DHA: 200 mg EPA: 60 mg	Outcome: head circumference (cm) (Secondary) Follow-up time: 6 yrs Arm 1: Sample size 74; mean 52.7; SD (1.3) Arm 2: Sample size 41; mean 52.5; SD (1.6) Outcome: height (cm) (Secondary) Follow-up time: 6 yrs Arm 1: Sample size 74; mean 119.6; SD (4.6) Arm 2: Sample size 41; mean 119.2; SD (5.3) Outcome: weight (kg) (Secondary) Follow-up time: 6 yrs Arm 1: Sample size 74; mean 22.3; SD (2.9) Arm 2: Sample size 41; mean 22.4; SD (3.1)
Birch et al., 2005[111] Study name: NR Study dates: Not reported Study design: Trial randomized parallel Location: US Funding source /	Study Population: Healthy infants Infants enrolled 103 Infants completers 86 Pregnant age: 31 years (4 years) Infant age: 3.6 _x0004_days (1.3 days) 1-5 days	Inclusion Criteria: All were born at 37– 40 wk after conception. Only singleton births with birth weight appropriate for gestational age Exclusion Criteria: Family history of milk protein allergy, genetic or familial eye disease, vegetarian or vegan	Start time: Infants 1-5 days Duration: Infants 52 wks Arm 1: Control Description: Commercial infant formula Brand name: Enfamil with Iron Manufacturer: Mead Johnson Nutritionals, Evansville, IN Active ingredients: Linoleic acid-8.48g/L (14.6%); 14.7 g protein/L, 37.5 g fat/L, 69.0 g carbohydrate/L Blinding: Each diet was masked by 2 color and	Outcome domain: Visual function Reason results are not reported: data only reported on graph Outcome: (Primary) Outcome domain: growth Reason results are not reported: data only reported on graph Outcome: (Secondary)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
conflict: Government, Manufacturer supplied product	Race of Mother: NR	maternal dietary patterns, maternal metabolic disease or infection, jaundice, perinatal asphyxia, meconium aspiration, or any perinatal event that resulted in placement of the infant in the neonatal intensive care unit.	2 number codes, for a total of 4 possible diet assignments. The randomization schedule had random-length blocks (block length varied from 6 to 12) and was provided in individual sealed envelopes to the study site. ALA: 1.5% of total fatty acids Arm 2: LCPUFA-supplemented formula Description: Commercial formula supplemented with LCPUFA Brand name: Enfamil with Iron plus DHASCO and ARASCO Manufacturer: Formula: Mead Johnson; DHA+ARA: Martek Biosciences Active ingredients: 15% linoleic acid,14.7 g /L protein, 37.5 g /L fat, 69.0 g /L carbohydrate ALA: 1.5% of total fatty acids DHA: 0.36% of total fatty acids AA: 0.72% of total fatty acids	
Birch et al., 2007[146] Study name: Birch Study dates: 1993-1999 Study design: Trial randomized parallel Location: US Funding source / conflict: Government, Manufacturer supplied product	Study Population: Healthy infants, Pregnant women whose unborn children were at high risk of developing asthma Infants enrolled 79+40BF Infants completers 52+32BF Infant age: birth (0-5 days) Race of Mother: NR	Inclusion Criteria: All participants were born at 37 to 40 weeks postmenstrual age. Only singleton births with birthweights appropriate for gestational age Exclusion Criteria: family history of milk-protein allergy, genetic or familial eye disease (e.g. hereditary retinal disease, strabismus), vegetarian or vegan	Start time: Infants birth (0-5 days) Duration: Infants 17 weeks Arm 1: Control Description: standard infant formula without added n-3 FA Brand name: Enfamil with Iron Manufacturer: Mead Johnson Nutritionals Active ingredients: linoleic acid: 15% of total fats ALA: 1.5% of total fats Arm 2: DHA Description: infant formula fortified with DHA Brand name: Enfamil with Iron, supplemented	Outcome domain: Cognitive development Outcome: Wechsler Preschool and Primary Scale of Intelligence: Full-Scale IQ (Secondary) Follow-up time: 4 years Arm 1: Sample size 19; mean 101.0; SE (2.6) Arm 2: Sample size 16; mean 105.9; SE (3.9) Arm 3: Sample size 32; mean 107.5; SE (3.1) Outcome: Wechsler Preschool and Primary Scale of Intelligence: Performance IQ (Secondary) Follow-up time: 4 years Arm 1: Sample size 19; mean 104.2; SE

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study follow-up: 4 years		maternal dietary patterns, maternal metabolic disease, anemia, or infection, presence of a congenital malformation or infection, jaundice, perinatal asphyxia, meconium aspiration, and any perinatal event which resulted in placement of the infant in the neonatal intensive care unit	with DHASCO Manufacturer: Formula: Mead Johnson; DHA: Martek Biosciences Active ingredients: linoleic acid: 15% of total fats ALA: 1.5% DHA: 0.36% Arm 3: DHA+ARA Description: infant formula fortified with DHA and ARA Brand name: Enfamil with Iron, fortified with DHASCO and ARASCO Manufacturer: Formula: Mead-Johnson; DHA, ARA: Martek Biosciences Active ingredients: linoleic acid 15% ALA: 1.5% DHA: 0.36% AA: 0.72%	(2.7) Arm 2: Sample size 16; mean 108.1; SE (3.8) Arm 3: Sample size 32; mean 108.6; SE (3.3) Outcome: Wechsler Preschool and Primary Scale of Intelligence: Verbal IQ (Secondary) Follow-up time: 4 years Arm 1: Sample size 19; mean 98.8; SE (2.6) Arm 2: Sample size 16; mean 102.7; SE (4.1) Arm 3: Sample size 32; mean 104.5; SE (2.9) Outcome domain: Visual function Outcome: Visual acuity Left Eye (log minimum angle of resolution in minutes of arc) (Primary) Follow-up time: 4 years Arm 1: Sample size 19; mean 0.05; SE (0.016) Arm 2: Sample size 16; mean 0.02; SE (0.018) Arm 3: Sample size 17; mean 0.03; SE (0.017) Outcome: Visual acuity Right Eye (log minimum angle of resolution in minutes of arc) (Primary) Follow-up time: 4 years Arm 1: Sample size 19; mean 0.08; SE (0.022) Arm 2: Sample size 16; mean 0.02; SE (0.019) Arm 3: Sample size 17; mean 0.03; SE

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(0.017)
Birch et al., 2010[121] Study name: Diamond Study dates: 2003-2006 Study design: Trial randomized parallel Location: US Funding source / conflict: Industry, Some authors employed by industry (companies that make the supplements) Original, same study, or follow-up studies: Drover, 2011[122]; Drover. 2012[123]; Colombo, 2013[124]; Currie, 2015[115]	Study Population: Healthy infants Infants enrolled 343 Infants completers 244 Pregnant age: NR Mother age: NR Infant age: 1-9 days Race of Mother: NR	Inclusion Criteria: Healthy term formula-fed, singleton-birth infants born in any of 5 hospitals Exclusion Criteria: Infants who had received human milk within 24 h of randomization or who had diseases or congenital abnormalities likely to interfere with normal growth and development or with the normal maturation of visual or cognitive function, poor formula intake, or known or suspected intolerance to cow milk infant formula were excluded from the study. Also excluded were infants born to mothers with chronic illness, such as HIV disease, renal or hepatic disease, type 1 or type 2 diabetes, alcoholism, or substance abuse	Start time: Infants 4-9 days of age Duration: Infants 12 months Arm 1: Control Brand name: Enfamil with IRon Manufacturer: Mead-Johnson Nutrition, Evansville IN Arm 2: 0.32% DHA Brand name: Enfamil LIPIL Manufacturer: Mead-Johnson; DHA and ARA from algal and fungal oils manufactured by Martek Biosciences Dose: not specified Blinding: not specified DHA: 0.32% or 17mg/100kcal AA: 0.64% FA or 34mg/100kcal Arm 3: 0.64% DHA Brand name: not specified Manufacturer: not specified DHA: 34mg/100kg AA: 0.64% FA or 34mg/100kcal Arm 4: 0.96% DHA Brand name: not specified Manufacturer: not specified DHA: 51mg/100kg AA: 0.64% FA or 34mg/100kcal	Outcome domain: Visual function Reason results are not reported: data only reported on graph Outcome: (Primary)
Bouwstra et al., 2003[62]	Study Population:	Inclusion Criteria:	Start time: Infants Birth	Outcome domain: Neurological

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study name: Groningen LCPUFA study Study dates: 1997-1999 Study design: Trial randomized parallel Location: Netherlands Funding source / conflict: Industry Study follow-up: 3 months Original, same study, or follow-up studies: Bouwstra, 2005[63]; de Jong, 2010[64]; de Jong, 2012[65]; van Goor, 2010[36]; Goor, 2011[66]	Healthy infants Infants enrolled 472 Infants completers 397 Mother age: 31 (5) NR Infant age: Gestational age 39.6 wk (1.3) NR Race of Mother: White European (100)	healthy term infants Exclusion Criteria: infants who had a congenital disorder that interfered with adequate functioning in daily life, infants from multiple births, infants whose mothers did not have mastery of the Dutch language or suffered from significant illness or disability, adopted and foster infants, and formula-fed infants who had received human milk for >5 d.	Duration: Infants 2 months Arm 1: Control formula Description: Standard formula with no supplemental LCPUFA Brand name: Nutrilon premium Manufacturer: Zoetermeer, Netherlands Active ingredients: linoleic acid (11mol%); ALA 1.27 mol% Dose: ad lib Blinding: not reported Maternal conditions Current smoker 32% during pregnancy Maternal abuse of alcohol/psychotropic drugs Alcohol USE during pregnancy 10% Arm 2: LCPUFA formula Description: LCPUFA formula fortified with n-3s and n-6s Brand name: NR Maternal conditions DHA: 0.30% (by wt) AA: h 0.45% (by wt) Current smoker 32% smoked during pregnancy Maternal abuse of alcohol/psychotropic drugs 13% used alcohol during pregnancy Arm 3: breastfed group Description: breastfed, no formula, not randomized here - used as reference group Maternal conditions Current smoker 28% smoked during pregnancy Maternal abuse of alcohol/psychotropic drugs 38% consumed alcohol during pregnancy	development Outcome: mildly abnormal general movements (Primary) Follow-up time: 3 months Arm 1: 41/131 (31.0%) Arm 2: 23/119 (19.0%) Outcome: normal-optimal general movements (Primary) Follow-up time: 3 months Arm 1: 28/131 (21.0%) Arm 2: 21/119 (18.0%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Bouwstra et al., 2005[63] Study name: Groningen LCPUFA study Study dates: 1997-2002 Study design: Trial randomized parallel Location: Netherlands Funding source / conflict: Industry Study follow-up: 18 months Original, same study, or follow-up studies: Bouwstra, 2003[62]; de Jong, 2010[64]; de Jong, 2012[65]; van Goor, 2010[36]; Goor, 2011[66]	Study Population: Healthy infants Infants enrolled 472 Infants completers 446 Mother age: 31 years (5 years) NR Infant age: birth Race of Mother: White European (100%)	Inclusion Criteria: healthy term infants Exclusion Criteria: infants who had a congenital disorder that interfered with adequate functioning in daily life, infants from multiple births, infants whose mothers did not have mastery of the Dutch language or suffered from significant illness or disability, adopted and foster infants, and formula-fed infants who had received human milk for >5 d.	Start time: Infants Birth Duration: Infants 2 months Arm 1: Control group Description: Standard formula Brand name: Nutrilon premium Manufacturer: Zoetermeer, Netherlands Active ingredients: linoleic acid (11mol%); ALA 1.27 mol% Dose: ad lib Maternal conditions Current smoker 31% during pregnancy Maternal abuse of alcohol/psychotropic drugs Alcohol USE during pregnancy 8% Arm 2: LCPUFA formula Description: LCPUFA formula Dose: ad lib Maternal conditions DHA: 0.30% DHA AA: 0.45% AA Current smoker 31% during pregnancy Maternal abuse of alcohol/psychotropic drugs 9% used alcohol during pregnancy Arm 3: breast feeding group Description: breast fed, no formula Maternal conditions Current smoker 19% smoked during pregnancy Maternal abuse of alcohol/psychotropic drugs 24% used alcohol during pregnancy	Outcome domain: Cognitive development Outcome: Bayley Scales of Infant Development (Mental Development Index) (Secondary) Follow-up time: 18 months Arm 1: Sample size 155; mean 105.4; SD (15) Arm 2: Sample size 135; mean 102.7; SD (15.4) Outcome domain: Neurological development Outcome: Bayley PDI (Secondary) Follow-up time: 18 months Arm 1: Sample size 169; mean 100.9; SD (13.6) Arm 2: Sample size 146; mean 99.4; SD (13.4) Outcome: neurological optimality score (Secondary) Follow-up time: 18 months Arm 1: Sample size 169; median 52.0; 5, 95 percentile Arm 2: Sample size 146; median 52.0; 5, 95 percentile Outcome: number of children with minor neurological dysfunction (Secondary) Follow-up time: 18 months Arm 1: 8/169 (5.0%) Arm 2: 10/146 (7.0%)
Brew et al., 2015[165] Study name: CAPS	Study Population: Healthy infants	Inclusion Criteria: parent or an older sibling had a history of	Start time: Infants Birth Duration: Infants 8 years	Outcome domain: Cognitive development Outcome: National Assessment Program Literacy and Numeracy (NAPLAN):

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study dates: September 1997 to 1999-2008 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government Study follow-up: 3, 5, 7, and 9 years of school Original, same study, or follow-up studies: Mihrshahi, 2003[166]; Mihrshahi, 2004[167]; Mihrshahi, 2006[168]; Toelle, 2010[169]	Infants enrolled 616 Infants completers 239 Pregnant age: 29.8 (4.90) Infant age: NR Race of Mother: NR (NR) Baseline biomarker information: Total n-3 PUFA (DHA+EPA+DPA+ALA) as % of total fatty acids at 4 ages (on a bar chart): 18 months: Intervention 72% Controls: 48% 3 years Intervention 64% Controls: 46% 5 years Intervention 62% Controls: 50% 8 years: Intervention 50% Controls: 45% Baseline Omega-3 intake: 500 mg of tuna fish oil, daily, which comprised 37% LCPUFA (including 135 mg of DHA and 32 mg of EPA per capsule) and 6% omega-6 PUFA (linoleic acid,	asthma or recurrent wheezing, and that the child was born at 436 weeks of gestation Exclusion Criteria: NR	Arm 1: Intervention Description: d 500 mg of tuna fish oil 37% LCPUFA Manufacturer: Nu-Mega Industries Pty Ltd, Brisbane, Australia DHA: 135 mg EPA: 32 mg AA: 6% of omega 3PUFA (linoleic acid, arachidonic acid, docosapentaenoic acid) Arm 2: Control Description: a daily Sunola oil capsule Manufacturer: Nu-Mega Industries ALA: 0.3%	numeracy score (difference in NAPLAN units) (Secondary) Follow-up time: 10-11 years 239; difference in means -13.7; 95% CI Follow-up time: 12-13 years 239; difference in means -11.7; 95% CI Follow-up time: 14-15 years 239; difference in means -24.1; 95% CI Follow-up time: 8-9 years 239; difference in means -25.4; 95% CI Outcome: National Assessment Program Literacy and Numeracy (NAPLAN): reading score (difference in NAPLAN units) (Secondary) Follow-up time: 10-11 years 239; difference in means -3.2; 95% CI Follow-up time: 12-13 years 239; difference in means -7.0; 95% CI Follow-up time: 14-15 years 239; difference in means -19.9; 95% CI Follow-up time: 8-9 years 239; difference in means -27.03; 95% CI

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	arachidonic acid and docosapentaenoic acid)			
Campoy et al., 2011[141] Study name: NR Study dates: NR, <2011 Study design: Trial randomized factorial design Location: Germany, Spain, Hungary Funding source / conflict: Government, None Study follow-up: 6.5 years Original, same study, or follow-up studies: Escolano-Margarit, 2011[130]	Study Population: Healthy pregnant women Pregnant enrolled 315 Pregnant completers 154 Pregnant age: 31 years (NR) Race of Mother: White European (99%) Baseline biomarker information: From Krauss, 2007 mean DHA Placebo group 5.95 Fish oil group 5.75 5-MHTF (folic acid) group 5.68 Fish oil + 5-MHTF group 5.89 mean EPA Placebo group 0.28 Fish oil group 0.18 5-MHTF (folic acid) group 0.17 Fish oil + 5-MHTF group 0.22	Inclusion Criteria: health pregnant women, singleton pregnancy, gestation 20 week at enrollment, body weight between 50 and 92 kg at study entry, and intention to deliver in one of the obstetrical centers Exclusion Criteria: serious chronic illness (e.g., diabetes, hepatitis, or chronic enteric disease), use of FO supplements since the beginning of pregnancy or folate or vitamin B-12 supplements after gestation week 16	Start time: Pregnant 22 weeks gestation Infants 22 weeks gestation Duration: Pregnant until birth Infants until birth Arm 1: placebo Description: milk-based supplement Brand name: Blemil Plus Manufacturer: Ordesa Laboratorios, Barcelona, Spain) Active ingredients: vitamins and minerals in amounts meeting the recommended intakes during the second half of pregnancy for European women Dose: one daily dose of 15 g Blinding: supplements were not distinguishable with respect to the appearance of the sachets or to their contents Maternal conditions Current smoker during pregnancy 8.9% Arm 2: fish oil Description: fish oil in milk-based supplement Manufacturer: Pronova Biocare, Lysaker, Norway Active ingredients: vitamins and minerals in amounts meeting the recommended intakes during the second half of pregnancy for European women Dose: one 15 g dose Maternal conditions DHA: 500 mg EPA: 100 mg	Outcome domain: Cognitive development Outcome: Kauffman Assessment Battery for Children: Mental Processing Composite (Secondary) Follow-up time: 6.5 years Arm 1: Sample size 45; median 110.0; IQR (14.5) Arm 2: Sample size 37; median 110.0; IQR (11) Arm 3: Sample size 35; median 108.0; IQR (12) Arm 4: Sample size 37; median 108.0; IQR (10.5) Outcome: Kauffman Assessment Battery for Children: Sequential Processing Scale (Secondary) Follow-up time: 6.5 years Arm 1: Sample size 45; median 106.0; IQR (19) Arm 2: Sample size 37; median 108.0; IQR (12) Arm 3: Sample size 35; median 104.0; IQR (14) Arm 4: Sample size 37; median 104.0; IQR (17) Outcome: Kauffman Assessment Battery for Children: Simultaneous Processing Scale (Secondary) Follow-up time: 6.5 years Arm 1: Sample size 45; median 112.0; IQR (11.5) Arm 2: Sample size 37; median 112.0; IQR (10.5)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
			Current smoker during pregnancy 18.9% Arm 3: folic acid Description: 400 ug 5-MTHF Manufacturer: BASF, Ludwigshafen, Germany Active ingredients: vitamins and minerals in amounts meeting the recommended intakes during the second half of pregnancy for European women Dose: one 15 g dose Maternal conditions Current smoker during pregnancy 17.1% Arm 4: folic acid + fish oil Description: 400 _x0001_g 5-MTHF +fish oil Manufacturer: BASF, Ludwigshafen, Germany Active ingredients: vitamins and minerals in amounts meeting the recommended intakes during the second half of pregnancy for European women Dose: one 15 g dose Maternal conditions DHA: 500 mg EPA: 100 mg Current smoker during pregnancy 18.9%	Arm 3: Sample size 35; median 109.0; IQR (14) Arm 4: Sample size 37; median 110.0; IQR (10.5)
Carlson et al., 1996[160] Study name: NR Study dates: NR (<1995) Study design: Trial randomized parallel	Study Population: Preterm infants Infants enrolled 59 Infants completers 27 Infant age: 3 days (NR) 2 to 5 days Race of Mother: NR	Inclusion Criteria: infants weighing between 747 and 1275 g at birth who achieved full enteral feeding of 418 kJ (100 kcal)/kg/d by 6 wk of age and tolerated enteral feeding thereafter	Start time: Infants 3 days after birth Duration: Infants 2 months Arm 1: Placebo Description: standard formula Brand name: Similac Special Care Manufacturer: Ross Products Division, Abbott Laboratories Infant conditions	Outcome domain: Cognitive development Outcome: Fagan Test of Intelligence: time/look (seconds) (Secondary) Follow-up time: 12 months Arm 1: Sample size 12; mean 1.3; SD (0.1) Arm 2: Sample size 15; mean 1.13; SD (0.07) Outcome: Fagan Test of Intelligence: looks to familiar (number) (Secondary)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Location: US Funding source / conflict: Government, Manufacturer supplied product Study follow-up: 12 months	(100)	Exclusion Criteria: intraventricular or periventricular hemorrhage > grade 2, a history of maternal cocaine or alcohol abuse, congenital anomalies likely to affect long-term growth and development, or intrauterine growth retardation defined as a weight for gestational age below the 5th percentile	ALA: 2.4 g / 100 g Other dose 1: linolenic acid 21.2 g/ 100 g Pre-term birth 100% Other conditions 1 bronchopulmonarydysplasia (BPD) or chronic lung disease of % Arm 2: DHA supplement Description: formula supplemented with DHA from marine oil Brand name: Similac Special Care (plus marine oil) Manufacturer: Ross Products Division, Abbott Laboratories Infant conditions ALA: 2.4 g / 100 g DHA: 0.20 g / 100g EPA: 0.06 g / 100 g Other dose 1: linolenic acid 21.2 g/ 100 g Pre-term birth 100% Other conditions 1 bronchopulmonarydysplasia (BPD) or chronic lung disease of- %	Follow-up time: 12 months Arm 1: Sample size 12; mean 17.5; SD (1.4) Arm 2: Sample size 15; mean 21.5; SD (1.3) Outcome: Fagan Test of Intelligence: looks to novel (number) (Secondary) Follow-up time: 12 months Arm 1: Sample size 12; mean 22.9; SD (1.5) Arm 2: Sample size 15; mean 25.3; SD (1.6) Outcome: Fagan Test of Intelligence: novel time (% of total) (Secondary) Follow-up time: 12 months Arm 1: Sample size 12; mean 64.0; SD (1.9) Arm 2: Sample size 15; mean 59.7; SD (1.7) Outcome: Fagan Test of Intelligence: time to familiar (seconds) (Secondary) Follow-up time: 12 months Arm 1: Sample size 12; mean 16.9; SD (1) Arm 2: Sample size 15; mean 19.3; SD (0.9) Outcome: Fagan Test of Intelligence: time to novel (seconds) (Secondary) Follow-up time: 12 months Arm 1: Sample size 12; mean 33.1; SD (1.4) Arm 2: Sample size 15; mean 31.5; SD (1.5) Outcome: Fagan Test of Intelligence: time/familiar look (seconds) (Secondary) Follow-up time: 12 months Arm 1: Sample size 12; mean 1.04; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(0.11) Arm 2: Sample size 15; mean 0.95; SD (0.08) Outcome: Fagan Test of Intelligence: time/novel look (seconds) (Secondary) Follow-up time: 12 months Arm 1: Sample size 12; mean 1.49; SD (0.09) Arm 2: Sample size 15; mean 1.28; SD (0.06) Outcome: Fagan Test of Intelligence: total looks (number) (Secondary) Follow-up time: 12 months Arm 1: Sample size 12; mean 40.4; SD (2.7) Arm 2: Sample size 15; mean 46.8; SD (2.7) Outcome: Fagan Test of Intelligence: total time (seconds) (Secondary) Follow-up time: 12 months Arm 1: Sample size 12; mean 50.0; SD (1.6) Arm 2: Sample size 15; mean 50.8; SD (1.7)
Carlson et al., 2013[31] Study name: NR Study dates: 2006.01-2011.10 Study design: Trial randomized parallel Location: US	Study Population: Healthy pregnant women Pregnant enrolled 350 Pregnant withdrawals 49 Pregnant completers 301 Pregnant age: placebo: 24.8; DHA: 25.3	Inclusion Criteria: English speaking, between 8 and 20 wk of gestation, between 16 and 35.99 y of age, and planning to deliver at a hospital in the Kansas City metropolitan area Exclusion Criteria:	Start time: Pregnant 99.6/102.9 day Duration: Pregnant enrollment to birth Arm 1: Placebo Description: half soybean and half coin oil Manufacturer: DSM Nutritional Products) Active ingredients: a-linolenic acid Dose: 3 *capsule 200/day Blinding: both DHA and placebo capsules were orange flavored	Outcome domain: Birth weight Outcome: birth weight (g) (Primary) Follow-up time: birth Arm 1: Sample size 147; mean 3187.0; SD (602) Arm 2: Sample size 154; mean 3359.0; SD (524) Outcome domain: Gestational hypertension preeclampsia eclampsia Outcome: preeclampsia (Secondary)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Funding source / conflict: Government, Manufacturer supplied product	(placebo 4.7; DHA 4.9) Race of Mother: Black (46%;37%) Non-black (54%; 63%) Baseline biomarker information: RBC-phospholipid-DHA (placebo group 4.3 +- 1.3; 4.3 +- 1.1) Baseline Omega-3 intake: Voluntary DHA intake from supplement (placebo group 15%, DHA group 9%)	carrying more than one fetus, had preexisting diabetes mellitus or systolic blood pressure $140 mm Hg at enrollment, or had any serious health condition likely to affect the prenatal or postnatal growth and development of their offspring, including cancer, lupus, hepatitis, HIV/AIDS, or a diagnosed alcohol or chemical dependency, or if the initial screening based on their self-reported weight and height suggested a BMI (in kg/m2 >=40).	Arm 2: DHA Description: marine algae-oil source of DHA Manufacturer: DHASCO; DSM Nutritional Products, formerly Martek Biosciences) Dose: 200 mg capsule, 3 times a day DHA: 200mg/capsule * 3	Follow-up time: during pregnancy Arm 1: 2/147 (1.3%) Arm 2: 2/154 (1.3%) Outcome domain: LBW Outcome: birthweight <1500g (Secondary) Follow-up time: birth Arm 1: 5/147 (3.4%) Arm 2: 0/154 (0.0%) Outcome: birthweight <2500g (Secondary) Follow-up time: birth Arm 1: 13/147 (9.0%) Arm 2: 6/154 (3.9%) Outcome domain: duration of gestation Outcome: gestational age (days) (Primary) Follow-up time: birth Arm 1: Sample size 147; mean 272.8; SD (17) Arm 2: Sample size 154; mean 275.7; SD (11.2) Outcome: incidence of premature birth (Secondary) Follow-up time: birth Arm 1: 13/147 (8.8%) Arm 2: 12/154 (7.8%)
Cheatham et al., 2011[129] Study name: Danish National Birth Cohort-Lactating Women Study dates: 1998-2007 Study design:	Study Population: Healthy infants Pregnant enrolled 150 Pregnant completers 98 Infants enrolled 98 Infants completers 92	Inclusion Criteria: Described in Ref. 26 All the children who participated in the 9 month follow-up visit (n = 149) were invited to participate in the 7 year follow-up study.	Start time: Pregnant birth Duration: Pregnant 9 months Arm 1: Fish oil Manufacturer: m BASF Health and Nutrition A/S, Ballerup, Denmark DHA: 0.62 g EPA: 0.79 g	Outcome domain: Cognitive development Outcome: Stroop scores (Secondary) Follow-up time: 7.5 years Arm 1: Sample size 28; mean -0.21; SD (0.1) Arm 2: Sample size 35; mean -0.23; SD (0.14) Outcome: Woodcock Johnson Test: Standardized speed of processing

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Observational prospective Location: Denmark Funding source / conflict: Government Study follow-up: 7 years Original, same study, or follow-up studies: Lauritzen, 2004[127]; Lauritzen, 2005[102]; Lauritzen, 2005[128]	Infant age: 7.5 Race of Mother: NR (100)	Exclusion Criteria: Living outside Zealand	Total N-3: 1.5 g/d LCPUFA Arm 2: Olive oil Manufacturer: m BASF Health and Nutrition A/S, Ballerup, Denmark	(Secondary) Follow-up time: 7.5 years Arm 1: Sample size 27; mean 1.02; SD (0.26) Arm 2: Sample size 36; mean 0.96; SD (0.26)
Clandinin et al., 2005[108] Study name: NR Study dates: NR Study design: Trial randomized parallel Location: Canada Funding source / conflict: Industry	Study Population: Preterm infants Infants enrolled 361 preterm+105 term breastfed Infants completers 179 preterm and 76/105 term breastfed Infant age: 30.6 weeks postmenstrual age 24-36 weeks postmenstrual age Race of Mother: NR (100)	Inclusion Criteria: Phase I: gestational age <35 weeks PMA and received <10 total days of enteral feedings of >30 mL/kg per day. Infants initially fed human milk were not enrolled unless formula was started within 10 days after completing the first day of human milk feeding Phase II: completion of phase I and >=80% enteral intake from study formula during hospitalization and 100% of caloric intake	Start time: Infants 10 days of age Duration: Infants 118 weeks Arm 1: Control Description: Non-supplemented premature, discharge, and term formula Dose: Ad lib Blinding: Not reported Infant conditions Pre-term birth 119 (100%) Arm 2: Algal-DHA Description: supplemented premature infant formula supplemented with DHA from algal oil Manufacturer: Martek Biosciences Dose: ad lib DHA: 17mg/100kcal (0.33% by weight) EPA: 0.1% by weight AA: 34mg/100kcal (0.67% by weight)	Outcome domain: Cognitive development Outcome: Bayley Scale of Infant Development II (Mental developmental index) (Unspecified) Follow-up time: 118 weeks Arm 1: Sample size 54; mean 77.0; SE (2) Arm 2: Sample size 44; mean 83.0; SE (2) Arm 3: Sample size 60; mean 87.0; SE (2) Arm 4: Sample size 58; mean 98.0; SE (2) Outcome domain: Neurological development Outcome: Bayley Scale of Infant Development II (Physical developmental index) (Unspecified) Follow-up time: 118 weeks Arm 1: Sample size 54; mean 83.0; SE (2) Arm 2: Sample size 46; mean 88.0; SE (2) Arm 3: Sample size 59; mean 88.0; SE (2) Arm 4: Sample size 59; mean 98.0; SE (2)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
		from study formula at completion of phase 1. Birth weight<1500g Exclusion Criteria: congenital abnormalities of the gastrointestinal tract, hepatitis, hepatic or biliary pathology, necrotizing enterocolitis confirmed before enrollment, or history of underlying disease or congenital malformation likely to interfere with evaluation	Arm 3: Fish-DHA Description: Premature infant formula supplemented with DHA from tuna fish oil Manufacturer: Martek Biosciences Dose: ad lib DHA: 17mg DHA/100 kcal AA: 34mg/100 kcal Arm 4: Reference Description: Breast fed term infants	Outcome domain: growth Reason results are not reported: data only reported on graph Outcome: (Unspecified)
Collins et al., 2011[105] Study name: DINO Study dates: 2001-2007 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, Manufacturer supplied product Study follow-up: 18	Study Population: Preterm infants Postpartum women Breast-feeding women Pregnant enrolled 545 Infants enrolled 657 Infants completers 598 Pregnant age: high DHA group 29.9; standard DHA group 30.2 (high DHA group 5.8; standard DHA group 5.4)	Inclusion Criteria: infant born <33 weeks gestation Exclusion Criteria: Infants were excluded if they had major congenital or chromosomal abnormalities; were a multiple birth where not all live births were eligible; were in other trials of fatty acid supplementation or had a lactating mother where tuna oil was	Start time: Infants birth Duration: NR Arm 1: standard DHA Description: placebo soya oil capsules for lactating women and/or standard pre-term formula Manufacturer: Capsule: Clover Corporation; Formula: Mead Johnson Nutritionals and Nutricia Australasia Dose: 6*500mg placebo soya oil capsules Blinding: All capsules were similar in size, shape and colour. Formula was packaged by colour code. Parents, clinicians and all research personnel were blinded to the participant's study group	Outcome domain: growth Outcome: head circumference (cm) (Secondary) Follow-up time: 12 months Arm 1: Sample size 231; mean 46.2; SD (1.8) Arm 2: Sample size 225; mean 46.1; SD (1.8) Follow-up time: 18 months Arm 1: Sample size 305; mean 47.8; SD (1.7) Arm 2: Sample size 282; mean 47.8; SD (1.8) Follow-up time: 4 months Arm 1: Sample size 312; mean 41.8; SD (1.7) Arm 2: Sample size 289; mean 41.6; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
months Original, same study, or follow-up studies: Smithers, 2008[104]; Makrides, 2009[116]; Smithers, 2010[117]; Manley, 2011[118]; Atwell, 2013[119]; Collins, 2015[120]	Infant age: 4 day high DHA 3-6; standard 2-5 Race of Mother: NR (100)	contraindicated (bleeding disorders, anticoagulants).	Arm 2: High DHA Description: tuna oil capsules or DHA pre-term formula Manufacturer: Capsule: Clover Corporation; Formula: Mead Johnson Nutritionals and Nutricia Australasia Dose: six 500 mg DHA-rich tuna oil capsules per day	(1.7) Outcome: length (cm) (Secondary) Follow-up time: 12 months Arm 1: Sample size 239; mean 74.1; SD (3.7) Arm 2: Sample size 226; mean 74.3; SD (3.6) Follow-up time: 18 months Arm 1: Sample size 306; mean 81.2; SD (3.9) Arm 2: Sample size 286; mean 81.9; SD (4) Follow-up time: 4 months Arm 1: Sample size 311; mean 61.2; SD (3.4) Arm 2: Sample size 294; mean 61.3; SD (3.2) Outcome: weight (g) (Secondary) Follow-up time: 12 months Arm 1: Sample size 240; mean 9195.0; SD (1410) Arm 2: Sample size 231; mean 9317.0; SD (1455) Follow-up time: 18 months Arm 1: Sample size 306; mean 10775.; SD (1520) Arm 2: Sample size 292; mean 11029.; SD (1764) Follow-up time: 4 months Arm 1: Sample size 316; mean 6203.0; SD (1059) Arm 2: Sample size 299; mean 6218.0; SD (1013)
Collins et al., 2015[120]	Study Population: Preterm infants	Inclusion Criteria: infants born at <33	Start time: Infants within 5 days of 1st enteral feeding	Outcome domain: ADHD Outcome: ADHD Conners 3 Al-parent:

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study name: DINO Study dates: 2001-2013 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Industry, Government Study follow-up: 7 years Original, same study, or follow-up studies: Smithers, 2008[104]; Makrides, 2009[116]; Smithers, 2010[117]; Manley, 2011[118]; Collins, 2011[105]; Atwell, 2013[119]; Collins, 2015[120]	Infants enrolled 657 Infants completers 604 Infant age: median 30 weeks gestational age 28-31 weeks Race of Mother: NR (100)	weeks' gestation from five Australian tertiary hospitals between 2001 and 2005 Exclusion Criteria: a major congenital or chromosomal abnormality, multiple birth in which not all live-born infants were eligible, enrollment in other trials of fatty acid supplementation, or if fish oil was contraindicated in the lactating mother	Duration: Infants to expected due date Arm 1: standard DHA Description: DHA supplementation of infant formula or breastfeeding mothers to achieve DHA concentrations of term formula fed infants DHA: ___20 mg/kg/ day of DHA Arm 2: High DHA Description: DHA supplementation of infant formula or breastfeeding mothers to achieve DHA concentration of breastmilk DHA: ___50 mg/kg/ day of DHA	ADHD t score (total score) (Secondary) Follow-up time: 7 years Arm 1: Sample size 313; mean 64.4; SD (18.7) Arm 2: Sample size 291; mean 65.6; SD (18.5) Outcome: number with ADHD (parent reported) (Secondary) Follow-up time: 7 years Arm 1: 7/298 (2.3%) Arm 2: 9/285 (3.16%) Outcome domain: Autism Outcome: number with autism spectrum disorder Follow-up time: 7 years Arm 1: 9/298 (3.0%) Arm 2: 10/285 (3.5%) Outcome domain: Cognitive development Outcome: Weschler Abbreviated Scale of Intelligence: Full Scale IQ (Secondary) Follow-up time: 7 years Arm 1: Sample size 313; mean 98.5; SD (14.9) Arm 2: Sample size 291; mean 98.3; SD (14) Outcome: Weschler Abbreviated Scale of Intelligence: Performance IQ (Secondary) Follow-up time: 7 years Arm 1: Sample size 313; mean 98.5; SD (13.6) Arm 2: Sample size 291; mean 98.5; SD (14.5) Outcome: Weschler Abbreviated Scale of Intelligence: Verbal IQ (Secondary)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Follow-up time: 7 years Arm 1: Sample size 313; mean 98.8; SD (15.8) Arm 2: Sample size 291; mean 98.0; SD (14.2) Outcome domain: Neurological development Outcome: Rey Auditory Verbal Learning Test: Delayed recall raw score (Secondary) Follow-up time: 7 years Arm 1: Sample size 313; mean 7.2; SD (3) Arm 2: Sample size 291; mean 7.3; SD (3.5) Outcome: Rey Auditory Verbal Learning Test: Delayed recognition correct words (Secondary) Follow-up time: 7 years Arm 1: Sample size 313; mean 13.1; SD (3) Arm 2: Sample size 291; mean 13.3; SD (2.6) Outcome: Rey Auditory Verbal Learning Test: Total (trials 1-5) correct words (Secondary) Follow-up time: 7 years Arm 1: Sample size 313; mean 34.8; SD (10.8) Arm 2: Sample size 291; mean 34.4; SD (12.1) Outcome: Rey Auditory Verbal Learning Test: Total intrusions (Secondary) Follow-up time: 7 years Arm 1: Sample size 313; mean 2.5; SD (4) Arm 2: Sample size 291; mean 2.1; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(3.5) Outcome: Rey Auditory Verbal Learning Test: Total repetitions (Secondary) Follow-up time: 7 years Arm 1: Sample size 313; mean 3.7; SD (4.1) Arm 2: Sample size 291; mean 4.0; SD (4.5) Outcome: Rey Auditory Verbal Learning Test: Trial 1 correct words (Secondary) Follow-up time: 7 years Arm 1: Sample size 313; mean 4.3; SD (2) Arm 2: Sample size 291; mean 4.4; SD (2) Outcome domain: Visual function Outcome: Test of visual perception skills: figure ground standard score (Secondary) Follow-up time: 7 years Arm 1: Sample size 313; mean 9.6; SD (4.3) Arm 2: Sample size 291; mean 9.4; SD (3.8) Outcome: Test of visual perception skills: visual closure standard score (Secondary) Follow-up time: 7 years Arm 1: Sample size 313; mean 8.0; SD (3.7) Arm 2: Sample size 291; mean 7.6; SD (3.6) Outcome: Test of visual perception skills: visual discrimination standard score (Secondary) Follow-up time: 7 years Arm 1: Sample size 313; mean 8.1; SD (3.6) Arm 2: Sample size 291; mean 8.1; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(3.1)
Colombo et al., 2013[124] Study name: Diamond Study dates: 09/03/03-09/25/05 Study design: Trial randomized parallel Location: US Funding source / conflict: Industry, Government, Manufacturer supplied product Study follow-up: 18 months-6 years Original, same study, or follow-up studies: Birch, 2010[121]; Drover, 2011[122]; Drover. 2012[123]; Currie, 2015[115]	Study Population: Healthy infants Infants enrolled 159 Infants completers 81 Pregnant age: 24.1 (5.1) Race of Mother: White European (34.9) Black (63.9) Other race/ethnicity (1.2)	Inclusion Criteria: Healthy, full term formula-fed singleton infants, 37-42 weeks gestation, 2490-4200 g birth weight, born in Kansas City between 9/3/03 and 9/25/05 Exclusion Criteria: Receipt of human milk within 24 h of randomization; maternal and newborn health conditions known to interfere with normal growth and development (e.g., intrauterine growth restriction) or with normal cognitive function (e.g., congenital anomalies or established genetic diagnoses associated with intellectual disability), poor formula intake, or intolerance to cow milk infant formula; mothers with physician-documented chronic illness (e.g., HIV, renal or hepatic	Start time: Infants Birth Duration: Infants 12 months Arm 1: 0.00% Description: Control, no DHA or AA Blinding: NR Arm 2: 0.32% Description: 0.32% DHA DHA: 17mg/100 kcal AA: 34 mg/100 kcal Arm 3: 0.64% DHA: 34mg/100 kcal AA: 34 mg/100 kcal Arm 4: 0.96% DHA: 51mg/100 kcal AA: 34 mg/100 kcal	Outcome domain: Cognitive development Outcome: Macarthur-Bates Communicative Development Inventory Follow-up time: 18 months Arm 1: Sample size 18; mean 71.0; SEM (20) Arm 2: Sample size 21; mean 55.0; SEM (15) Arm 3: Sample size 18; mean 97.0; SEM (20) Arm 4: Sample size 24; mean 73.0; SEM (15) Outcome: Weschler Primary Preschool Test of Intelligence: Full Scale IQ (Secondary) Follow-up time: 6 year 66; mean 96.2; SE (2) Arm 1: Sample size 18; mean 90.5; SE (3) Outcome domain: Neurological development Outcome: Bayley PDI (Secondary) Follow-up time: 18 months Arm 1: Sample size 18; mean 99.0; SEM (5) Arm 2: Sample size 21; mean 97.0; SEM (5) Arm 3: Sample size 18; mean 97.0; SEM (5) Arm 4: Sample size 24; mean 98.0; SEM (5)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
		disease, type 1 or type 2 diabetes, alcoholism, or substance abuse)		
Courville et al., 2011[38] Study name: NR Study dates: NR Study design: Trial randomized parallel Location: US Funding source / conflict: Industry, Government	Study Population: Healthy pregnant women Pregnant enrolled 47 Pregnant withdrawals 0 Pregnant completers 47 Pregnant age: NR (NR) NR Race of Mother: White European (8.5) Black (10.6) Asian (4.3) Minority (Puerto Rican/Latino 66%; African - other 8.5%; Other or mixed ethnicity = 2%) Baseline Omega-3 intake: Dietary DHA intake (mg/d), not including the intervention food, from 24 h dietary recalls: DHA-FF 67+-7 (SD); Placebo 87+-10 (SD), P=0.059	Inclusion Criteria: Healthy pregnant women, mid-pregnancy (20–24 weeks) Exclusion Criteria: parity .5; history of chronic hypertension; hyperlipidemia; renal or liver disease; heart disease; thyroid disorder; multiple gestations; having been pregnant or lactating in the previous 2 years.	Start time: Pregnant 20-24 wk of gestation Duration: Pregnant until birth Arm 1: Placebo Description: placebo bars (Manufacturer: Nestec Limited (Vevey, Switzerland) Dose: 5 placebo bars per week Blinding: NR Arm 2: DHA-FF Description: DHA cereal-based bars Manufacturer: Nestec Limited (Vevey, Switzerland) Dose: 5DHA cereal-based bars per week DHA: 241 mg/d EPA: 30.1 mg/d	Outcome domain: Birth weight Outcome: birth weight (kg) (Unspecified) Follow-up time: birth Arm 1: Sample size 25; mean 3.19; SD (0.44) Arm 2: Sample size 22; mean 3.33; SD (0.46) Outcome domain: duration of gestation Outcome: gestational age (weeks) (Unspecified) Follow-up time: birth Arm 1: Sample size 25; mean 39.4; SD (1.2) Arm 2: Sample size 22; mean 39.9; SD (1.1)
Currie et al., 2015[115] Study name: Diamond	Study Population: Healthy infants	Inclusion Criteria: Healthy, singleton, term (37–42 weeks	Start time: Infants birth Duration: Infants 12 months	Outcome domain: growth Outcome: BMI (Secondary) Follow-up time: 2-6 years

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study dates: 2003-2011 Study design: Trial randomized parallel Location: US Funding source / conflict: Industry, Government, Manufacturer supplied product Study follow-up: 6 years Original, same study, or follow-up studies: Birch, 2010[121]; Drover, 2011[122]; Drover. 2012[123]; Colombo, 2013[124]	Infants enrolled 159 Infants completers 92 Mother age: 22.9 y (4.1 y) Race of Mother: White European (NR) Black (59-87%) Asian (NR) Hispanic (0-9%) Inuit Eskimo (NR) Other race/ethnicity (NR) Non-black (13-41%)	gestation), formula-fed infants were eligible for the study if they weighed between 2490 and 4550 g at birth. All were born between September 2003 and October 2005. Only one child per family could participate. Exclusion Criteria: Infants were excluded if they were older than 9 days, had received human breast milk within 24 h of randomization or if there were newborn health conditions known to interfere with normal growth and development or cognitive function (e.g., intrauterine growth restriction, congenital anomalies or established genetic disorders associated with intellectual disability). Infants were also excluded if they previously demonstrated any evidence of cows' milk	Arm 1: Placebo Manufacturer: Mead Johnson Nutrition Blinding: eight colored labeling scheme and provided to participants by courier Arm 2: DHA < ARA Description: 0.32% DHA 0.64% ARA Manufacturer: Mead Johnson Nutrition DHA: 0.32% AA: 0.64% Arm 3: DHA = ARA Description: 0.64% DHA 0.64% ARA Manufacturer: Mead Johnson Nutrition DHA: 0.64% AA: 0.64% Arm 4: DHA > ARA Description: 0.96% DHA 0.64% ARA Manufacturer: Mead Johnson Nutrition DHA: 0.96% AA: 0.64%	Arm 1: Sample size 15; mean 16.6; SE (0.4) Arm 2: Sample size 54; mean 16.9; SE (0.4) Outcome: BMI-for-age percentile (Secondary) Follow-up time: 2-6 years Arm 1: Sample size 15; mean 61.2; SE (4.8) Arm 2: Sample size 54; mean 67.8; SE (3.2) Outcome: Length-for-age percentile (Secondary) Follow-up time: 2-6 years Arm 1: Sample size 15; mean 46.5; SE (4.6) Arm 2: Sample size 54; mean 59.1; SE (3.5) Follow-up time: birth-18 months Arm 1: Sample size 15; mean 53.1; SE (3.7) Arm 2: Sample size 54; mean 61.8; SE (2.4) Outcome: Weight-for-age percentile (Secondary) Follow-up time: 2-6 years Arm 1: Sample size 15; mean 49.8; SE (12) Arm 2: Sample size 54; mean 68.0; SE (10.8) Follow-up time: birth-18 months Arm 1: Sample size 15; mean 50.0; SE (3.8) Arm 2: Sample size 54; mean 54.5; SE (2.6)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
		formula intolerance or if born to mothers with physician-documented chronic illness (e.g., HIV, renal or hepatic disease, type 1 or 2 diabetes, alcoholism or other substance abuse).		
D'Vaz et al., 2012[142] Study name: IFOS Study dates: 2005-2009 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, Multiple foundations and Societies, None, Manufacturer supplied product Original, same study, or follow-up studies: Meldrum, 2012[140]	Study Population: Pregnant women with allergies Infants enrolled 420 Infants completers 323 Pregnant age: Placebo: 33.2 Fish Oil: 32.5 (Placebo: 4.2 Fish Oil: 4.8) Infant age: Term (39.3 weeks gestation) Race of Mother: NR (100)	Inclusion Criteria: Maternal: Pregnant History of doctor diagnosed asthma or allergic rhinitis Skin prick positive to at least one allergen Exclusion Criteria: Maternal: Smoking Auto-immune disease Pre-existing medical conditions other than asthma High-risk pregnancy Seafood allergy Fish eaten more than three times per week Fish oil supplementation already taken (in excess of 1000 mg per day) Exclusion from data analysis criteria due to protocol deviations: Pre-term delivery (gestation <36	Start time: Infants Birth Duration: Infants 6 months Arm 1: Placebo Description: Olive oil Manufacturer: Ocean Nutrition, Ltd Dose: 650 mg olive oil Blinding: Randomization was completed by external staff via computer software using an unpredictable allocation sequence, stratified according to maternal and paternal atopic history and parity. Mothers and study personnel were unaware of the group allocation. Maternal conditions Maternal allergies 100 Arm 2: Fish oil group Manufacturer: Ocean Nutrition Ltd. Purity Data: fatty acid composition remained unchanged over the study period Dose: 1 capsule contents, to be administered orally, prior to feeding in the morning Maternal conditions DHA: 280 mg	Outcome domain: allergies Outcome: allergic disease (any of IgE mediated food allergy, eczema or asthma) (Primary) Follow-up time: 12 months Arm 1: 66/167 (39.52%) Arm 2: 59/156 (37.82%) Outcome: food allergy (Primary) Follow-up time: 12 months Arm 1: 25/167 (14.97%) Arm 2: 19/156 (12.18%) Outcome domain: atopic dermatitis Outcome: eczema (Primary) Follow-up time: 12 months Arm 1: 68/167 (40.72%) Arm 2: 61/156 (39.1%) Outcome domain: respiratory illness Outcome: asthma (Primary) Follow-up time: 12 months Arm 1: 0/167 (0.0%) Arm 2: 0/156 (0.0%) Outcome: persistent cough (Primary) Follow-up time: 12 months Arm 1: 38/167 (22.75%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
		weeks) Infant with congenital abnormalities or significant disease not related to intervention	EPA: 110 mg Maternal allergies 100	Arm 2: 42/156 (26.92%) Follow-up time: 6 months Arm 1: 27/167 (16.17%) Arm 2: 19/156 (12.18%) Outcome: recurrent wheeze (Primary) Follow-up time: 12 months Arm 1: 16/167 (9.58%) Arm 2: 21/156 (13.46%) Follow-up time: 6 months Arm 1: 27/167 (16.17%) Arm 2: 23/156 (14.74%)
Doornbos et al., 2009[90] Study name: NR Study dates: Not reported Study design: Trial randomized parallel Location: Netherlands Funding source / conflict: Industry Study follow-up: 3 months/12 weeks postpartum	Study Population: Healthy pregnant women Pregnant enrolled 182 Pregnant withdrawals 63 Pregnant completers 119 Pregnant age: NR (NR) NR Race of Mother: NR (100) Baseline biomarker information: Placebo group: DHA- 4.44 (3.00–6.92); AA-12.91 (9.95–14.95) DHA group: DHA- 5.51 (3.98–8.20); AA-12.13 (9.63–15.22) DHA+AA group: DHA-5.57 (2.48–8.32); AA-	Inclusion Criteria: women with first or second, singleton pregnancies Exclusion Criteria: women with a vegetarian or vegan diet or gestational diabetes and preterm delivery (<37 weeks)	Start time: Pregnant 16.5 (14-20) week of pregnancy Duration: Pregnant till 3 months after delivery Arm 1: Control group Description: Placebo-soybean oil Arm 2: DHA group Brand name: NR Manufacturer: NR DHA: 220mg Arm 3: DHA + AA group Brand name: NR Manufacturer: NR DHA: 220 mg AA: 220mg	Outcome domain: Ante or postnatal depression Outcome: Edinburgh Postnatal Depression Scale (EPDS) (Secondary) Follow-up time: 36 weeks pregnant Arm 1: Sample size 34; median 4.0; IQR Arm 2: Sample size 40; median 4.0; IQR Arm 3: Sample size 37; median 6.0; IQR Follow-up time: 6 weeks post-partum Arm 1: Sample size 32; median 5.0; IQR Arm 2: Sample size 38; median 4.0; IQR Arm 3: Sample size 30; median 5.0; IQR

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	13.60 (11.17–15.52)			
Drover et al., 2011[122] Study name: Diamond Study dates: 2003-2006 Study design: Trial randomized parallel Location: US Funding source / conflict: Industry Study follow-up: 18 months Original, same study, or follow-up studies: Birch, 2010[121]; Drover. 2012[123]; Colombo, 2013[124]; Currie, 2015[115]	Study Population: Healthy infants Infants enrolled 181 Infants withdrawals 64 Infants completers 117 Infant age: 18.1 month (0.2) Race of Mother: White European (70%) Minority (30%)	Inclusion Criteria: Children who had enrolled in the initial phase of the DIAMOND study at the Dallas site, and had completed the 12-month feeding protocol and the 12-month primary outcome visit (141 children) Exclusion Criteria: Infants who had diseases or congenital abnormalities known to affect growth, development, visual or cognitive maturation, or who had poor formula intake did not participate in the study. Infants were also excluded if they had received human milk within 24 h of randomization, or if they were born to mothers with chronic illness such as HIV disease, renal or hepatic disease, type 1 or type 2 diabetes, alcoholism, or	Start time: Infants birth (1 9 days) Duration: Infants 1 year Arm 1: No DHA (Control) Description: Cow's milk-based infant formula without DHA or ARA Brand name: Enfamil® with iron Manufacturer: Mead Johnson & Co, Evansville, IN Blinding: After obtaining signed assent from a parent, the study coordinator opened the next sequentially-numbered opaque sealed envelope to determine the code of the study formula to be assigned to that infant. All recruiting personnel, parents or guardians, study monitors, researchers, and pediatricians were masked to the infant's assigned formula. Arm 2: 0.32% DHA Description: 0.32% fatty acids from DHA & 0.64% ARA Brand name: Enfamil LIPIL®) Manufacturer: Enfamil LIPIL® DHA: 17mg/100 kcal, 0.32% DHA with 0.32% fatty acids from DHA AA: 34mg/100 kcal, 0.64% ARA Arm 3: 0.64% DHA Description: 0.64% DHA & 0.64% ARA Brand name: Enfamil LIPIL Manufacturer: Mead Johnson Nutrition DHA: 34 mg/100 kcal AA: 34mg/100 kcal, 0.64% ARA	Outcome domain: Cognitive development Outcome: Bayley Scale of Infant Development II (Mental developmental index) (Secondary) Follow-up time: 18 months Arm 1: Sample size 28; mean 98.4; SD (13.1) Arm 2: Sample size 29; mean 105.2; SD (10.7) Arm 3: Sample size 32; mean 104.2; SD (9.8) Arm 4: Sample size 28; mean 102.6; SD (11.9)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
		substance abuse	Arm 4: 0.96% DHA Description: 0.96% DHA & 0.64% ARA Brand name: Enfamil LIPIL Manufacturer: Mead Johnson Nutrition DHA: 54 mg/100 kcal; 0.96% DHA AA: 34 mg/100 kcal; 0.64% ARA	
Drover et al., 2012[123] Study name: Diamond Study dates: NR Study design: Trial randomized parallel Location: US Funding source / conflict: Industry Study follow-up: 3.5 years Original, same study, or follow-up studies: Birch, 2010[121]; Drover, 2011[122]; Colombo, 2013[124]; Currie, 2015[115]	Study Population: Healthy infants Infants enrolled 343 Infants completers 88 Pregnant age: 31 years (4 years) Infant age: <= 9 days 1 to 9 days Race of Mother: NR (100)	Inclusion Criteria: Healthy term singleton-birth infants born in any of 5 hospitals Exclusion Criteria: Infants who had diseases or congenital abnormalities known to affect growth, development, visual or cognitive maturation, Infants were also excluded if they had received human milk within 24 h of randomization, or if they were born to mothers with chronic illness such as HIV disease, renal or hepatic disease, type 1 or type 2 diabetes, alcoholism, or substance abuse	Start time: Infants <=9 days after birth Duration: Infants 12 months Arm 1: Control group Description: Standard infant formula Brand name: Enfamil with Iron Manufacturer: Mead-Johnson Nutrition, Evansville IN Arm 2: 0.32% DHA formula Brand name: Enfamil LIPIL® Manufacturer: Mead-Johnson; DHA and ARA from algal and fungal oils manufactured by Martek Biosciences DHA: 0.32% or 17mg/100kcal AA: 0.64% FA or 34mg/100kcal Arm 3: 0.64% DHA formula Brand name: NR Manufacturer: NR DHA: 34mg/100kg AA: 0.64% FA or 34mg/100kcal Arm 4: 0.96% DHA formula Brand name: NR Manufacturer: NR DHA: 51mg/100kg	Outcome domain: Cognitive development Outcome: School Readiness Composite (SRC) (Secondary) Follow-up time: 2.5 years Arm 1: Sample size 19; mean 9.79; SD (2.42) Arm 2: Sample size 23; mean 10.3; SD (1.92) Arm 3: Sample size 27; mean 10.63; SD (2.75) Arm 4: Sample size 24; mean 10.79; SD (2.62)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
			AA: 0.64% FA or 34mg/100kcal	
Dunstan et al., 2003[50] Study name: Dunstan Study dates: 1999-2001 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government Study follow-up: 1 year Original, same study, or follow-up studies: Dunstan, 2008[44]; Meldrum, 2015[51]	Study Population: Healthy infants Healthy pregnant women Pregnant enrolled 98 Pregnant withdrawals 15 Pregnant completers 83 Pregnant age: NR (NR) NR Race of Mother: NR (100)	Inclusion Criteria: All women had a history of physician-diagnosed allergic rhinitis and/or asthma and 1 or more positive skin prick tests to common allergens (house dust mite; grass pollens; molds; and cat, dog, and cockroach extracts) Exclusion Criteria: Women were ineligible for the study if they smoked; if they had other medical problems, complicated pregnancies, or seafood allergy; or if their normal dietary intake exceeded 2 meals of fish per week.	Start time: Pregnant 20 weeks of gestation Duration: Pregnant till delivery Arm 1: Placebo group Description: 46 women allocated and received placebo-olive oil Manufacturer: Pan Laboratories, Moorebank, NSW, Australia Active ingredients: 66.6% n-9 oleic acid Dose: 4 (1-g) capsules of olive oil per day Blinding: Randomization and allocation of capsules occurred at a different center separate from the recruitment of participants. Capsules were administered to the participants by someone separate from those doing the allocation. The capsules in the 2 groups were image-matched. Total N-3: <1% n-3 PUFAs Arm 2: Fish oil group Description: 52 women were randomized to receive fish oil Manufacturer: Ocean Nutrition, Halifax, Nova Scotia, Canada Dose: 4 (1g) fish oil capsules per day _x001E__x0007__x0005__x0015__x0013__x0007_ _x001E__x0013__x000F_ DHA: 56.0% EPA: 27.7% Total N-3: 3.7 g	Outcome domain: allergies Outcome: food allergy (Secondary) Follow-up time: 1 year Arm 1: 5/43 (11.63%) Arm 2: 3/40 (7.5%) Outcome domain: atopic dermatitis Outcome: atopic dermatitis (Secondary) Follow-up time: 1 year Arm 1: 13/43 (30.23%) Arm 2: 18/40 (45.0%) Outcome domain: respiratory illness Outcome: asthma (Secondary) Follow-up time: 1 year Arm 1: 6/43 (13.95%) Arm 2: 2/40 (5.0%) Outcome: chronic cough (Secondary) Follow-up time: 1 year Arm 1: 11/43 (25.58%) Arm 2: 5/40 (12.5%) Outcome: recurrent wheeze (Secondary) Follow-up time: 1 year Arm 1: 12/43 (27.91%) Arm 2: 10/40 (25.0%)
Dunstan et al., 2008[44] Study name: Dunstan	Study Population: Healthy infants Pregnant women with	Inclusion Criteria: Healthy term infants of pregnant women	Start time: Pregnant 20 weeks gestation Duration: Pregnant to term	Outcome domain: Birth weight Outcome: birth weight (g) (Secondary) Follow-up time: birth

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study dates: 2000-2003 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Multiple foundations and Societies Original, same study, or follow-up studies: Dunstan, 2003[50]; Meldrum, 2015[51]	allergies Pregnant enrolled 98 Pregnant completers 83 Infants enrolled 83 Infants withdrawals 11 (7 FO, 4 control) Infants completers 72 Pregnant age: Fish oil: 30.9 Control: 32.6 (Fish oil: 3.7 Control: 3.6) Infant age: Term (mean gestational period 275 days) Race of Mother: NR (NR) Baseline biomarker information: Cord blood erythrocyte (as % total fatty acids) 20:4n-6 14.9 (1.4) 17.6 (1.0) ,0.001 20:5n-3 1.3 (0.5) 0.4 (0.3) ,0.001 22:3n-6 2.8 (0.5) 3.9 (0.5) ,0.001 22:4n-6 0.8 (0.2) 1.5 (0.3) ,0.001 22:5n-3 6.3 (0.8) 6.0 (0.5) 0.037 22:6n-3 10.3 (1.1) 7.4 (0.9) ,0.001 Total n-6 PUFAs* 25.0 (1.8) 29.6 (1.1) ,0.001 Total n-3	enrolled in RCT of gestational supplementation Exclusion Criteria: Women were ineligible for the study if they smoked, had medical problems, a complicated pregnancy, seafood allergy, or if their normal dietary intake exceeded two meals of fish per week. Children were excluded from the study if they were born before 36 weeks' gestation or with major disease (to avoid the confounding effects on immune response) or if cord blood was not collected	Arm 1: Control Description: olive oil placebo Blinding: capsules image matched Maternal conditions Current smoker 0% Maternal allergies 100% Arm 2: Fish oil Description: same Manufacturer: Ocean Nutrition, Halifax Nova Scotia Active ingredients: 3-4mg/g vitamin E Viability: none reported Dose: 4 1-gm capsules fish oil per day Maternal conditions DHA: 2.2 EPA: 1.1 Other dose 1: fish oil supplying 2,2g/d DHA and 1.1g/day EPA Current smoker 0% Maternal allergies 100%	Arm 1: Sample size 39; mean 3434.0; SD (377) Arm 2: Sample size 33; mean 3508.0; SD (353) Outcome domain: Cognitive development Outcome: Griffith Mental Development Scales: Eye and hand coordination (Secondary) Follow-up time: 2.5 years Arm 1: Sample size 39; mean 108.0; SD (11.3) Arm 2: Sample size 33; mean 114.0; SD (10.2) Outcome: Griffith Mental Development Scales: Performance (Secondary) Follow-up time: 2.5 years Arm 1: Sample size 39; mean 115.8; SD (13.7) Arm 2: Sample size 33; mean 120.9; SD (12.7) Outcome: Griffith Mental Development Scales: Practical reasoning (Secondary) Follow-up time: 2.5 years Arm 1: Sample size 39; mean 113.6; SD (15) Arm 2: Sample size 33; mean 114.3; SD (14.5) Outcome: Griffith Mental Development Scales: Speech and hearing (Secondary) Follow-up time: 2.5 years Arm 1: Sample size 39; mean 109.6; SD (14.9) Arm 2: Sample size 33; mean 112.0; SD (15) Outcome: Griffith Mental Development

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	PUFAs{ 17.9 (1.9) 13.7 (1.3) ,0.001 Total n-3 to n-6{ 0.8 (0.1) 0.5 (0.1) ,0.001			Scales: General quotient score (Secondary) Follow-up time: 2.5 years Arm 1: Sample size 39; mean 110.5; SD (10.6) Arm 2: Sample size 33; mean 114.2; SD (9.8) Outcome: Griffith Mental Development Scales: Personal social (Secondary) Follow-up time: 2.5 years Arm 1: Sample size 39; mean 109.4; SD (11.5) Arm 2: Sample size 33; mean 112.4; SD (11.9) Outcome: Griffith Mental Development Scales: Locomotor (Secondary) Follow-up time: 2.5 years Arm 1: Sample size 39; mean 107.9; SD (12.6) Arm 2: Sample size 33; mean 112.5; SD (12.2) Outcome domain: duration of gestation Outcome: gestational age (days) (Secondary) Follow-up time: birth Arm 1: Sample size 39; mean 274.5; SD (8) Arm 2: Sample size 33; mean 276.0; SD (8) Outcome domain: growth Outcome: head circumference (cm) (Secondary) Follow-up time: 30 months Arm 1: Sample size 36; mean 49.8; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(1.7) Arm 2: Sample size 28; mean 49.4; SD (1.6) Outcome: length (cm) (Secondary) Follow-up time: 30 months Arm 1: Sample size 36; mean 93.3; SD (4.6) Arm 2: Sample size 28; mean 93.8; SD (3.8) Outcome: weight (kg) (Secondary) Follow-up time: 30 months Arm 1: Sample size 36; mean 14.1; SD (2) Arm 2: Sample size 28; mean 14.5; SD (2)
Escamilla-Nunez et al., 2014[59] Study name: POSGRAD Study dates: 2005-2009 Study design: Trial randomized parallel Location: Mexico Funding source / conflict: Government Study follow-up: 18 months Original, same study, or follow-up studies: Ramakrishnan, 2010[32]; Stein, 2012[33]; Imhoff-	Study Population: Pregnant women with allergies Pregnant enrolled 1,040 Pregnant completers 973 Pregnant age: 26.3 (4.8) 18-35 Race of Mother: Hispanic (100% Mexican) Baseline Omega-3 intake: DHA median (25th, 75th percentile), mg/d: 55(37, 99)	Inclusion Criteria: Maternal age 18 - 35 years, recruited between 18 and 22 weeks of gestation. Willingness to breastfeed exclusively or predominantly during at least the first 3 months of life of the newborn and with the intention to live in their area of residence for at least 2 years after delivery Exclusion Criteria: High-risk pregnancies (pregnancy complications, including premature placental abruption,	Start time: Pregnant 18-22 weeks gestation Duration: Pregnant to term Arm 1: Placebo Description: olive oil capsule Dose: 2 capsules per day Arm 2: DHA Description: Algal DHA Manufacturer: Martek Biosciences Dose: 2 capsules of 200mg each DHA: 200 mg algal DHA/capsule	Outcome domain: respiratory illness Outcome: breathing difficulty (number of episodes) Follow-up time: 18 months Arm 1: 48/440 Arm 2: 47/429 Outcome: cough (number of episodes) Follow-up time: 18 months Arm 1: 1151/440 Arm 2: 1178/429 Outcome: phlegm with congestion and/or nasal discharge, fever with phlegm and congestion and/or nasal discharge, or wheezing with fever (Primary) Follow-up time: 18 months Arm 1: 49/440 (11.11%) Arm 2: 48/429 (11.11%) Outcome: wheezing (number of episodes) Follow-up time: 18 months Arm 1: 262/440 Arm 2: 252/429

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Kunsch, 2011[58]; Gonzalez-Casanova, 2015[60]; Ramakrishnan, 2015[61]		preeclampsia, pregnancy-induced hypertension, severe bleeding episode in pregnancy or lipid absorption disorders; Regular consumption of fish oil or DHA supplements; Chronic use of certain medications (e.g., drugs for epilepsy)		
Escolano-Margarit et al., 2011[130] Study name: NUHEAL Study dates: 2001-2008 Study design: Trial randomized parallel Location: Germany, Spain, Hungary Funding source / conflict: Manufacturer supplied product Study follow-up: 5.5 years Original, same study, or follow-up studies: Campoy, 2011[141].	Study Population: Healthy pregnant women Pregnant enrolled 315 Pregnant completers 157 Infants enrolled 315 Infants completers 148 Pregnant age: 31 (NR) 18 to 41 Race of Mother: NR (100) Baseline biomarker information: For newborns mean plasma DHA Placebo group _x0007_6.9 Fish oil group 7.8 5-MHTF (folic	Inclusion Criteria: singleton pregnancy, gestation 20 week at enrollment, and intention to deliver in one of the obstetrical centers Exclusion Criteria: serious chronic illness (e.g., diabetes, hepatitis, or chronic enteric disease), use of FO supplements since the beginning of pregnancy or folate or vitamin B-12 supplements after gestation week 16	Start time: Pregnant week 22 of pregnancy Infants NA Duration: Pregnant until birth Arm 1: placebo Description: milk-based supplement Brand name: Blemil Plus Manufacturer: Ordesa Laboratorios, Barcelona, Spain) Active ingredients: vitamins and minerals in amounts meeting the recommended intakes during the second half of pregnancy for European women Dose: one daily dose of 15 g Blinding: supplements were not distinguishable with respect to the appearance of the sachets or to their contents Arm 2: fish oil Description: fish oil in milk-based supplement Manufacturer: Pronova Biocare, Lysaker, Norway	Outcome domain: Neurological development Outcome: number considered normal on Hempel exam (Secondary) Follow-up time: 5.5 years Arm 1: 81/87 (93.0%) Arm 2: 74/80 (93.0%) Outcome: number considered normal on Towen exam (Secondary) Follow-up time: 5.5 years Arm 1: 48/69 (70.0%) Arm 2: 55/79 (70.0%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	acid) group 6.2 _x0007_Fish oil + 5-MHTF group _x0007_7.0 mean plasma AA Placebo group 17.6 Fish oil group 16.8 5-MHTF (folic acid) group 17.3 _x0007_Fish oil + 5-MHTF group 16.4		Active ingredients: vitamins and minerals in amounts meeting the recommended intakes during the second half of pregnancy for European women Dose: one daily dose of 15 g DHA: 500 mg EPA: 100 mg Arm 3: folic acid Description: 400 _x0001_g 5-MTHF Manufacturer: BASF, Ludwigshafen, Germany Active ingredients: vitamins and minerals in amounts meeting the recommended intakes during the second half of pregnancy for European women Dose: one dose of 15 g Arm 4: folic acid + fish oil Description: fish oil + 400 _x0001_g 5-MTHF Manufacturer: BASF, Ludwigshafen, Germany Active ingredients: vitamins and minerals in amounts meeting the recommended intakes during the second half of pregnancy for European women Dose: one dose of 15 g DHA: 500 mg EPA: 100 mg	
Fang et al., 2005[137] Study name: NR Study dates: NR Study design: Trial randomized parallel	Study Population: Preterm infants Infants enrolled 28 Infants withdrawals 1 Infants completers 27 Infant age: 1 week	Inclusion Criteria: (1) A gestational age at birth between 30 and 37 weeks; (2) Normal fundus oculi; (3) Recruitment prior to commencement of feeding	Start time: Infants 1 week after birth Duration: Infants 24 weeks Arm 1: placebo Description: infant formula based on the composition of human milk Brand name: Neoangelac	Outcome domain: Cognitive development Outcome: Bayley Mental Development Index (Primary) Follow-up time: 1 year Arm 1: Sample size 11; mean 90.5; SD (6.9) Arm 2: Sample size 16; mean 98.7; SD (8) Follow-up time: 6 months

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Location: Taiwan Funding source / conflict: Manufacturer supplied product	(mean gestation age 33 weeks) (0.5 week) NA Race of Mother: NR (100)	Exclusion Criteria: (1) Breast feeding; (2) A maternal history of infection, diabetes mellitus, gestational diabetes mellitus, cocaine or alcohol abuse, systemic diseases or if intrauterine growth retardation had been diagnosed during pregnancy; (3) Major congenital abnormality; (4) Severe intraventricular hemorrhage > grade 2; (5) Cystic periventricular leukomalacia; (6) Retinopathy of prematurity stage 2; (7) Bronchopulmonary dysplasia on radiographs or oxygen usage 28 days; (8) Body weight less than the third percentile; (9) Surgical intervention for necrotizing enterocolitis (10) Mechanical ventilation after achieving enteral intake > 110 kcal/kg per day; (11) A 5-min	Manufacturer: Multipower Enterprise Corporation Dose: Babies were given more than 110 kcal/kg per day during the first 4 months and more than 70 kcal/kg per day from 4 to 6 months N-6 N-3: 10:1 linoleic:linolenic Arm 2: Neoangelac Plus Description: Neoangelac supplemented with Omega 3 Brand name: Neoangelac Plus Manufacturer: Multipower Enterprise Corporation Dose: Babies were given more than 110 kcal/kg per day during the first 4 months and more than 70 kcal/kg per day from 4 to 6 months DHA: 0.05% AA: 0.10%	Arm 1: Sample size 11; mean 91.7; SD (10.4) Arm 2: Sample size 16; mean 96.1; SD (8.6) Outcome domain: Neurological development Outcome: Bayley psychomotor development index (Primary) Follow-up time: 12 months Arm 1: Sample size 11; mean 86.7; SD (11.1) Arm 2: Sample size 16; mean 98.0; SD (5.8) Follow-up time: 6 months Arm 1: Sample size 11; mean 95.4; SD (13.2) Arm 2: Sample size 16; mean 102.2; SD (10.5) Outcome domain: Visual function Outcome: Hiding Heidi Analysis <100% (Primary) Follow-up time: 4 months Arm 1: 2/11 (18.0%) Arm 2: 5/16 (31.0%) Follow-up time: 6 months Arm 1: 10/11 (91.0%) Arm 2: 16/16 (100.0%) Outcome: Lea grating acuity card 1 or 2 cycles per degree (Primary) Follow-up time: 4 months Arm 1: 8/11 (72.0%) Arm 2: 16/16 (100.0%) Outcome: Lea grating acuity card 2 or4 cycles per degree (Primary)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
		Apgar score < 7; (12) Administration of blood transfusion, blood products, or parenteral lipids with DHA or AA.		Follow-up time: 6 months Arm 1: 8/11 (73.0%) Arm 2: 15/16 (94.0%) Outcome: Visual evoked potential (log minimum angle of resolution in minutes of arc) (Primary) Follow-up time: 4 months Arm 1: Sample size 10; mean 0.36; SD (0.34) Arm 2: Sample size 14; mean 0.19; SD (0.27) Follow-up time: 6 months Arm 1: Sample size 10; mean 0.13; SD (0.22) Arm 2: Sample size 13; mean 0.1; SD (0.17)
Field et al., 2008[112] Study name: NR Study dates: NR Study design: Trial randomized parallel Location: Canada Funding source / conflict: Industry	Study Population: Healthy infants Infants enrolled 30 Infants completers 30 Infant age: 2 weeks 7 to 14 days Race of Mother: NR (100)	Inclusion Criteria: Inclusion criteria for all infants stipulated that by age 14 d infants were receiving 100 % of their intake by mouth from human milk or commercial infant formula and that infants were healthy with birth weight, length and head circumference between the 10th and 90th percentile for gestational age, according to the National Center for Health Statistics	Start time: Infants no later than 14 days Duration: NR Arm 1: Formula (unsuppl) Description: Placebo/control formula Brand name: S-26 Manufacturer: Wyeth Nutrition ALA: 2.3% by weight Arm 2: Formula + LCP Description: LCP supplemented formula Brand name: S-26 Gold Manufacturer: Wyeth Nutrition Active ingredients: arachidonic acid - see below ALA: 1.9% DHA: 0.20% AA: 0.34%	Outcome domain: growth Outcome: head circumference (cm) (Secondary) Follow-up time: 6 wk Arm 1: Sample size 14; mean 38.6; SD (1.1) Arm 2: Sample size 16; mean 38.4; SD (1.4) Arm 3: Sample size 16; mean 38.9; SD (1.2) Outcome: length (cm) (Secondary) Follow-up time: 6 wk Arm 1: Sample size 14; mean 56.0; SD (2) Arm 2: Sample size 16; mean 56.0; SD (2) Arm 3: Sample size 16; mean 58.0; SD (3) Outcome: weight (g) (Secondary) Follow-up time: 6 wk Arm 1: Sample size 14; mean 4901.0; SD (590)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
		growth charts14. Exclusion Criteria: Infants with major congenital malformations, documented systemic or congenital infection, significant neonatal morbidity, diagnosed maternal autoimmune disorders, acute illness precluding oral feedings, or conditions requiring infant feedings other than standard formula or human milk were excluded from the study. None of the infants had received corticosteroids, erythrocyte or plasma transfusions, or intravenous lipid emulsions before entering the study	Arm 3: Breastfed comparison Description: Breastfed group, not randomized	Arm 2: Sample size 16; mean 5076.0; SD (646) Arm 3: Sample size 16; mean 5045.0; SD (516)
Fleddermann et al., 2014[113] Study name: BeMIM (Belgrade-Munch Infant Milk Trial) Study dates: Jan 2010	Study Population: Healthy infants Infants enrolled 207 Infants completers 164 Mother age: Control: 30.6 Intervention: 30.7	Inclusion Criteria: Eligible infants had to be born apparently healthy from singleton pregnancies after 37-41 weeks of gestation, with a birth weight between the 3rd and	Start time: Infants within 28 days Duration: Infants until 120 days Arm 1: Control Formula (CF) Description: Placebo/control formula Manufacturer: HiPP GmbH & Co. Vertrieb KG (Pfaffenhofen, Germany)	Outcome domain: growth Outcome: head circumference gain (g/day) (Secondary) Follow-up time: about 92 days Arm 1: Sample size 82; mean 0.05; SD (0.01) Arm 2: Sample size 82; mean 0.05; SD (0.01)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
to May 2011 Study design: Trial randomized parallel Location: Serbia Funding source / conflict: Industry	Breastfed: 30.1 (Control: 5.5 Intervention: 5.5 Breastfed: 4.7) Infant age: Gestation (weeks) Control: 39.2 Intervention: 39.2 Breastfed: 39.2 (Gestation (weeks) Control: 1.1 Intervention: 1.0 Breastfed: 1.1) until 28 days Race of Mother: NR (100%)	97th weight-for-age percentile according to the EURO-Growth charts. Exclusion Criteria: Infants with malformations, congenital heart defects, congenital vascular diseases, severe diseases of gastrointestinal tract, kidney, liver, central nervous system, or metabolic disease.	Blinding: 600g cartons and labeled by random numbers. The products were packed in identical white boxes and labeled with the same product name. ALA: 0.1g/100mL Arm 2: Intervention Formula (IF) Manufacturer: HiPP GmbH & Co. Vertrieb KG (Pfaffenhofen, Germany) ALA: 0.1g/100mL DHA: 7.2g/100mL AA: 7.2g/100mL Arm 3: Breastfed Description: Breastfeeding reference group	Outcome: length gain (g/day) (Secondary) Follow-up time: about 92 days Arm 1: Sample size 82; mean 0.1; SD (0.02) Arm 2: Sample size 82; mean 0.11; SD (0.02) Outcome: weight gain (g/day) (Primary) Follow-up time: about 92 days Arm 1: Sample size 82; mean 28.3; SD (6.5) Arm 2: Sample size 82; mean 30.2; SD (6.3)
Furuhjelm et al., 2009[173] Study name: NR Study dates: 2003-2006 Study design: Trial randomized parallel Location: Sweden Funding source / conflict: Industry, Multiple foundations and Societies Study follow-up: 1 year Original, same study, or	Study Population: Healthy infants Healthy pregnant women Pregnant enrolled 145 Pregnant withdrawals 28 Pregnant completers 117 Infants enrolled 145 Infants withdrawals 28 Infants completers 117 Mother age: Intervention: 31.1 years (at delivery) Placebo: 31.7 years (at delivery) (Intervention: 4.1 years (at delivery) Placebo:	Inclusion Criteria: a family history of past of current allergic symptoms in at least one parent or older child. Exclusion Criteria: Mothers with an allergy to soy or fish or undergoing treatment with anticoagulants or commercial w-3 fatty acid supplements	Start time: Pregnant 25 weeks of gestation Duration: Pregnant 15 weeks (i.e., until delivery) Arm 1: Placebo Description: 75 women received soy oil as placebo Manufacturer: Pharma Nord Active ingredients: w-6 PUFA LA (58%, 2.5 g / day), a small amount (6%, 0.28 g / day) of the w-3 PUFA LNA and 36 mg a-tocopherol Viability: alpha-tocopherol was given as an antioxidant, a necessary ingredient according to the standard procedure of the manufacturer to assure the durability of the oil. Dose: nine soy oil capsules a day N-6 N-3: 9	Outcome domain: allergies Outcome: Food Allergy (Primary) Follow-up time: 12 months Arm 1: 10/65 (15.38%) Arm 2: 1/52 (1.92%) Outcome domain: atopic dermatitis Outcome: IgE associated eczema (Primary) Follow-up time: 12 months Arm 1: 15/63 (23.81%) Arm 2: 4/52 (7.69%) Follow-up time: 6 months Arm 1: 13/65 (20.0%) Arm 2: 4/52 (7.69%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
follow-up studies: Furuhjelm, 2011[172]	3.9 years (at delivery)) NR Race of Mother: NR (100) Baseline biomarker information: Treatment - mean(sd) mol % EPA- 1.3 (0.8) DHA- 5.5 (1.1) AA- 9.2 (1.7) AA/EPA- 9.1 (4.3) Placebo - mean(sd) mol % EPA- 1.2 (0.6) DHA- 5.4 (1.2) AA- 8.6 (1.5) AA/EPA- 8.6 (4.0) Baseline Omega-3 intake: DHA - 0.2g/day EPA- 0.1g/day		Arm 2: w3 group Description: 70 women are randomized into this group Brand name: Bio Marin capsules Manufacturer: Pharma Nord, Vejle, Denmark Active ingredients: 23 mg alpha-tocopherol Viability: alpha-tocopherol was given as an antioxidant, a necessary ingredient according to the standard procedure of the manufacturer to assure the durability of the oil. Dose: nine 500-mg capsules, once daily DHA: 1.1g EPA: 1.6g N-6 N-3: <0.1	
Furuhjelm et al., 2011[172] Study name: NR Study dates: 2003-2007 Study design: Trial randomized parallel Location: Sweden Funding source / conflict: Industry, Multiple foundations and Societies	Study Population: Healthy infants Healthy pregnant women Pregnant enrolled 145 Pregnant withdrawals 28 Pregnant completers 117 Infants enrolled 145 Infants withdrawals 28 Infants completers 117 Pregnant age: NR (NR) NR	Inclusion Criteria: family history of current or previous allergic symptoms, i.e. bronchial asthma, eczema, allergic food reactions, itching and running eyes and nose at exposure to pollen, pets or other known allergens. Exclusion Criteria: Allergy to soya or fish, treatment with	Start time: Pregnant 25 weeks of gestation Duration: Pregnant 15 weeks (i.e., until delivery) Arm 1: Placebo Description: soya bean oil Manufacturer: Pharma Nord, Vejle, Denmark Active ingredients: 58% linoleic acid (LA), 2.5 g/day Viability: the antioxidant a-tocopherol (placebo: 36 mg/day) to assure the stability of the oil Dose: nine capsules a day Blinding: The mothers, as well as the staff handling clinical and laboratory follow-up, were	Outcome domain: allergies Outcome: any food reactions (Primary) Follow-up time: 2 years Arm 1: 16/65 (24.62%) Arm 2: 6/54 (11.11%) Outcome domain: atopic dermatitis Outcome: any eczema (Primary) Follow-up time: 2 years Arm 1: 21/65 (32.31%) Arm 2: 11/54 (20.37%) Outcome domain: respiratory illness Outcome: any asthma (Primary) Follow-up time: 2 years

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study follow-up: 2 years Original, same study, or follow-up studies: Furuhjelm, 2009[173]	Race of Mother: NR (100)	anticoagulants or omega-3 fatty acid supplements.	blinded to group allocation, and the mothers were identified by their study number only. ALA: 6%, 0.28 g/day Arm 2: w-3 group Description: w-3 fatty acids Viability: the antioxidant a-tocopherol (w-3 group: 28 mg/day) to assure the stability of the oil Dose: nine capsules a day DHA: 25% DHA, 1.1 g/day EPA: 35% EPA, 1.6 g/day	Arm 1: 8/65 (12.31%) Arm 2: 7/54 (12.96%) Outcome: any rhinoconjunctivitis (Primary) Follow-up time: 2 years Arm 1: 2/65 (3.08%) Arm 2: 2/54 (3.7%)
Gonzalez-Casanova et al., 2015[60] Study name: POSGRAD Study dates: 2005-2012 Study design: Trial randomized parallel Location: Mexico Funding source / conflict: Government, None Study follow-up: 60 months Original, same study, or follow-up studies: Ramakrishnan, 2010[32]; Stein, 2012[33]; Imhoff-	Study Population: Healthy infants Preterm infants Pregnant enrolled 1040 Pregnant completers 968 Infants enrolled 973 Infants completers 802 Pregnant age: 26.3 y (4.7 y) Infant age: 20.5 weeks gestation (2.0) Race of Mother: NR (100)	Inclusion Criteria: Pregnant women 18–35 y of age, in week 18–22 of gestation, and planned to deliver at the hospital, breastfeed for >3 mo, and reside in the area for >2 y after delivery Exclusion Criteria: NR	Start time: Pregnant 18-22 weeks gestation Duration: Pregnant 18-22 weeks gestation until delivery Arm 1: Placebo Description: Soy and corn placebo Dose: 2 200 mg capsules/day Blinding: Soy-corn placebo of similar taste and appearance Arm 2: DHA (algal) Dose: 2 200 mg capsules/day DHA: 400mg	Outcome domain: growth Outcome: bmi-for-age z score (Primary) Follow-up time: 5 years Arm 1: Sample size 399; mean 0.1; SD (1.1) Arm 2: Sample size 403; mean 0.1; SD (1.1) Outcome: height (cm) (Primary) Follow-up time: 5 years Arm 1: Sample size 399; mean 108.4; SD (4.5) Arm 2: Sample size 403; mean 108.3; SD (4.4) Outcome: height-for-age z-score (Primary) Follow-up time: 5 years Arm 1: Sample size 399; mean -0.4; SD (0.9) Arm 2: Sample size 403; mean -0.4; SD (0.9) Outcome: weight (kg) (Primary) Follow-up time: 5 years Arm 1: Sample size 399; mean 18.4; SD (3)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Kunsch, 2011[58]; Escamilla-Nunez, 2014[59]; Ramakrishnan, 2015[61]				Arm 2: Sample size 403; mean 18.3; SD (3) Outcome: weight-for-age z-score (Primary) Follow-up time: 5 years Arm 1: Sample size 399; mean -0.1; SD (1.1) Arm 2: Sample size 403; mean -0.2; SD (1.1)
Goor et al., 2011[66] Study name: Groningen LCPUFA study Study dates: 2004-2009 Study design: Trial randomized parallel Location: Netherlands Funding source / conflict: Industry Study follow-up: 18 months Original, same study, or follow-up studies: Bouwstra, 2003[62]; Bouwstra, 2005[63]; de Jong, 2010[64]; de Jong, 2012[65]; van Goor, 2010[36]	Study Population: Healthy infants Pregnant enrolled 119 Infants enrolled 119 Infants completers 114 Pregnant age: Placebo: 32.7 DHA: 32.5 DHA+AA: 32.9 (Placebo: 5.1 DHA: 4.4 DHA+AA: 4.8) Infant age: 18 months Race of Mother: NR (100)	Inclusion Criteria: women with a first or second low-risk singleton pregnancy, between the 14th and 20th weeks of pregnancy Exclusion Criteria: women with vegetarian or vegan diets; women with diabetes mellitus; birth complications	Start time: Pregnant 14th-20th week pregnancy Lactating 3 months after delivery Mothers 3 months after delivery Infants NR Duration: Pregnant NR Lactating 33-39 weeks Mothers 33-39 weeks Infants NR Arm 1: placebo Description: Soy bean oil Brand name: none Arm 2: DHA Description: DHA plus soy bean oil Brand name: Marinol D40 Manufacturer: Lipid Nutrition B.V., Wormerveer, The Netherlands; AA: Dose: 1 capsule DHA and 1 capsule soy bean oil once a day ALA: 32 mg/d DHA: 220 mg/d EPA: 34 mg/d Arm 3: DHA+AA Description: DHA plus AA Brand name: AA: no brand name Manufacturer: Wuhan Alking Bioengeneering	Outcome domain: Birth weight Outcome: birth weight (g) (Unspecified) Follow-up time: birth Arm 1: Sample size 34; mean 3576.0; SD (551) Arm 2: Sample size 41; mean 3592.0; SD (465) Arm 3: Sample size 39; mean 3652.0; SD (377) Outcome domain: Cognitive development Outcome: Bayley Scale of Infant Development (Mental developmental index) (Unspecified) Follow-up time: 18 months Arm 1: Sample size 34; mean 115.2; SD (11.6) Arm 2: Sample size 41; mean 113.7; SD (13) Outcome domain: Neurological development Outcome: Bayley psychomotor development index (Unspecified) Follow-up time: 18 months Arm 1: Sample size 34; mean 91.7; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
			Co. Ltd., Wuhan, China Dose: 2 capsules once a day ALA: 7 mg/d DHA: 220 mg/d EPA: 36 mg/d AA: 220 mg per capsule	(8.3) Arm 2: Sample size 41; mean 95.8; SD (11.4) Arm 3: Sample size 39; mean 92.4; SD (8.8) Outcome: fluency score (Unspecified) Follow-up time: 18 months Arm 1: Sample size 34; median 10.0; range Arm 2: Sample size 41; median 9.0; range Arm 3: Sample size 39; median 10.0; range Outcome: neurological optimality score (Unspecified) Follow-up time: 18 months Arm 1: Sample size 34; median 47.5; range Arm 2: Sample size 41; median 46.0; range Arm 3: Sample size 39; median 48.0; range Outcome: prevalence of complex minor neurological dysfunction (Unspecified) Follow-up time: 18 months Arm 1: 5/34 (14.7%) Arm 2: 3/41 (7.3%) Arm 3: 5/39 (12.8%) Outcome: prevalence of normal neurological condition (Unspecified) Follow-up time: 18 months Arm 1: 20/34 (58.8%) Arm 2: 24/41 (58.5%) Arm 3: 28/39 (71.8%) Outcome: prevalence of simple minor neurological dysfunction (Unspecified) Follow-up time: 18 months

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 1: 9/34 (26.5%) Arm 2: 14/41 (34.1%) Arm 3: 6/39 (15.4%) Outcome domain: growth Outcome: head circumference (cm) (Unspecified) Follow-up time: 18 months Arm 1: Sample size 34; mean 47.8; SD (1.5) Arm 2: Sample size 41; mean 47.6; SD (1.1) Arm 3: Sample size 39; mean 47.5; SD (1.4) Outcome: length (cm) (Unspecified) Follow-up time: 18 months Arm 1: Sample size 34; mean 84.0; SD (3.8) Arm 2: Sample size 41; mean 82.8; SD (4.7) Arm 3: Sample size 39; mean 83.6; SD (2.9) Outcome: weight (kg) (Unspecified) Follow-up time: 18 months Arm 1: Sample size 34; mean 11.5; SD (1.1) Arm 2: Sample size 41; mean 11.3; SD (1.4) Arm 3: Sample size 39; mean 11.5; SD (1.3)
Groh-Wargo et al., 2005[106] Study name: NR	Study Population: Preterm infants Infants enrolled 60 Infants withdrawals 3	Inclusion Criteria: Preterm infants with birth weights from 750 to 1800 g and GA at birth <33 wk were	Start time: Infants first enteral formula feeding Duration: Infants 24 kcal/fl oz formula until 40 wk corrected age; 22 kcal/fl oz formula from 40 wk CA to 1 year CA	Outcome domain: growth Outcome: head circumference (cm) (Secondary) Follow-up time: 12 months (corrected age) Arm 1: Sample size 14; mean 46.2; SE

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study dates: Sept 1997 - Sept 1998 Study design: Trial randomized parallel Location: US Funding source / conflict: Industry, Government	Infants completers 57 Infant age: GA= 30 weeks (0.5) NR Race of Mother: NR	recruited between September 1997 and September 1998 from the neonatal intensive care unit. No restrictions on the type of feeding before study entry. Exclusion Criteria: Congenital abnormalities that could affect growth or development, major surgery, periventricular hemorrhage greater than grade II (Papile classification), asphyxia resulting in severe and permanent neurologic damage, treatment with extracorporeal membrane oxygenation, maternal incapacity (including substance abuse), or uncontrolled systemic infection at the time of enrollment.	Arm 1: Control Description: Control formula without DHA or ARA Brand name: Similac Special Care to 40 wk GA; and NeoSure until 1 year ALA: 2.4 g/100 g (to 40 wk GA); 2.4 g/100 g (to 1 year) DHA: 0 EPA: 0 AA: 0 Arm 2: DHA+ARA (FF) Description: DHA or ARA from fish/fungal oil Brand name: Similac Special Care to 40 wk GA; and NeoSure until 1 year ALA: 2.6 g/100 g (to 40 wk GA); 2.4 g/100 g (to 1 year) DHA: 0.27 g/100 g (to 40 wk GA); 0.16 g/100 g (to 1 yr) EPA: 0.08 g/100 g (to 40 wk GA); 0 (to 1 yr) AA: 0.43 g/100 g (to 40 wk GA); 0 (to 1 yr) Arm 3: DHA+ARA (EF) Description: DHA or ARA from egg-derived triglyceride and fish oil Brand name: Similac Special Care to 40 wk GA; and NeoSure until 1 year ALA: 2.5 g/100 g (to 40 wk GA); 2.4 g/100 g (to 1 year) DHA: 0.24 g/100 g (to 40 wk GA); 0.15 g/100 g (to 1 yr) EPA: 0 AA: 0.41 g/100 g	(0.4) Arm 2: Sample size 14; mean 46.0; SE (0.4) Arm 3: Sample size 13; mean 46.2; SE (0.4) Follow-up time: 35 weeks (corrected age) Arm 1: Sample size 18; mean 30.8; SE (0.2) Arm 2: Sample size 17; mean 30.6; SE (0.5) Arm 3: Sample size 18; mean 30.3; SE (0.4) Follow-up time: 4 months (corrected age) Arm 1: Sample size 14; mean 41.9; SE (0.4) Arm 2: Sample size 16; mean 41.1; SE (0.6) Arm 3: Sample size 14; mean 42.0; SE (0.3) Follow-up time: 40 weeks (corrected age) Arm 1: Sample size 18; mean 25.4; SE (0.3) Arm 2: Sample size 18; mean 34.5; SE (0.5) Arm 3: Sample size 17; mean 35.0; SE (0.3) Outcome: length (cm) (Secondary) Follow-up time: 12 months (corrected age) Arm 1: Sample size 14; mean 73.9; SE (0.9) Arm 2: Sample size 14; mean 75.2; SE (0.9) Arm 3: Sample size 13; mean 76.3; SE (0.8) Follow-up time: 35 weeks (corrected age) Arm 1: Sample size 18; mean 42.5; SE

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(0.5) Arm 2: Sample size 17; mean 42.7; SE (0.7) Arm 3: Sample size 18; mean 42.7; SE (0.5) Follow-up time: 4 months (corrected age) Arm 1: Sample size 14; mean 61.8; SE (0.7) Arm 2: Sample size 16; mean 60.9; SE (0.6) Arm 3: Sample size 14; mean 62.8; SE (0.7) Follow-up time: 40 weeks (corrected age) Arm 1: Sample size 18; mean 48.0; SE (0.7) Arm 2: Sample size 18; mean 48.2; SE (0.7) Arm 3: Sample size 17; mean 48.1; SE (0.5) Outcome: weight (g) (Secondary) Follow-up time: 12 months (corrected age) Arm 1: Sample size 14; mean 9343.0; SE (307) Arm 2: Sample size 14; mean 8977.0; SE (293) Arm 3: Sample size 13; mean 9505.0; SE (243) Follow-up time: 35 weeks (corrected age) Arm 1: Sample size 18; mean 1916.0; SE (73) Arm 2: Sample size 17; mean 1871.0; SE (118) Arm 3: Sample size 18; mean 1874.0; SE (85) Follow-up time: 4 months (corrected age) Arm 1: Sample size 14; mean 6524.0; SE

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(220) Arm 2: Sample size 16; mean 6454.0; SE (212) Arm 3: Sample size 14; mean 6432.0; SE (217) Follow-up time: 40 weeks (corrected age) Arm 1: Sample size 18; mean 3280.0; SE (135) Arm 2: Sample size 18; mean 3147.0; SE (149) Arm 3: Sample size 17; mean 3136.0; SE (105)
Gustafson et al., 2013[74] Study name: NR Study dates: May 2009 - July 2011 Study design: Trial randomized parallel Location: US Funding source / conflict: Government, Manufacturer supplied product	Study Population: Healthy infants Healthy pregnant women Pregnant enrolled 67 Pregnant withdrawals 12 Pregnant completers 52 Infants enrolled 44 Infants completers 41 Pregnant age: placebo 25.6+; DHA 25.5 (placebo 4.8; DHA 4.3) Race of Mother: White European (46.3) Black (37.3) Asian (3) Hispanic (13.4) Baseline biomarker information: plasma	Inclusion Criteria: between 16–35.9 years of age and carrying a singleton pregnancy between the 12th and 20th week of gestation Exclusion Criteria: any serious health condition likely to affect the growth and development of the fetus or health of the mother including cancer, lupus, hepatitis, diabetes mellitus (Type1, Type 2 or gestational) or HIV/AIDS at baseline or fetal cardiac structural or conduction defects.	Start time: Pregnant 12-20 week gestation Infants birth Duration: Pregnant till birth Arm 1: Placebo Description: g 50% soy and 50% corn oil Manufacturer: Martek Biosciences, now DSM Nutritional Products Dose: 3 capsule a day each 500 mg Blinding: Only members of the investigational pharmacy knew the subject allocation. Participants and all members of the investigational team were blinded to the intervention assignment. Participants were allocated to either group based on the simple randomization procedure using random numbers generated by SAS. All capsules were the same color, size, weight and the oils were orange-flavored to prevent investigator or subject bias. Arm 2: algal oil as a source of DHA (200 mg of	Outcome domain: Birth weight Outcome: birth weight (g) (Secondary) Follow-up time: birth Arm 1: Sample size 24; mean 3435.5; SD (404.8) Arm 2: Sample size 22; mean 3416.8; SD (552.9) Outcome domain: Cognitive development Outcome: Neonatal Behavior Assessment: state organization (Primary) Follow-up time: 1-14 days post-partum Arm 1: Sample size 12; mean 13.5; SD (13.89) Arm 2: Sample size 15; mean 15.13; SD (8.02) Outcome: Neonatal Behavior Assessment: autonomic (Primary) Follow-up time: 1-14 days post-partum Arm 1: Sample size 12; mean 14.83; SD (16.9) Arm 2: Sample size 15; mean 18.13; SD (14.48)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	DHA (wt% TFA) placebo group: 3.91 (3.15-4.21); DHA group: 3.94(3.39-4.72) RBC DHA (wt%TFA) placebo group 4.30(3.99-5.03); DHA group 4.50 (3.73-5.44)	Women who self-reported illicit drug use or alcohol use during pregnancy and those with hypertension or BMI Z40 were excluded. Women who were taking more than 200 mg/day DHA in prenatal vitamins or over the counter supplements were excluded from participation	DHA per capsule for a total of 600 mg DHA/day) Dose: 3 capsule of 200mg DHA total 600 mg DHA: 200 mg * 3	Outcome: Neonatal Behavior Assessment: motor (Primary) Follow-up time: 1-14 days post-partum Arm 1: Sample size 12; mean 23.08; SD (11.4) Arm 2: Sample size 15; mean 26.07; SD (18.13) Outcome: Neonatal Behavior Assessment: reflexes (Primary) Follow-up time: 1-14 days post-partum Arm 1: Sample size 12; mean 21.92; SD (14.45) Arm 2: Sample size 15; mean 22.6; SD (14.33) Outcome: Neonatal Behavior Assessment: state regulation (Primary) Follow-up time: 1-14 days post-partum Arm 1: Sample size 12; mean 16.42; SD (20.02) Arm 2: Sample size 15; mean 16.93; SD (20.06) Outcome: Neonatal Behavior Assessment: habituation (Primary) Follow-up time: 1-14 days post-partum Arm 1: Sample size 12; mean 9.92; SD (9.28) Arm 2: Sample size 15; mean 8.47; SD (9.26) Outcome: Neonatal Behavior Assessment: orienting (Primary) Follow-up time: 1-14 days post-partum Arm 1: Sample size 12; mean 19.75; SD (15.45) Arm 2: Sample size 15; mean 23.4; SD (18.32)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Harper et al., 2010[29] Study name: NR Study dates: 01. 2005 - 10. 2006 Study design: Trial randomized parallel Location: US Funding source / conflict: Government, Manufacturer supplied product Original, same study, or follow-up studies: Klebanoff, 2011[49]	Study Population: At risk for preterm labor Pregnant enrolled 852 Pregnant withdrawals 0 Pregnant completers 852 Pregnant age: n3: 28 placebo 27 n3 23-32; placebo 24-32 Race of Mother: White European (n3: 56.5; placebo 57.7) Black (n3: 34.1; placebo 34.9) Asian (n3: 3, placebo 1.2) Hispanic (n3: 14.7; placebo 13.6) Other race/ethnicity (NR)	Inclusion Criteria: a documented history of at least one prior singleton preterm delivery between 20 0/7 and 36 6/7 weeks of gestation after spontaneous preterm labor or premature rupture of the membranes, and a current singleton pregnancy between 16 and 21 6/7 weeks of gestation Exclusion Criteria: evidence of a major fetal anomaly, intake of a fish oil supplement in excess of 500 mg per week at any time during the preceding month, allergy to fish, anticoagulation therapy, hypertension, White's classification D or higher diabetes, drug or alcohol abuse, seizure disorder, uncontrolled thyroid disease, clotting disorder, current or planned cerclage, or a	Start time: Pregnant 16-22 week gestation age Duration: Pregnant 36 weeks of gestation Arm 1: placebo Description: inert mineral oil Manufacturer: Eminent Services, Frederick, MD Active ingredients: 10 IU vitamin E per capsule, injections of 17_x0001_-hydroxyprogesterone caproate Dose: four capsules of matching oil containing a minute amount of inert mineral oil Blinding: Boxes containing a woman's entire supply of capsules in blister packs were sequentially numbered according to the predetermined randomization sequence, and on enrollment a woman was assigned the next number in sequence. Study group assignment was not known by study participants, their health care providers, or the research personnel Arm 2: Eminent Services, Frederick, MD Active ingredients: 10 IU vitamin E per capsule, injections of 17_x0001_-hydroxyprogesterone caproate Dose: in 4 capsules total 2000 mg of n3 DHA: 800 mg EPA: 1200 mg	Outcome domain: Birth weight Outcome: birth weight (g) (Secondary) Follow-up time: birth Arm 1: Sample size 418; median 2923.0; IQR Arm 2: Sample size 434; median 2990.0; IQR Outcome domain: Gestational hypertension preeclampsia eclampsia Outcome: preeclampsia or gestational hypertension (Secondary) Follow-up time: during pregnancy Arm 1: 20/418 (4.8%) Arm 2: 20/434 (4.6%) Outcome domain: Infants born small gestational age Outcome: SGA less than 10th percentile (Secondary) Follow-up time: birth Arm 1: 41/410 (10.0%) Arm 2: 35/427 (8.2%) Outcome domain: LBW Outcome: birthweight <1500g (Secondary) Follow-up time: birth Arm 1: 29/410 (7.1%) Arm 2: 26/427 (6.1%) Outcome: birthweight <2500g Follow-up time: birth Arm 1: 112/410 (27.3%) Arm 2: 94/427 (22.0%) Outcome domain: duration of gestation

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
		plan to deliver either elsewhere or before 37 weeks of gestation		Outcome: gestational age (weeks) (Secondary) Follow-up time: birth Arm 1: Sample size 418; mean 37.4; range Arm 2: Sample size 434; mean 37.7; range Outcome: incidence of premature birth (Primary) Follow-up time: birth Arm 1: 174/418 (41.6%) Arm 2: 164/434 (37.8%)
Hauner et al., 2012[37] Study name: INFAT Study dates: July 14 2006 - may 22 2009 Study design: Trial randomized parallel Location: Germany Funding source / conflict: Industry, Government, Multiple foundations and Societies	Study Population: Healthy pregnant women Pregnant enrolled 208 Pregnant withdrawals 38 Pregnant completers 170 Infants enrolled 188 Infants withdrawals 18 Infants completers 170 Pregnant age: 31.9 (4.9) 18-43 Race of Mother: NR (NR) Baseline biomarker information: Maternal fatty acid profile in RBCs at 15th wk: EPA,	Inclusion Criteria: healthy pregnant women before the 15th wk of gestation, between 18 and 43 y of age, pre-pregnancy BMI (in kg/m2) between 18 and 30, willingness to implement the dietary recommendations, sufficient German language skills. Exclusion Criteria: high-risk pregnancy (multiple pregnancy, rhesus incompatibility, hepatitis B infection, or parity .4); hypertension; chronic diseases (e.g., diabetes) or	Start time: Pregnant 15th wk of gestation Duration: Pregnant to 4 mo postpartum Arm 1: Control Description: brief semi structured counseling on a healthy balanced diet according to the guidelines of the German Nutrition Society and were explicitly asked to refrain from taking fish oil or DHA supplements N-6 N-3: 2.80 +- 1.17 (SD) at 32nd wk of gestation AA: 10.15 +- 3.89 SD) at 32nd wk of gestation Arm 2: Intervention Description: Fish-oil supplement + nutritional counseling (to normalize the consumption of AA Brand name: Marinol D-40 Manufacturer: Lipid Nutrition DHA: 1020 mg EPA: 180 mg N-6 N-3: 1.54 +- 0.63 (SD) at 32nd wk of	Outcome domain: Birth weight Outcome: birth weight (g) (Secondary) Follow-up time: birth Arm 1: Sample size 96; mean 3357.0; SD (557) Arm 2: Sample size 92; mean 3534.0; SD (465) Outcome domain: Infants born small gestational age Outcome: incidence of premature birth (Secondary) Follow-up time: birth Arm 1: 4/96 (4.2%) Arm 2: 3/92 (3.3%) Outcome domain: duration of gestation Outcome: gestational age (days) (Secondary) Follow-up time: birth Arm 1: Sample size 96; mean 275.1; SD (11.4) Arm 2: Sample size 92; mean 279.9; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	DHA, AA, and n-6:n-3 LCUFA ratio (reported in Table 2 by intervention and control groups). No significant differences between groups. Baseline Omega-3 intake: 7-d dietary records completed by participants at the 15th (baseline) and 32nd wk of gestation but only dietary intake at 32nd we of gestation was reported (in Table 2). At week 32 of gestation, the dietary n-6:n-3 PUFA ratio was .5:1 in the intervention group compared with :1 in the control group, as originally intended.	gastrointestinal disorders accompanied by maldigestion, malabsorption, or elevated energy and nutritional requirements (e.g., gluten enteropathy); known metabolic defects (e.g., phenylketonuria); psychiatric diseases; hyperemesis gravidarum; supplementation with n–3 LCPUFAs before randomization; and alcohol abuse and smoking.	gestation AA: 8.82 +- 2.84 (SD) at 32nd wk of gestation Other dose 1: Vit E 9 mg	(8.5) Outcome domain: growth Outcome: bmi (kg/m2) (Secondary) Follow-up time: 12 months Arm 1: Sample size 83; mean 16.7; SD (1.4) Arm 2: Sample size 87; mean 16.9; SD (1.5) Follow-up time: 4 months Arm 1: Sample size 87; mean 16.2; SD (1.3) Arm 2: Sample size 87; mean 16.5; SD (1.4) Follow-up time: 6 weeks Arm 1: Sample size 91; mean 15.3; SD (1.2) Arm 2: Sample size 89; mean 15.2; SD (1.4) Outcome: head circumference (cm) (Secondary) Follow-up time: 12 months Arm 1: Sample size 83; mean 46.1; SD (1.5) Arm 2: Sample size 87; mean 46.5; SD (1.6) Follow-up time: 4 months Arm 1: Sample size 87; mean 41.0; SD (1.3) Arm 2: Sample size 87; mean 41.2; SD (1.3) Follow-up time: 6 weeks Arm 1: Sample size 90; mean 38.8; SD (1.2) Arm 2: Sample size 89; mean 38.4; SD (1.1)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Outcome: length (cm) (Secondary) Follow-up time: 12 months Arm 1: Sample size 83; mean 74.9; SD (2.8) Arm 2: Sample size 87; mean 75.5; SD (2.4) Follow-up time: 4 months Arm 1: Sample size 87; mean 62.4; SD (2.2) Arm 2: Sample size 88; mean 62.6; SD (2) Follow-up time: 6 weeks Arm 1: Sample size 91; mean 55.6; SD (2.6) Arm 2: Sample size 89; mean 56.0; SD (2) Outcome: weight (g) (Secondary) Follow-up time: 12 months Arm 1: Sample size 83; mean 9379.0; SD (1035) Arm 2: Sample size 87; mean 9650.0; SD (1025) Follow-up time: 4 months Arm 1: Sample size 87; mean 6303.0; SD (724) Arm 2: Sample size 87; mean 6476.0; SD (679) Follow-up time: 6 weeks Arm 1: Sample size 91; mean 4736.0; SD (625) Arm 2: Sample size 89; mean 4793.0; SD (606)
Helland et al., 2008[76] Study name: NR Study dates: 1994-2003	Study Population: Healthy infants Healthy pregnant women Breast-feeding women	Inclusion Criteria: Healthy nulliparous or primiparous women, aged 19-35 with single pregnancies	Start time: Pregnant week 18 of pregnancy Duration: NR Arm 1: Cod oil	Outcome domain: Birth weight Outcome: birth weight (g) (Primary) Follow-up time: birth Arm 1: Sample size 61; mean 3518.0; SD (560)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study design: Trial randomized parallel Location: Norway Funding source / conflict: Industry, Government, Multiple foundations and Societies Study follow-up: 7 years Original, same study, or follow-up studies: Helland, 2001[86] and Helland, 2003[87] and which are both included in the original report	Infants enrolled 262 Infants completers 143 Pregnant age: cod oil 28.6 n=175 corn oil 27.6 n=166 (cod oil 3.4; corn oil 3.2) Race of Mother: NR (100) Baseline biomarker information: from id 10331 cod(n148) corn (n137) n-3 cod: 73.7 (30.0) corn 52.0 (14.9)*** 20:5n-3 cod: 10.8 (7.6) corn: 2.5 (1.8)*** 22:5n-3 cod: 5.0 (2.6) corn: 2.9 (1.3)*** 22:6n-3 cod: 55.8 (20.6) corn: 45.3 (12.8)*** Baseline Omega-3 intake: from 10331 cod n147 corn n159 18:3 n-3: cod: 1.3 (0.5) corn: 1.2 (0.5) 20:5 n-3 cod: 0.2 (0.2) corn:0.2 (0.2) 22:5 n-3 cod: 0.05 (0.03) corn: 0.05 (0.03) 22:6 n-3 cod: 0.3 (0.3) corn: 0.3 (0.3)	Exclusion Criteria: Unhealthy neonates	Manufacturer: Peter Moller, Avd Orkla ASA, Oslo, Norway Active ingredients: Vit 1: 117 ug/mL, Vit D3: 1 ug/mL, vit E: 1.4 mg/mL Viability: frozen at _x0003_ 70 ° C under nitrogen. Before storage, the samples were sonicated and ethylenediaminetetraacetic acid and butylated hydroxytoluene were added to a final concentration of 1.85 mg/mL and 75 _x0003_ g/mL, respectively DHA: 1183mg/10 mL EPA: 803 mg/10mL Total N-3: 2494 mg/10mL Arm 2: corn oil Active ingredients: Vit 1: 117 ug/mL, Vit D3: 1 ug/mL, vit E: 1.4 mg/mL Viability: frozen at _x0003_ 70 ° C under nitrogen. Before storage, the samples were sonicated and ethylenediaminetetraacetic acid and butylated hydroxytoluene were added to a final concentration of 1.85 mg/mL and 75 _x0003_ g/mL, respectively ALA: 92 mg/10mL	Arm 2: Sample size 82; mean 3613.0; SD (458) Outcome domain: Cognitive development Outcome: Kaufman Assessment Battery for Children (K-ABC): mental processing composite (Secondary) Follow-up time: 4 years Arm 1: Sample size 28; mean 102.0 Arm 2: Sample size 30; mean 107.0 Follow-up time: 7 years Arm 1: Sample size 28; mean 108.0 Arm 2: Sample size 30; mean 110.0 Outcome: Kaufman Assessment Battery for Children (K-ABC): non-verbal abilities (Secondary) Follow-up time: 4 years Arm 1: Sample size 28; mean 102.0 Arm 2: Sample size 30; mean 107.0 Follow-up time: 7 years Arm 1: Sample size 28; mean 112.0 Arm 2: Sample size 30; mean 112.0 Outcome: Kaufman Assessment Battery for Children (K-ABC): sequential processing (Secondary) Follow-up time: 4 years Arm 1: Sample size 28; mean 107.0 Arm 2: Sample size 30; mean 109.0 Follow-up time: 7 years Arm 1: Sample size 28; mean 105.0 Arm 2: Sample size 30; mean 107.0 Outcome: Kaufman Assessment Battery for Children (K-ABC): simultaneous processing (Secondary) Follow-up time: 4 years Arm 1: Sample size 28; mean 98.0

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 2: Sample size 30; mean 102.0 Follow-up time: 7 years Arm 1: Sample size 28; mean 110.0 Arm 2: Sample size 30; mean 110.0 Outcome domain: growth Outcome: bmi (kg/m2) (Secondary) Follow-up time: 7 years Arm 1: Sample size 61; mean 16.3; SD (1.7) Arm 2: Sample size 82; mean 16.4; SD (1.7) Outcome: length (cm) (Secondary) Follow-up time: 7 years Arm 1: Sample size 61; mean 128.6; SD (5) Arm 2: Sample size 82; mean 127.5; SD (5.5) Outcome: weight (kg) (Secondary) Follow-up time: 7 years Arm 1: Sample size 61; mean 27.0; SD (4.1) Arm 2: Sample size 82; mean 26.8; SD (4.1)
Henriksen et al., 2008[107] Study name: Unnamed Trial D Study dates: 2003-2006 Study design: Trial randomized parallel Location: Norway	Study Population: Preterm infants Infants enrolled 141 Infants completers 129 Mother age: Median: Intervention: 31 years Control: 32 years 28-35 years	Inclusion Criteria: All VLBW infants (<1500g) born between December 2003 and November 2005 at Rikshospitalet-Radiumhospitalet Medical Center, Akershus University Hospital, Buskerud Hospital, and Vestfold	Start time: Infants (intervention began when the infant received most of his nutrients enterally: >100ml human milk/kg body weight/day Duration: Infants Until discharge or bottle of study oil was empty (average 63 days of age) Arm 1: Control Description: Study oil: soy oil and medium chain triglycerides Active ingredients: 127mg linolenic acid/100 ml	Outcome domain: Cognitive development Outcome: Ages and Stages: Communication Follow-up time: 6 months Arm 1: Sample size 55; mean 46.6; SD (9.1) Arm 2: Sample size 50; mean 45.4; SD (7.9) Outcome: Ages and Stages: Fine motor Follow-up time: 6 months Arm 1: Sample size 55; mean 45.8; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Funding source / conflict: Multiple foundations and Societies, Manufacturer supplied product Study follow-up: 6 months Original, same study, or follow-up studies: Ane, 2011[125]; Almaas, 2015[126]	Infant age: Median Gestational age: Control: 28.9 weeks Intervention: 28.4 weeks Gestational age: 26.6-30.9 weeks Race of Mother: White European (Intervention: 79%; Control 84%)	Hospital in Norway Exclusion Criteria: Major congenital abnormalities or cerebral hemorrhage (grade 3 or 4, as determined through ultrasonography)	milk(27.1% total fatty acids) Dose: 0.5 ml study oil/100 ml human milk Blinding: Study oils packed in numbered bottles in hospital pharmacy ALA: 16mg/100 ml milk; 3.4% total fatty acids Arm 2: Intervention Description: DHA and AA-containing oil Manufacturer: Martek Biosciences Active ingredients: 88mg/100 ml linoleic acid per 100 ml milk (18.8%) Dose: 0.5 ml study oil per 100 ml milk, ad lib Maternal conditions Infant conditions DHA: 32mg/100ml milk (6.9%) AA: 31 mg/100 ml milk (6.7% total fatty acids Current smoker 22% during pregnancy Low birth weight 100% (median 1090 g)	(14.3) Arm 2: Sample size 50; mean 45.2; SD (10.7) Outcome: Ages and Stages: Gross motor Follow-up time: 6 months Arm 1: Sample size 55; mean 30.9; SD (11.1) Arm 2: Sample size 50; mean 33.3; SD (11.5) Outcome: Ages and Stages: Personal-social Follow-up time: 6 months Arm 1: Sample size 55; mean 42.2; SD (12.3) Arm 2: Sample size 50; mean 43.2; SD (12.8) Outcome: Ages and Stages: Problem-solving Follow-up time: 6 months Arm 1: Sample size 55; mean 49.5; SD (9.5) Arm 2: Sample size 50; mean 53.4; SD (7) Outcome: Ages and Stages: Total Follow-up time: 6 months Arm 1: Sample size 55; mean 215.0; SD (39) Arm 2: Sample size 50; mean 221.0; SD (32) Outcome domain: growth Outcome: head circumference (mm/day) (Secondary) Follow-up time: day 65 Arm 1: Sample size 50; mean 1.0; SD (0.4) Arm 2: Sample size 50; mean 1.2; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(0.7)
Hoffman et al., 2008[114] Study name: NR Study dates: NR Study design: Trial randomized parallel Location: US Funding source / conflict: Industry, Manufacturer supplied product	Study Population: Healthy infants Infants enrolled 244 Infants withdrawals 3 Infants completers 241 Infant age: 14 days Race of Mother: NR	Inclusion Criteria: 12–16 days of age, had a minimum birth weight of 2,500 g, and solely received formula at least 24 h prior to randomization Exclusion Criteria: history of underlying disease or malformation that could interfere with growth and development; large-for-gestational-age infants whose mothers were diabetic; breastfeeding within 24 h prior to randomization; evidence of formula intolerance or poor intake at time of randomization; weight at randomization less than 98% of birth weight; enlarged liver or spleen; or plans to move outside of the study area within the study time frame (120 days)	Start time: Infants 14 day Duration: NR Arm 1: Control Description: soy formula without supplementation Brand name: Enfamil ProSobee1, Mead Johnson & Company, Evansville, IN Blinding: Aside from the addition of DHA and ARA, the formulas were identical in all other respects. Arm 2: DHA + ARA Description: soy formula supplemented with a minimum 17 mg DHA/100kcal from algal oil and 34 mg ARA/100kcal from fungal oil Brand name: Enfamil ProSobee1 LIPIL1, Mead Johnson & Company, Evansville, IN) DHA: 0.3% AA: 0.6%	Outcome domain: growth Outcome: head circumference (cm/day) (Secondary) Follow-up time: 14-120d Arm 1: Sample size 86; mean gain 0.05; SE (0.001) Arm 2: Sample size 93; mean gain 0.05; SE (0.001) Outcome: length (cm/day) (Secondary) Follow-up time: 14-120d Arm 1: Sample size 86; mean change 0.1; SE (0.002) Arm 2: Sample size 93; mean change 0.1; SE (0.002) Outcome: weight (g/day) (Secondary) Follow-up time: 14-120d Arm 1: Sample size 86; mean change 27.8; SE (0.8) Arm 2: Sample size 93; mean change 27.3; SE (0.7)
Imhoff-Kunsch et al.,	Study Population:	Inclusion Criteria:	Start time: Pregnant 18 to 22 weeks gestation	Outcome domain: respiratory illness

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
2011[58] Study name: POSGRAD Study dates: February 2005 - February 2007 Study design: Trial randomized parallel Location: Mexico Funding source / conflict: Government, March of Dimes Original, same study, or follow-up studies: Ramakrishnan, 2010[32]; Stein, 2012[33]; Escamilla-Nunez, 2014[59]; Gonzalez-Casanova, 2015[60]; Ramakrishnan, 2015[61]	Healthy pregnant women Pregnant enrolled 1094 Pregnant completers 851 Infants enrolled 851 Infants completers 834 Pregnant age: DHA: 26.3 Placebo:20.5 (DHA: 4.9 Placebo: 1.9) Race of Mother: NR (100%)	Women were considered for inclusion in the study if they were in gestation week 18 to 22, were aged 18 to 35 years, planned to deliver at the IMSS General Hospital in Cuernavaca, planned to predominantly breastfeed for at least 3 months, and planned to live in the area for 2 years after delivery Exclusion Criteria: Exclusion criteria included (1) high-risk pregnancy, (2) lipid metabolism/absorption disorders, (3) regular intake of fish oil or DHA supplements, or (4) chronic use of certain medications.	Duration: Pregnant until parturition Arm 1: Placebo Description: Placebo/control corn and soy oil capsule Dose: 2 capsules daily Blinding: The placebo capsules, which were similar in appearance and taste to the DHA capsules, contained a corn and soy oil blend with no added antioxidants....All participants and members of the study team were blinded to the treatment scheme throughout the intervention period of the study. Data were unblinded for the analytical study team after the last infant in the study was born and had reached the age of 6 months. Arm 2: DHA Description: DHA capsule Manufacturer: Martek Biosciences Corporation, Columbia, MD Dose: 2 capsules daily DHA: 200mg/ capsule	Outcome: cold (any of cough, phlegm, nasal congestion, nasal secretion) (Secondary) Follow-up time: 1 month (preceding 15 days) Arm 1: 190/427 (44.6%) Arm 2: 159/422 (37.6%) Follow-up time: 3 months Arm 1: 185/419 (44.1%) Arm 2: 157/415 (37.8%) Follow-up time: 6 months (preceding 15 days) Arm 1: 193/414 (46.6%) Arm 2: 194/420 (46.2%) Outcome: cough (Secondary) Follow-up time: 1 month (preceding 15 days) Arm 1: 47/427 (11.0%) Arm 2: 40/422 (9.5%) Follow-up time: 3 months Arm 1: 100/419 (23.9%) Arm 2: 80/415 (19.3%) Follow-up time: 6 months (preceding 15 days) Arm 1: 136/414 (32.9%) Arm 2: 139/420 (33.1%) Outcome: difficulty breathing (Secondary) Follow-up time: 1 month (preceding 15 days) Arm 1: 10/427 (2.3%) Arm 2: 10/422 (2.4%) Follow-up time: 3 months Arm 1: 10/419 (2.4%) Arm 2: 12/415 (2.9%) Follow-up time: 6 months (preceding 15 days)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 1: 7/414 (1.7%) Arm 2: 6/420 (1.4%) Outcome: nasal congestion (Secondary) Follow-up time: 1 month (preceding 15 days) Arm 1: 140/427 (32.8%) Arm 2: 119/422 (28.2%) Follow-up time: 3 months Arm 1: 119/419 (28.4%) Arm 2: 104/415 (25.1%) Follow-up time: 6 months (preceding 15 days) Arm 1: 116/414 (28.0%) Arm 2: 124/420 (29.6%) Outcome: nasal secretion (Secondary) Follow-up time: 1 month (preceding 15 days) Arm 1: 46/427 (10.8%) Arm 2: 30/422 (7.1%) Follow-up time: 3 months Arm 1: 72/419 (17.2%) Arm 2: 62/415 (14.9%) Follow-up time: 6 months (preceding 15 days) Arm 1: 122/414 (29.5%) Arm 2: 118/420 (28.2%) Outcome: phlegm (Secondary) Follow-up time: 1 month (preceding 15 days) Arm 1: 82/427 (19.2%) Arm 2: 71/422 (16.8%) Follow-up time: 3 months Arm 1: 78/419 (18.6%) Arm 2: 81/415 (19.5%) Follow-up time: 6 months (preceding 15 days)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 1: 100/414 (24.2%) Arm 2: 100/420 (23.9%) Outcome: wheezing (Secondary) Follow-up time: 1 month (preceding 15 days) Arm 1: 30/427 (7.0%) Arm 2: 35/422 (8.3%) Follow-up time: 3 months Arm 1: 34/419 (8.1%) Arm 2: 29/415 (7.0%) Follow-up time: 6 months (preceding 15 days) Arm 1: 45/414 (10.9%) Arm 2: 50/420 (11.9%)
Innis et al., 2008[145] Study name: NR Study dates: NR, <2008 Study design: Trial randomized parallel Location: Canada Funding source / conflict: Government, None, Manufacturer supplied product Study follow-up: 60 days	Study Population: Healthy pregnant women Pregnant enrolled NR Pregnant completers 135 Infants enrolled 135 Infants completers 134 Pregnant age: 33 years (0. 4 years) Infant age: 14 to 16 weeks gestation Race of Mother: White European (72%) Baseline biomarker	Inclusion Criteria: 14 – 16 wk gestation, not taking any lipid supplement, no complications likely to affect maternal or fetal metabolism or fetal development, expected to deliver one full-term infant Exclusion Criteria: NR	Start time: Pregnant 16 weeks gestation Infants 16 weeks gestation Duration: Pregnant to birth Infants to birth Arm 1: placebo Description: corn oil / soybean oil capsule Manufacturer: Martek Biosciences, Columbia, MD) Dose: 2 capsules Blinding: identical capsules, containing an orange flavor to assist in further blinding Maternal conditions ALA: 40 mg Other dose 1: LA 265 mg Current smoker 2/67 Arm 2: DHA supplement Description: capsule containing 200 mg DHA Manufacturer: Martek Biosciences, Columbia, MD)	Outcome domain: Visual function Outcome: Teller Acuity Card procedure (visual acuity) (cyc/deg) (Secondary) Follow-up time: 60 days Arm 1: Sample size 68; mean 2.42; SD (0.63) Arm 2: Sample size 67; mean 2.6; SD (0.5)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	information: 16 week gestation baseline values for both groups similar. Reported graphically, so approximations. 22:6n-3: 7 %wt of total FA 22:5n-3: 4 %wt of total FA 20:5n-3: 1 %wt of total FA 18:3n-3: 0.4 %wt of total FA Baseline Omega-3 intake: For mothers, at assignment: Linoleic acid (g) median 13.5 range 2.52–43 Alpha Linolenic acid (g) median 1.48 range 0.46–9.21 Arachidonic acid (mg) median 90 range 20–360 EPA (mg) median 70 range 10–280 DHA (mg) median 110 range 10–760		Dose: 2 capsules Maternal conditions DHA: 200 mg/g Current smoker 0/68	
Isaacs et al., 2011[99] Study name: Unnamed Trial A Study dates: Recruitment of infants from 1995 through 1997 with 10-year follow-up	Study Population: Preterm infants Infants enrolled 238 Infants completers 107 Infant age: birth (at < 35 weeks gestation) NA Race of Mother: NR	Inclusion Criteria: birth weight of < 2000 g, and gestational age of < 35 weeks Exclusion Criteria: congenital malformations	Start time: Infants at hospital discharge Duration: Infants 9 months Arm 1: control Description: control formula Active ingredients: protein, minerals, vitamins A, E, K, D DHA: 0 EPA: 0	Outcome domain: ADHD Outcome: Test of Everyday Attention for Children: Attention scaled score (Secondary) Follow-up time: 10 years Arm 1: Sample size 57; mean 8.3; SD (2.6) Arm 2: Sample size 50; mean 8.2; SD (2.5) Outcome: Test of Everyday Attention for

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study design: Trial randomized parallel Location: UK Funding source / conflict: Industry, Government, Some authors have received research funding from infant formula manufacturers Study follow-up: 10 years Original, same study, or follow-up studies: Fewtrell, 2002[158] is the original study; Llorente, 2003[98] reports post-partum depression	(NR)		AA: 0 Other dose 1: C18:2, n-6, linoleic acid 11.5 g / 100g fat Other dose 2: C18:3, n-3, alpha_x0004_-linolenic acid 1.6 g / 100g fat Arm 2: Omega 3 supplemented formula Description: LCPUFA-Supplemented Formula Active ingredients: protein, minerals, vitamins A, E, K, D Infant conditions DHA: 0.5 g / 100g fat EPA: 0.1 g/ 100g fat AA: 0.04 g / 100g fat Other dose 1: C18:2, n-6, linoleic acid 12.3 g / 100g fat Other dose 2: C18:3, n-6, gamma-linoleic acid 0.9 g / 100g fat Other dose 3: C18:3, n-3, _x0004_alpha-linolenic acid 1.5 g / 100g fat Pre-term birth 100% Low birth weight 100%	Children: Creature counting scale score (Secondary) Follow-up time: 10 years Arm 1: Sample size 57; mean 9.6; SD (2.1) Arm 2: Sample size 50; mean 10.0; SD (2.7) Outcome: Test of Everyday Attention for Children: Dual-task decrement scaled score (Secondary) Follow-up time: 10 years Arm 1: Sample size 57; mean 7.3; SD (2.8) Arm 2: Sample size 50; mean 7.6; SD (2.5) Outcome: Test of Everyday Attention for Children: Opposite Worlds different scaled score (Secondary) Follow-up time: 10 years Arm 1: Sample size 57; mean 8.4; SD (2.8) Arm 2: Sample size 50; mean 8.9; SD (3.5) Outcome: Test of Everyday Attention for Children: Score! Scale scored (Secondary) Follow-up time: 10 years Arm 1: Sample size 57; mean 7.8; SD (3.4) Arm 2: Sample size 50; mean 7.7; SD (3.4) Outcome domain: Cognitive development Outcome: Wechsler Abbreviated Scale of Intelligence: FSIQ (Secondary) Follow-up time: 10 years

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 1: Sample size 57; mean 92.7; SD (12.3) Arm 2: Sample size 50; mean 95.1; SD (13.2) Outcome: Wechsler Abbreviated Scale of Intelligence: Performance IQ (Secondary) Follow-up time: 10 years Arm 1: Sample size 57; mean 94.5; SD (14.1) Arm 2: Sample size 50; mean 94.2; SD (12.7) Outcome: Wechsler Abbreviated Scale of Intelligence: VIQ (Secondary) Follow-up time: 10 years Arm 1: Sample size 57; mean 92.6; SD (12.6) Arm 2: Sample size 50; mean 96.7; SD (13.2)
Jensen et al., 2005[136] Study name: Unnamed Trial B Study dates: <2004 Study design: Trial randomized parallel Location: US Funding source / conflict: Industry, Government Original, same study, or	Study Population: Breast-feeding women Lactating enrolled 227 Lactating completers 174 Infants enrolled 230 Infants completers 177 Lactating enrolled 227 Lactating completers 174 Lactating age: 31.5 years (5 years) 18-40	Inclusion Criteria: maternal age between 18 and 40 y, infant gestational age >=37 wk, infant birth weight between 2500 and 4200 g Exclusion Criteria: chronic maternal disorders, major congenital anomalies, obvious gastrointestinal or metabolic disorders of the infant	Start time: Lactating 5 days after delivery Infants 5 days after birth Duration: Lactating 4 months Infants 4 months Arm 1: placebo Description: capsule containing corn & soy oil Manufacturer: Martek Biosciences Purity Data: 15% saturated fatty acids, 23.5% monounsaturated fatty acids, 56.3% linoleic acid (18: 2n_x0001_6), and 3.9% _x0001_-linolenic acid (18:3n_x0001_3) Dose: 1 capsule Blinding: identical capsules ALA: 56.3% linoleic acid (18: 2n_x0001_6), 3.9% _x0001_-linolenic acid (18:3n_x0001_3) Total N-3: 57.2%	Outcome domain: Neurological development Outcome: Bayley Physical Developmental Index (Primary) Follow-up time: 30 months Arm 1: Sample size 65; mean 108.4; SD (13.8) Arm 2: Sample size 68; mean 116.8; SD (15.2) Outcome: Clinical Linguistic and Auditory Milestone Scale (CLAMS) (Secondary) Follow-up time: 30 months Arm 1: Sample size 72; mean 106.6; SD (14.9) Arm 2: Sample size 75; mean 106.8; SD (15.2) Follow-up time: 12 months

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
follow-up studies: Jensen, 2010[135]	Infant age: birth (NA) NA Race of Mother: NR		Arm 2: DHA algal triacylglycerol (DHASCO) Description: DHA capsule Brand name: DHASCO Manufacturer: Martek Biosciences Purity Data: 44%saturatedfattyacids, 13.6% monounsaturated fatty acids, 0.8% linoleic acid (18:2n _x0001_ 6), and 41.7% DHA (22:6n-3) by weight Dose: 1 capsule ALA: 0.8% (18:2n-6) DHA: 200 mg, 41.7% (22:6n-3) Total N-3: 42.5%	Arm 1: Sample size 76; mean 102.5; SD (13.2) Arm 2: Sample size 86; mean 100.6; SD (14.6) Outcome: Clinical adaptive test development quotient (CAT DQ) (Secondary) Follow-up time: 30 months Arm 1: Sample size 72; mean 98.3; SD (8.7) Arm 2: Sample size 75; mean 98.1; SD (9) Follow-up time: 12 months Arm 1: Sample size 76; mean 110.0; SD (10.8) Arm 2: Sample size 86; mean 109.0; SD (10) Outcome: Gesell Gross Motor development quotient (DQ) (Secondary) Follow-up time: 30 months Arm 1: Sample size 72; mean 102.4; SD (10.2) Arm 2: Sample size 75; mean 100.8; SD (11.4) Follow-up time: 12 months Arm 1: Sample size 76; mean 99.5; SD (13.3) Arm 2: Sample size 86; mean 101.8; SD (13.8) Outcome domain: Visual function Outcome: Sweep VEP (cyc/deg) (Secondary) Follow-up time: 4 months Arm 1: Sample size 79; mean 9.4; SD (0.21) Arm 2: Sample size 81; mean 9.4; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(0.23) Outcome: Teller Acuity Card procedure (cyc/deg) (Secondary) Follow-up time: 4 months Arm 1: Sample size 77; mean 5.3; SD (0.56) Arm 2: Sample size 70; mean 5.6; SD (0.71) Follow-up time: 8 months Arm 1: Sample size 73; mean 13.5; SD (0.57) Arm 2: Sample size 74; mean 12.3; SD (0.53) Outcome: Visual evoked potential amplitude (mV) (Secondary) Follow-up time: 4 months Arm 1: Sample size 82; mean 33.3; SD (12.4) Arm 2: Sample size 86; mean 28.9; SD (12.1) Follow-up time: 8 months Arm 1: Sample size 74; mean 27.9; SD (11) Arm 2: Sample size 79; mean 24.3; SD (8.9) Outcome: Visual evoked potential latency (ms) (Secondary) Follow-up time: 4 months Arm 1: Sample size 82; mean 123.9; SD (10.6) Arm 2: Sample size 86; mean 124.8; SD (11.7) Follow-up time: 8 months Arm 1: Sample size 74; mean 115.3; SD (10.5) Arm 2: Sample size 79; mean 115.1; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(8.1)
Jensen et al., 2010[135] Study name: Unnamed Trial B Study dates: NR (<2010) Study design: Trial randomized parallel Location: US Funding source / conflict: Industry, Government Study follow-up: 5 years Original, same study, or follow-up studies: Jensen, 2005[136]	Study Population: Breast-feeding women Lactating enrolled 227 Infants enrolled 230 Infants completers 119 Lactating enrolled 227 Lactating age: 31.5 years (5 years) 18 to 40 Infant age: birth (NA) NA Race of Mother: NR (NR)	Inclusion Criteria: maternal age between 18 and 40 y, infant gestational age >=37 wk, infant birth weight between 2500 and 4200 g Exclusion Criteria: chronic maternal disorders, major congenital anomalies, obvious gastrointestinal or metabolic disorders of the infant	Start time: Infants birth Duration: Infants 4 months Arm 1: placebo Description: capsule containing corn & soy oil Manufacturer: Martek Biosciences Purity Data: 50:50 mixture of soy and corn oils consisting, by weight, of 15% saturated fatty acids, 23.5% monounsaturated fatty acids, 56.3% linoleic acid (18:2 n-6) and 3.9% a-linolenic acid (18:3 n-3) Dose: 1 capsule Blinding: capsules were identical ALA: 3.9% Arm 2: omega 3 capsule Description: high-DHA algal triglyceride capsule Brand name: DHASCO Manufacturer: Martek Purity Data: by weight, 44% saturated fatty acids, 13.6% monounsaturated fatty acids, 0.8% linoleic acid (18:2n-6) and 41.7% DHA (22:6n-3) Dose: 1 capsule DHA: 200 mg	Outcome domain: Cognitive development Outcome: Wechsler Primary and Preschool Scale of Intelligence - Revised : Vocabulary Subset (Secondary) Follow-up time: 5 years Arm 1: Sample size 57; mean 12.9; SD (2.4) Arm 2: Sample size 60; mean 12.3; SD (2.8) Outcome: Wechsler Primary and Preschool Scale of Intelligence - Revised : Animal Pegs Subset (Secondary) Follow-up time: 5 years Arm 1: Sample size 57; mean 12.2; SD (1.8) Arm 2: Sample size 60; mean 12.1; SD (2.4) Outcome: Wechsler Primary and Preschool Scale of Intelligence - Revised : Block Design Subset (Secondary) Follow-up time: 5 years Arm 1: Sample size 57; mean 11.1; SD (2.2) Arm 2: Sample size 60; mean 11.3; SD (2.1) Outcome: Wechsler Primary and Preschool Scale of Intelligence - Revised : Information Subset (Secondary) Follow-up time: 5 years Arm 1: Sample size 57; mean 11.2; SD (2.6) Arm 2: Sample size 60; mean 10.8; SD (2.6)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Outcome domain: Neurological development Outcome: Development test of Visual-Motor Integration (Secondary) Follow-up time: 5 years Arm 1: Sample size 56; mean 11.8; SD (1.8) Arm 2: Sample size 57; mean 11.6; SD (1.9) Outcome: Kaufman Assessment Battery for Children: hand movement (Secondary) Follow-up time: 5 years Arm 1: Sample size 56; mean 9.02; SD (2.84) Arm 2: Sample size 59; mean 8.39; SD (2.55) Outcome: McCarthy (leg coordination) (Secondary) Follow-up time: 5 years Arm 1: Sample size 56; mean 10.7; SD (1.9) Arm 2: Sample size 59; mean 10.6; SD (1.5) Outcome: Purdue pegboard test (dominant hand) (Secondary) Follow-up time: 5 years Arm 1: Sample size 57; mean 9.8; SD (2.7) Arm 2: Sample size 59; mean 9.6; SD (1.7) Outcome: Purdue pegboard test (non-dominant hand) (Secondary) Follow-up time: 5 years Arm 1: Sample size 57; mean 8.9; SD (2.7) Arm 2: Sample size 59; mean 8.9; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(1.6) Outcome domain: Visual function Reason results are not reported: intervention first 4 months Outcome: VEP Latency (30' check sizes) (ms) (Secondary) Follow-up time: 5 years Arm 2: Sample size 60; mean 110.0; SD (8.1) Outcome domain: Visual function Reason results are not reported: intervention first 4 months; same trial as 3433 (later fu) Outcome: Bailey Lovie Acuity - left eye (number of letters correct) (Secondary) Follow-up time: 5 years Arm 1: Sample size 57; mean 52.1; SD (4.9) Arm 2: Sample size 60; mean 53.1; SD (4.7) Outcome: Bailey Lovie Acuity - right eye (number of letters correct) (Secondary) Follow-up time: 5 years Arm 1: Sample size 58; mean 51.6; SD (5.6) Arm 2: Sample size 60; mean 52.6; SD (4.6) Outcome: Sweep VEP acuity (cyc/deg) (Secondary) Follow-up time: 5 years Arm 1: Sample size 55; mean 11.8; SD (0.3) Arm 2: Sample size 56; mean 11.9; SD (0.3)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Outcome: VEP Amplitude (mV) (Secondary) Follow-up time: 5 years Arm 1: Sample size 56; mean 45.3; SD (18) Arm 2: Sample size 60; mean 39.6; SD (13.7) Outcome: VEP Latency (30' check sizes) (ms) (Secondary) Follow-up time: 5 years Arm 1: Sample size 56; mean 108.0; SD (6.5)
Judge et al., 2007[39] Study name: NR Study dates: NR Study design: Trial randomized parallel Location: US Funding source / conflict: Industry, Government, None	Study Population: Healthy pregnant women Pregnant enrolled 29 Pregnant completers 29 Pregnant age: 23.75 years (.4 years) NR Race of Mother: NR (100%)	Inclusion Criteria: women aged 18 –35 y who were at 20 wk of gestation Exclusion Criteria: Women with a history of drug or alcohol addiction, hypertension, smoking, hyperlipidemia, renal disease, liver disease, diabetes, or psychiatric disorder	Start time: Pregnant 24 weeks gestation Duration: Pregnant until birth Arm 1: placebo Description: cereal based placebo bars Manufacturer: Nestec Active ingredients: 18 g carbohydrates, 1.3 grams protein, 92 calories, 1.7 g fat Viability: NR Dose: 5 bars per week Blinding: NR Arm 2: DHA supplemented cereal bars Manufacturer: Nestec Active ingredients: 18 g carbohydrates, 1.3 grams protein, 92 calories, 1.7 g fat Viability: NR Dose: 5 bars per week. DHA-containing cereal based bars [1.7 g total fat, 300 mg DHA as low-eicosapentaenoic oil (EPA) fish oil; EPA:DHA 1:8 per bar DHA: mg/d	Outcome domain: Birth weight Outcome: birth weight (g) (Secondary) Follow-up time: birth Arm 1: Sample size 15; mean 3222.0; SD (363) Arm 2: Sample size 14; mean 3465.0; SD (406) Outcome domain: duration of gestation Outcome: gestational age (weeks) (Secondary) Follow-up time: birth Arm 1: Sample size 15; mean 39.0; SD (1) Arm 2: Sample size 14; mean 39.9; SD (0.8)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
			EPA: .75 mg (calculated based on EPA:DHA ratio) EPA-DHA: 1:8	
Judge et al., 2012[40] Study name: NR Study dates: NR Study design: Trial randomized parallel Location: US Funding source / conflict: Multiple foundations and Societies	Study Population: Healthy pregnant women Pregnant enrolled 48 Pregnant age: Treatment group: 23.93 Placebo: 23.86 (Treatment group: 4.32 Placebo: 4.53) Race of Mother: White European (Treatment: 11.1%, Placebo: 0%) Black (Treatment: 18.5%, Placebo: 4.8%) Asian (Treatment: 3.7%, Placebo: 0%) Hispanic (Treatment: 59.3%, Placebo: 80.9%) NR (Treatment: 7.4%, 3 (14.3%)) Baseline biomarker information: Maternal plasma phospholipid (PL) fatty acids (FA): 2.85 +/- .87 % in treatment group and 2.95 +/- .91% in placebo group. Infant RBC PL	Inclusion Criteria: The women were either primiparous or had not been pregnant for the past 2 years. Exclusion Criteria: parity greater than 5, history of chronic hypertension, hyperlipidemia, renal, liver or heart disease, thyroid disorder, multiple gestations or pregnancy induced complications including hypertension, preeclampsia or preterm labor, smoking and psychiatric disorders. Women who were treated during labor with analgesics such as Stadol (butorphanol tartrate), that may cause infant respiratory distress were also excluded. In addition, infants born preterm and infants	Start time: Pregnant 24 weeks gestation Duration: Pregnant until delivery Arm 1: Placebo Description: Control group Manufacturer: Nestec, S.A., Switzerland Blinding: The total macronutrient content was the same in both the DHA and placebo bars with respect to carbohydrate, protein and fat, how- ever, the DHA bars contained fish oil (300 mg DHA) and the placebo bars contained corn oil. Arm 2: DHA Description: Intervention group Manufacturer: Nestec, S.A., Switzerland Dose: average of 5 bars weekly DHA: 300 mg EPA-DHA: 8:1 ratio of DHA to EPA	Outcome domain: Birth weight Outcome: birth weight (g) (Secondary) Follow-up time: birth Arm 1: Sample size 21; mean 3224.62; SD (431.25) Arm 2: Sample size 27; mean 3394.7; SD (430) Outcome domain: Neurological development Outcome: Infant sleep: Active Sleep (AS, %) (Secondary) Follow-up time: 1 day after birth Arm 1: Sample size 19; mean 51.81; SD (10.43) Arm 2: Sample size 27; mean 49.39; SD (10.32) Follow-up time: 2 days after birth Arm 1: Sample size 15; mean 51.7; SD (11.13) Arm 2: Sample size 24; mean 51.57; SD (14.54) Outcome: Infant sleep: Active–Quiet Sleep Transition (AQST, %) (Secondary) Follow-up time: 1 day after birth Arm 1: Sample size 19; mean 0.53; SD (0.23) Arm 2: Sample size 27; mean 0.59; SD (0.37) Follow-up time: 2 days after birth Arm 1: Sample size 15; mean 0.41; SD (0.27)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	FA: 7.55 +/- 1.61% in treatment group and 7.07 +/- 1.25% in placebo group.	with less than 4 h of crib time in the first and second days postpartum were excluded from the analyses.		Arm 2: Sample size 24; mean 0.47; SD (0.3) Outcome: Infant sleep: Arousals in AS (Ar/AS) (Secondary) Follow-up time: 1 day after birth Arm 1: Sample size 19; mean 20.41; SD (4.39) Arm 2: Sample size 27; mean 17.41; SD (4.71) Follow-up time: 2 days after birth Arm 1: Sample size 15; mean 24.67; SD (6.82) Arm 2: Sample size 24; mean 24.04; SD (7.04) Outcome: Infant sleep: Arousals in QS (Ar/QS) (Secondary) Follow-up time: 1 day after birth Arm 1: Sample size 19; mean 5.89; SD (6.01) Arm 2: Sample size 27; mean 2.7; SD (2.65) Follow-up time: 2 days after birth Arm 1: Sample size 15; mean 5.44; SD (4.07) Arm 2: Sample size 24; mean 3.55; SD (3.98) Outcome: Infant sleep: Mean Sleep Period (LSP, min) (Secondary) Follow-up time: 1 day after birth Arm 1: Sample size 19; mean 185.95; SD (79.75) Arm 2: Sample size 27; mean 228.19; SD (104.89) Follow-up time: 2 days after birth Arm 1: Sample size 15; mean 202.6; SD (123.18)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 2: Sample size 24; mean 190.75; SD (102.75) Outcome: Infant sleep: Mean Sleep Period (MSP, min) (Secondary) Follow-up time: 1 day after birth Arm 1: Sample size 19; mean 46.09; SD (17.6) Arm 2: Sample size 27; mean 48.03; SD (17.55) Follow-up time: 2 days after birth Arm 1: Sample size 15; mean 48.85; SD (29.99) Arm 2: Sample size 24; mean 48.67; SD (21.18) Outcome: Infant sleep: Wakefulness (W, %) (Secondary) Follow-up time: 1 day after birth Arm 1: Sample size 19; mean 27.59; SD (11.54) Arm 2: Sample size 27; mean 29.57; SD (13.56) Follow-up time: 2 days after birth Arm 1: Sample size 15; mean 28.95; SD (12.14) Arm 2: Sample size 24; mean 30.71; SD (18.92) Outcome: Infant sleep: quiet sleep (QS,%) (Secondary) Follow-up time: 1 day after birth Arm 1: Sample size 19; mean 15.14; SD (4.26) Arm 2: Sample size 27; mean 15.88; SD (5.1) Follow-up time: 2 days after birth Arm 1: Sample size 15; mean 13.7; SD (4.76)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 2: Sample size 24; mean 12.7; SD (5.85) Outcome: Infant sleep: Active sleep bout length (ASBL, min) (Secondary) Follow-up time: 1 day after birth Arm 1: Sample size 19; mean 28.93; SD (9.67) Arm 2: Sample size 27; mean 29.0; SD (7.07) Follow-up time: 2 days after birth Arm 1: Sample size 15; mean 29.81; SD (12.5) Arm 2: Sample size 24; mean 30.48; SD (9.14) Outcome: Infant sleep: Active/Quiet Sleep Ratio(AS:QS) (Secondary) Follow-up time: 1 day after birth Arm 1: Sample size 19; mean 3.83; SD (2.15) Arm 2: Sample size 27; mean 3.38; SD (1.1) Follow-up time: 2 days after birth Arm 1: Sample size 15; mean 4.56; SD (3.13) Arm 2: Sample size 24; mean 4.46; SD (2.14) Outcome: Infant sleep: Quiet sleep bout length (QSBL, min) (Secondary) Follow-up time: 1 day after birth Arm 1: Sample size 19; mean 21.81; SD (4.93) Arm 2: Sample size 27; mean 22.74; SD (5.73) Follow-up time: 2 days after birth Arm 1: Sample size 15; mean 20.59; SD (4.98)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 2: Sample size 24; mean 18.75; SD (6.86) Outcome: Infant sleep: Sleep–Wake Transition (T, %) (Secondary) Follow-up time: 1 day after birth Arm 1: Sample size 19; mean 4.92; SD (1.48) Arm 2: Sample size 27; mean 4.57; SD (1.33) Follow-up time: 2 days after birth Arm 1: Sample size 15; mean 5.23; SD (1.88) Arm 2: Sample size 24; mean 4.5; SD (1.39) Outcome domain: duration of gestation Outcome: gestational age (weeks) (Secondary) Follow-up time: birth Arm 1: Sample size 21; mean 39.19; SD (1.17) Arm 2: Sample size 27; mean 39.72; SD (1.2)
Judge et al., 2014[91] Study name: NR Study dates: NR Study design: Trial randomized parallel Location: US Funding source /	Study Population: Healthy pregnant women Pregnant enrolled 73 Pregnant completers 42 Pregnant age: 18-35 Race of Mother: NR (100)	Inclusion Criteria: No other births in the previous two years; 20 weeks pregnant; and 18-35 years of age. Exclusion Criteria: with a self-reported significant medical history (i.e., currently being treated for depression/psychiatric	Start time: Pregnant 24 weeks gestation Duration: Pregnant 24 weeks gestation until delivery Arm 1: Placebo Description: corn oil capsule Dose: 1 capsule, 5 days/week Blinding: Identical package and only ID information Arm 2: DHA group	Outcome domain: Ante or postnatal depression Outcome: Postpartum Depression Screening Scale (PDSS) total score (Primary) Follow-up time: 2 weeks Arm 1: Sample size 22; mean 53.86; SD (15.25) Arm 2: Sample size 20; mean 47.65; SD (12.96) Follow-up time: 3 months Arm 1: Sample size 22; mean 42.63; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
conflict: Multiple foundations and Societies, None Original, same study, or follow-up studies: none		illness, addiction problems, hyperlipidemia, hypertension, renal disease, liver disease, or diabetes).	Description: 300mg DHA fish oil capsule Dose: 1 capsule, 5 days/week DHA: 300mg	(9.52) Arm 2: Sample size 20; mean 45.28; SD (12.25) Follow-up time: 6 months Arm 1: Sample size 22; mean 48.42; SD (17.18) Arm 2: Sample size 20; mean 45.55; SD (13.5) Follow-up time: 6 weeks Arm 1: Sample size 22; mean 47.4; SD (12.42) Arm 2: Sample size 20; mean 47.61; SD (14.31)
Knudsen et al., 2006[45] Study name: Danish National Birth Cohort-Pregnant Women Study dates: 2001- Study design: Trial randomized parallel Location: Denmark Funding source / conflict: Multiple foundations and Societies	Study Population: Healthy pregnant women Pregnant enrolled 3098 Pregnant withdrawals 1033 Pregnant completers 2065 Pregnant age: Group 01: 28.4 years Group 03: 28.7 years Group 07: 28.4 years Group 14: 28.9 years Group 28: 28.8 years Group C18: 28.8 years Group CG: 28.5 years Race of Mother: NR Baseline biomarker information: Level of	Inclusion Criteria: Low dietary intake of fish (lowest 20% of fish consumption), no use of fish oil capsules in pregnancy, gestational age 17-27 weeks. Exclusion Criteria: NR	Start time: Pregnant 17-27 weeks gestation Duration: Pregnant until delivery Arm 1: CG Description: control group (flax oi) Blinding: The women in the control group were allocated to any treatment and were not contacted at all. ALA: 2.2 g/d Arm 2: 01 Description: Treatment Group 1 Brand name: Futura Fish Oil Manufacturer: Dansk Droge A/S, Ishoej, Denmark Active ingredients: 13.4 mg D-alpha-tocopherol per gram Dose: 1 0.5 g three times per week DHA: 22% EPA: 32% Total N-3: 0.1 g per day	Outcome domain: duration of gestation Outcome: gestational age (days) (Primary) Follow-up time: birth Arm 1: Sample size 748; mean 280.6; SD (11.7) Arm 2: Sample size 229; mean 281.5; SD (12.6) Arm 3: Sample size 224; mean 279.7; SD (12) Arm 4: Sample size 222; mean 280.5; SD (12.6) Arm 5: Sample size 212; mean 280.6; SD (12.6) Arm 6: Sample size 187; mean 279.6; SD (14.8) Arm 7: Sample size 176; mean 280.7; SD (12.8)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	EPA, DHA, and AA in erythrocyte phospholipids assessed in a subsample of women in the 6 treatment groups Baseline Omega-3 intake: EPA, DHA, EPA+DHA, ALA, AA		Arm 3: 03 Description: Treatment group 2 Brand name: Futura Fish Oil Manufacturer: Dansk Droge A/S, Ishoej, Denmark Active ingredients: 13.4 mg D- alpha-tocopherol per gram Dose: 1 0.5 g capsule per day Total N-3: 0.3 g per day Arm 4: 07 Description: Treatment group 3 Brand name: Futura Fish Oil Manufacturer: Dansk Droge A/S, Ishoej, Denmark Active ingredients: 13.4 mg D- alpha-tocopherol per gram Dose: 1 1 g capsule per day DHA: 22% EPA: 32% Total N-3: 0.7 g per day Arm 5: 14 Description: Treatment group 4 Brand name: Futura Fish Oil Manufacturer: Dansk Droge A/S, Ishoej, Denmark Active ingredients: 13.4 mg D- alpha-tocopherol per gram Dose: 2 1g capsules per day DHA: 22% EPA: 32% Total N-3: 1.4 g per day Arm 6: 28	

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
			Description: Treatment group 5 Brand name: Futura Fish Oil Manufacturer: Dansk Droge A/S, Ishoej, Denmark Active ingredients: 13.4 mg Dalpha-tocopherol per gram Dose: 4 g per day DHA: 22% EPA: 32% Total N-3: 2.8g per day Arm 7: c18 Description: Treatment group 6 - flax oil Brand name: Prima FlaxTM Manufacturer: Bioriginal Food & Science Corp., Saskatoon, Canada Dose: 4 1-g capsules of flax oil ALA: 2.2g per day	
Lagemaat et al., 2011[109] Study name: NR Study dates: 2003 - 2006 Study design: Trial randomized parallel Location: Netherlands Funding source / conflict: Industry	Study Population: Preterm infants Low birth weight infants Infants enrolled 152 Infants completers 139 Infant age: Gestational age (week) PDF: 30.5 TF: 30.5 HM: 30.0 (PDF: 1.4 TF: 1.4 HM: 1.6) Race of Mother: NR (100) Baseline biomarker	Inclusion Criteria: infants born at gestational ages of 32 weeks or less and/or with birth weights of 1500 g or less Exclusion Criteria: NR	Start time: Infants at term Duration: Infants 6 months Arm 1: Term Formula (TF) Description: Placebo/control formula Brand name: Friso 1 normal Manufacturer: FrieslandCampina, Leeuwarden, The Netherlands Blinding: NR ALA: 63mg / 100ml DHA: 7mg / 100ml AA: 7mg/ 100ml Arm 2: PDF Description: Post-discharge formula (LCPUFA enriched)	Outcome domain: growth Outcome: head circumference (cm) (Unspecified) Follow-up time: term age Arm 1: Sample size 41; mean 35.8; SD (1.5) Arm 2: Sample size 52; mean 35.9; SD (1.2) Arm 3: Sample size 46; mean 35.6; SD (1.5) Outcome: length (cm) (Unspecified) Follow-up time: term age Arm 1: Sample size 41; mean 48.7; SD (2.1) Arm 2: Sample size 52; mean 48.7; SD (2.3) Arm 3: Sample size 46; mean 48.2; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	information: Baseline (at term) Mean(SD) AA PDF: 13.74 (0.89) TF: 13.86 (0.93) HM: 14.06 (1.17) DHA PDF: 4.71 (0.70) TF: 4.59 (0.76) HM: 4.08 (0.55) EPA PDF: 0.34 (0.05) TF: 0.32 (0.06) HM: 0.33 (0.13) DHA/AA ratio PDF: 0.34 (0.05) TF: 0.33 (0.06) HM: 0.29 (0.04)		Brand name: Friso 1 premature Manufacturer: Friesland Foods ALA: 59mg/ 100ml DHA: 14mg/ 100ml EPA: 3.9mg/ 100ml AA: 14mg/ 100ml Arm 3: HM Description: Human milk	(2.5) Outcome: weight (g) (Unspecified) Follow-up time: term age Arm 1: Sample size 41; mean 3193.0; SD (489) Arm 2: Sample size 52; mean 3137.0; SD (511) Arm 3: Sample size 46; mean 3138.0; SD (513)
Lauritzen et al., 2004[127] Study name: Danish National Birth Cohort-Lactating Women Study dates: December 1998 to November 1999 Study design: Trial randomized parallel Location: Denmark Funding source / conflict: Industry, Government Study follow-up: 2 and 4 months Original, same study, or	Study Population: Breast-feeding mothers with lower than average fish intake Infants enrolled 175 Infants completers 149 Pregnant age: Olive oil 30.2 Fish oil 29.6 High fish 31.9 (Olive oil ± 4.1 Fish oil ± 4.3 High fish ± 4.1) Infant age: 40.1 weeks gestation (birth) (1.2 weeks) Race of Mother: NR (100) Baseline Omega-3	Inclusion Criteria: pregnant Danish women living in the greater Copenhagen area who had a fish intake below the 50th percentile of the DNBC population; an uncomplicated pregnancy, pre-pregnancy body mass index (BMI) < 30 kg/m2 , and an absence of metabolic disorders; intention to breast-feed for at least 4 mon at the time of recruiting; newborns had to be healthy (no admission to a neonatal department), term (37–43 wks of	Start time: NR Duration: NR Arm 1: Placebo Blinding: Intervention fish oil was deodorized Arm 2: FO Intervention Description: Fish oil powder baked into cookies Other dose 1: 17 g/d of deodorized microencapsulated FO powder, containing 4.5 g of FO and 1.5 g of n-3 LCPUF	Outcome domain: Visual function Outcome: swept visual evoked potential (SWEEP-VEP) (Primary) Follow-up time: 2 months Arm 1: Sample size 46; mean 0.84; SD (0.08) Arm 2: Sample size 42; mean 0.84; SD (0.09) Follow-up time: 4 months Arm 1: Sample size 45; mean 0.64; SD (0.09) Arm 2: Sample size 52; mean 0.62; SD (0.08)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
follow-up studies: Lauritzen, 2005[102]; Lauritzen, 2005[128]; Cheatham, 2011[129];	intake: Habitual n-3 LCPUFA intake (g/d) Olive oil: 0.3 ± 0.3 Fish oil: 0.3 ± 0.3 High fish: 1.1 ± 0.6	gestation), singleton infants with normal weight for gestation (20) and an Apgar score >7 at 5 min after delivery. Willingness to start on the supplements within 2 wks after birth; no use of other types of oil supplements Exclusion Criteria: BMI >= 30 kg/m2...		
Lauritzen et al., 2005[102] Study name: Danish National Birth Cohort-Lactating Women Study dates: Recruitment: April 1999-February 2000 Follow-up 2.5 years Study design: Trial randomized parallel Location: Denmark Funding source / conflict: Industry, Government Study follow-up: 2.5	Study Population: Breast-feeding women Infants enrolled 100 Infants completers 72 Mother age: High fish: 31.9 Fish oil: 29.6 Olive oil: 30.2 (High fish: 4.1 Fish oil: 4.3 Olive oil: 4.1) Race of Mother: NR (100%)	Inclusion Criteria: Pregnant women who were recruited for the Danish National Birth Cohort (DNBC) (16), all from the greater Copenhagen area, who were in their eighth month of gestation and had a fish intake below the median (0.40 g/d n-3LCPUFA) ... (554 women with a fish intake in the upper quartile (0.82 g/d n-3LCPUFA) were invited to participate in the study as a high fish intake reference group); uncomplicated	Start time: Lactating within 2 weeks of delivery Duration: Lactating 4 months Arm 1: Olive oil Description: Control group receiving olive oil supplement Dose: 2 muesli bars daily; or 4 1000-mg capsules Blinding: Investigators and families were blinded to the randomization throughout the first year of life of the infants. Fish oil as well as olive oil supplements were given as microencapsulated oils concealed in two muesli bars (produced by Halo Foods Ltd., Tywyn Gwynedd, Wales, UK) daily for the first 4 mo of lactation. Arm 2: Fish oil Description: Intervention group receiving fish oil supplement	Outcome domain: growth Outcome: bmi (kg/m2) (Secondary) Follow-up time: 2 months Arm 1: Sample size 51; mean 15.93; SD (1.37) Arm 2: Sample size 52; mean 15.74; SD (1.24) Arm 3: Sample size 50; mean 15.63; SD (1.36) Follow-up time: 2.5 years Arm 1: Sample size 28; mean 15.86; SD (1.21) Arm 2: Sample size 42; mean 16.51; SD (1.08) Arm 3: Sample size 29; mean 16.11; SD (1.08) Follow-up time: 4 months Arm 1: Sample size 46; mean 17.04; SD (1.7) Arm 2: Sample size 52; mean 16.93; SD (1.23)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
years Original, same study, or follow-up studies: Lauritzen, 2004[127]; Lauritzen, 2005[128]; Cheatham, 2011[129];		pregnancy; body mass index (BMI) <30 kg/m2; no metabolic disorders; intention to breastfeed for at least 4 mo.; willingness to begin supplement within 2 weeks of birth. Newborns had to be healthy (no admission to a neonatal department), term (37– 43 wk of gestation), singleton infants with normal weight for gestation (17) and an Apgar score 7 at 5 min after delivery. Exclusion Criteria: NR	Manufacturer: BASF Health and Nutrition A/S, Ballerup, Denmark Dose: 2 muesli bars providing 0.62g EPA and 0.79g DHA; or fish oil capsules providing 0.36g EPA and 0.99g DHA DHA: 0.79g/d EPA: 0.62g/d Total N-3: 1.5g/d Arm 3: High fish Description: Group with high fish intake as reference group	Arm 3: Sample size 49; mean 16.57; SD (1.66) Follow-up time: 9 months Arm 1: Sample size 47; mean 17.64; SD (1.52) Arm 2: Sample size 53; mean 17.91; SD (1.24) Arm 3: Sample size 48; mean 17.27; SD (1.39) Outcome: head circumference (cm) (Secondary) Follow-up time: 1 week Arm 1: Sample size 56; mean 35.72; SD (1.53) Arm 2: Sample size 54; mean 36.11; SD (1.25) Arm 3: Sample size 51; mean 36.18; SD (1.59) Follow-up time: 2 months Arm 1: Sample size 50; mean 39.28; SD (1.16) Arm 2: Sample size 50; mean 39.7; SD (1.22) Arm 3: Sample size 47; mean 39.68; SD (1.27) Follow-up time: 2.5 years Arm 1: Sample size 30; mean 49.74; SD (1.34) Arm 2: Sample size 41; mean 50.42; SD (1.2) Arm 3: Sample size 29; mean 50.62; SD (1.23) Follow-up time: 4 months Arm 1: Sample size 46; mean 41.84; SD (1.12) Arm 2: Sample size 45; mean 42.17; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(1.16) Arm 3: Sample size 45; mean 42.4; SD (1.38) Follow-up time: 9 months Arm 1: Sample size 45; mean 45.29; SD (1.4) Arm 2: Sample size 52; mean 45.85; SD (1.53) Arm 3: Sample size 42; mean 45.81; SD (1.36) Outcome: length (cm) (Secondary) Follow-up time: 2 months Arm 1: Sample size 51; median 58.7; 10th, 90th percentile Arm 2: Sample size 52; median 58.8; 10th, 90th percentile Arm 3: Sample size 50; median 59.1; 10th, 90th percentile Follow-up time: 2.5 years Arm 1: Sample size 28; mean 92.65; SD (3.04) Arm 2: Sample size 42; mean 92.58; SD (3.14) Arm 3: Sample size 29; mean 93.74; SD (2.93) Follow-up time: 4 months Arm 1: Sample size 46; mean 64.02; SD (2.16) Arm 2: Sample size 52; mean 64.21; SD (2.08) Arm 3: Sample size 50; mean 64.7; SD (1.71) Follow-up time: 9 months Arm 1: Sample size 47; mean 72.15; SD (2.04) Arm 2: Sample size 53; mean 72.66; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(2.35) Arm 3: Sample size 48; mean 72.75; SD (2.01) Outcome: weight (kg) (Secondary) Follow-up time: 2 months Arm 1: Sample size 51; mean 5.4; 10th, 90th percentile Arm 2: Sample size 53; median 5.5; 10th, 90th percentile Arm 3: Sample size 50; median 5.3; 10th, 90th percentile Follow-up time: 2.5 years Arm 1: Sample size 30; mean 13.71; SD (1.26) Arm 2: Sample size 42; mean 14.16; SD (1.26) Arm 3: Sample size 29; mean 14.18; SD (1.43) Follow-up time: 4 months Arm 1: Sample size 47; mean 7.0; SD (0.85) Arm 2: Sample size 53; mean 7.0; SD (0.73) Arm 3: Sample size 49; mean 6.93; SD (0.67) Follow-up time: 9 months Arm 1: Sample size 47; mean 9.19; SD (0.94) Arm 2: Sample size 53; mean 9.47; SD (0.94) Arm 3: Sample size 48; mean 9.15; SD (0.9)
Lauritzen et al., 2005[128] Study name: Danish	Study Population: Healthy infants Breast-feeding women	Inclusion Criteria: pregnant women with a fish intake below the	Start time: Lactating 9 days after birth Infants 9 days after birth	Outcome domain: Cognitive development Outcome: Infant Planning Test (problem solving) (Secondary)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
National Birth Cohort-Lactating Women Study dates: Enrolled in 1999 Study design: Trial randomized parallel Location: Denmark Funding source / conflict: Industry, Government Study follow-up: 9 months, 1 year, 2 years Original, same study, or follow-up studies: Lauritzen, 2004[127]; Lauritzen, 2005[102]; Cheatham, 2011[129];	Lactating enrolled 122 Lactating completers 89 Infants enrolled 122 Infants completers 89 Lactating enrolled 122 Lactating completers 89 Pregnant age: NR (NR) NR Infant age: 9 days (3 days) NA Race of Mother: NR (100%) Baseline Omega-3 intake: < 0.4 g n-3 LCPUFA/d	population median (< 0.4 g n-3 LCPUFA·d–1), uncomplicated pregnancy, a normal pre-pregnancy body mass index (< 30 kg·m–2), no metabolic disorders, an intention to breastfeed for at least four months. Newborns had to be healthy, singleton, term infants with normal weight for gestation [33] and an Apgar score > 7 five minutes after delivery. Exclusion Criteria: NR	Duration: Lactating 4 months Infants 4 months Arm 1: placebo group Description: olive oil in muesli bars, cookies, or capsules Manufacturer: BASF Dose: one bar/cookie/capsule containing 4.5 g olive oil Blinding: identical bars/cookies/capsules Arm 2: fish oil Description: fish oil in muesli bars, cookies, or capsules Manufacturer: BASF Dose: one bar/cookie/capsule containing 4.5 g fish oil DHA: 0.9 g Total N-3: Other FA (not DHA): 0.6 g Arm 3: high n-3 reference group Description: top quartile fish intake at baseline Dose: no supplementation, high fish intake Total N-3: > 0.8 n-3 LCPUFA/d	Follow-up time: 9 months Arm 1: Sample size 38; mean 4.3; SD (3.6) Arm 2: Sample size 48; mean 4.5; SD (3.1) Arm 3: Sample size 42; mean 4.5; SD (3.3) Outcome: MacArthur Communicative Development Inventory Linguistic Development: late gestures (Secondary) Follow-up time: 1 year Arm 1: Sample size 37; mean 15.0; SD (7) Arm 2: Sample size 52; mean 14.0; SD (6) Arm 3: Sample size 42; mean 16.0; SD (7) Outcome: MacArthur Communicative Development Inventory Linguistic Development: number of irregular words (Secondary) Follow-up time: 2 years Arm 1: Sample size 31; median 3.0; IQR Arm 2: Sample size 40; median 3.0; IQR Arm 3: Sample size 40; median 4.0; IQR Outcome: MacArthur Communicative Development Inventory Linguistic Development: number of over regularized words (Secondary) Follow-up time: 2 years Arm 1: Sample size 31; median 1.0; IQR Arm 2: Sample size 40; median 1.0; IQR Arm 3: Sample size 40; median 1.0; IQR Outcome: MacArthur Communicative Development Inventory Linguistic Development: early gestures (Secondary) Follow-up time: 1 year Arm 1: Sample size 37; median 11.0; IQR Arm 2: Sample size 52; median 11.0; IQR

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 3: Sample size 42; median 12.0; IQR Outcome: MacArthur Communicative Development Inventory Linguistic Development: percent starting to talk (Secondary) Follow-up time: 1 year Arm 1: 6/37 (16.0%) Arm 2: 6/52 (12.0%) Arm 3: 7/42 (17.0%) Outcome: MacArthur Communicative Development Inventory Linguistic Development: phrases understood (Secondary) Follow-up time: 1 year Arm 1: Sample size 37; mean 11.0; SD (6) Arm 2: Sample size 52; mean 11.0; SD (5) Arm 3: Sample size 42; mean 11.0; SD (5) Outcome: MacArthur Communicative Development Inventory Linguistic Development: talk about abstract (Secondary) Follow-up time: 2 years Arm 1: 29/31 (94.0%) Arm 2: 30/40 (75.0%) Arm 3: 38/40 (95.0%) Outcome: MacArthur Communicative Development Inventory Linguistic Development: use grammar (Secondary) Follow-up time: 2 years Arm 1: 10/31 (32.0%) Arm 2: 10/40 (25.0%) Arm 3: 16/40 (40.0%) Outcome: MacArthur Communicative Development Inventory Linguistic Development: vocabulary comprehension (Secondary)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Follow-up time: 1 year Arm 1: Sample size 37; mean 71.0; SD (45) Arm 2: Sample size 52; mean 54.0; SD (37) Arm 3: Sample size 42; mean 65.0; SD (40) Outcome: MacArthur Communicative Development Inventory Linguistic Development: vocabulary production (Secondary) Follow-up time: 1 year Arm 1: Sample size 37; median 5.0; IQR Arm 2: Sample size 52; median 3.0; IQR Arm 3: Sample size 42; median 5.0; IQR Follow-up time: 2 years Arm 1: Sample size 31; mean 297.0; SD (147) Arm 2: Sample size 40; mean 242.0; SD (170) Arm 3: Sample size 40; mean 312.0; SD (146)
Linnamaa et al., 2010[79] Study name: NR Study dates: 2004-2008 Study design: Trial randomized parallel Location: Finland Funding source / conflict: Government,	Study Population: Healthy infants Healthy pregnant women Infants enrolled 314 Infants withdrawals 137 Infants completers 177 Mother age: NR (NR) NR Race of Mother: NR (NR)	Inclusion Criteria: All pregnant mothers <16 weeks of gestation Exclusion Criteria: Sick children and those born prematurely who required more intensive care (n=8)	Start time: Pregnant 8th to 16th weeks of pregnancy and then continued Infants when exclusive breastfeeding ended Duration: Pregnant until the end of the exclusive breastfeeding period Infants until 2 years of age Arm 1: Controls Description: Olive oil Manufacturer: Santagata Luigi s.r.l., Genova, Italia Dose: 3 g/day for mothers, 1 mL/day for infants	Outcome domain: Birth weight Outcome: birth weight (g) (Secondary) Follow-up time: birth Arm 1: Sample size 129; mean 3599.0; SD (468) Arm 2: Sample size 112; mean 3595.0; SD (461) Outcome domain: allergies Outcome: positive egg skin test (Secondary) Follow-up time: 12 months Arm 1: 18/104 (17.31%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Multiple foundations and Societies			Blinding: NR "double-blind" ALA: 0 DHA: 0 EPA: 0 EPA-DHA: 0 AA: 0 Total N-3: 0 Other dose 1: LA (18:2n-6): 9 weight% of total Arm 2: Intervention Description: Blackcurrant seed oil Manufacturer: Aromtech Ltd, Tornio, Finland Dose: 3 g/day for mothers, 1 mL/day for infants ALA: 14 weight% of total DHA: 0 EPA: 0 EPA-DHA: 0 AA: 0 Total N-3: 17 weight% of total Other dose 1: SDA: 3 weight% of total	Arm 2: 14/98 (14.29%) Follow-up time: 24 months Arm 1: 7/87 (8.05%) Arm 2: 4/79 (5.06%) Follow-up time: 3 months Arm 1: 1/126 (0.79%) Arm 2: 1/112 (0.89%) Outcome domain: atopic dermatitis Outcome: atopic dermatitis (Primary) Follow-up time: 12 months Arm 1: 52/110 (47.27%) Arm 2: 33/100 (33.0%) Follow-up time: 24 months Arm 1: 10/92 (11.11%) Arm 2: 9/85 (11.11%) Follow-up time: 3 months Arm 1: 14/129 (11.11%) Arm 2: 12/112 (11.11%)
Llorente et al., 2003[98] Study name: Unnamed Trial A Study dates: <2002 Study design: Trial randomized parallel Location: US Funding source / conflict: Government, Manufacturer supplied	Study Population: Breast-feeding women Lactating enrolled 138 Lactating completers 101 Lactating enrolled 138 Lactating completers 101 Lactating age: 31.5 years (4.5 years) 18 - 42 Race of Mother: White	Inclusion Criteria: pregnant women who were 18 to 42 years old and planned to breast feed for at least 4 months Exclusion Criteria: those with chronic medical conditions, or taking dietary supplements other than vitamins, or smokers, or who had been pregnant >5	Start time: Lactating birth Duration: Lactating 4 months Arm 1: placebo Description: placebo capsule Manufacturer: Martek Biosciences Corporation, Columbia, MD Dose: 1 capsule Blinding: capsules were identical in appearance Arm 2: omega 3 capsule Description: algae-derived triglyceride capsule Brand name: DHASCO	Outcome domain: Ante or postnatal depression Outcome: Beck Depression Inventory (BDI) (Unspecified) Follow-up time: 2 months Arm 1: Sample size 45; mean 4.4; SD (4.2) Arm 2: Sample size 44; mean 5.5; SD (4.3) Follow-up time: 3 weeks Arm 1: Sample size 45; mean 6.3; SD (4.7) Arm 2: Sample size 44; mean 7.1; SD (5.7) Follow-up time: 4 months

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
product Study follow-up: 18 months Original, same study, or follow-up studies: Isaacs, 2011[99]	European (82%) Black (14%) Hispanic (2.3%) Other race/ethnicity (1.6%) Baseline biomarker information: Placebo group Total saturated 49.7 ± 2.3 Total monounsaturated 12.2 ± 1.9 Total __6 33.7 ± 2.2 Total __3 4.37 ± 0.91 Intervention group Total saturated 49.3 ± 2.7 Total monounsaturated 12.3 ± 1.3 Total __6 34.2 ± 2.0 Total __3 4.14 ± 0.89	times	Manufacturer: Martek Biosciences Corporation, Columbia, MD Dose: 1 capsule DHA: 200 mg	Arm 1: Sample size 45; mean 4.8; SD (5.9) Arm 2: Sample size 44; mean 5.8; SD (5.2) Outcome: Edinburgh Postnatal Depression Scale (EPDS) (Unspecified) Follow-up time: 18 months Arm 1: Sample size 32; mean 6.3; SD (4.1) Arm 2: Sample size 31; mean 6.3; SD (5.2) Outcome: responder: BDI<10 (Unspecified) Follow-up time: at either 2, 4 or 18 months Arm 1: 36/45 (79.0%) Arm 2: 33/44 (76.0%) Outcome: responder: BDI<20 (Unspecified) Follow-up time: at either 2, 4 or 18 months Arm 1: 43/45 (95.5%) Arm 2: 40/44 (91.1%)
Lucia Bergmann et al., 2007[41] Study name: NR Study dates: 2000-2002 Study design: Trial randomized parallel Location: Germany Funding source / conflict: NR	Study Population: Healthy infants Healthy pregnant women Pregnant enrolled 144 Pregnant withdrawals 51 Pregnant completers 69 Pregnant age: 31 (DHA 4.69; control 4.89) Infant age: DHA 39.1; control 39.5 weeks	Inclusion Criteria: at least 18 years of age and willing to breastfeed for at least three months were enrolled at 21 weeks' gestation during the period October 2000 to August 2002 Exclusion Criteria: increased risk of premature delivery or multiple pregnancy,	Start time: Pregnant 21th week Duration: Pregnant 37th week Arm 1: Vitamins and minerals Manufacturer: Nestle´ (Vevey, Switzerland) Arm 2: Prebiotic Description: basic supplement plus the prebiotic, fructooligosaccharide (FOS) (4.5 g) Manufacturer: Nestle´ (Vevey, Switzerland) Active ingredients: fructooligosaccharide (FOS) (4.5 g)	Outcome domain: Birth weight Outcome: birth weight (g) (Unspecified) Follow-up time: birth Arm 1: Sample size 74; mean 3548.0; SD (469.3) Arm 3: Sample size 43; mean 3427.0; SD (493.6) Outcome domain: duration of gestation Outcome: gestational age (weeks) (Unspecified) Follow-up time: birth Arm 1: Sample size 74; mean 39.5; SD (1.38)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Original, same study, or follow-up studies: Lucia, 2007[52]	(DHA 1.64; control 1.38) Race of Mother: White European (100) Baseline biomarker information: DHA % of all identified fatty acid in RBC: Vitamin: 5.76 +-2.45 (47); DHA: Prebiotic:5.94+-2.37(48) DHA: DHA: 5.69+-2.40(47) ARA Vitamin: 14.01+-4.04(47) ARA Prebiotic 14.82+-3.60(48) ARA DHA: 14.18+-4.32(47) EPA Vitamin: 0.72+-0.32(47) EPA Prebiotic: 0.78+-0.38(48) EPA DHA: 0.79+-0.41(47)	allergy to cow milk protein, lactose intolerance, diabetes, smoking, consumption of alcohol ()20 g/week), or participation in another study. Infants excluded if they were premature at birth (<37 week gestation, or had any major malformations or hospitalized for more than one week.	Arm 3: DHA Description: basic supplement with FOS and DHA (200 mg) Manufacturer: Nestle´ (Vevey, Switzerland) Dose: 200 mg DHA prepared from fish oil (assuming that some EPA but dose was not reported) DHA: 200 mg EPA: NR	Arm 3: Sample size 43; mean 39.1; SD (1.64) Outcome domain: growth Outcome: bmi (kg/m2) (Unspecified) Follow-up time: 1 month Arm 1: Sample size 74; mean 14.2; SE (0.37) Arm 3: Sample size 43; mean 14.06; SE (0.4) Follow-up time: 21 months Arm 1: Sample size 74; mean 15.46; SE (0.32) Arm 3: Sample size 43; mean 14.7; SE (0.36) Follow-up time: 3 months Arm 1: Sample size 74; mean 15.58; SE (0.38) Arm 3: Sample size 43; mean 16.14; SE (0.44) Outcome: head circumference (cm) (Unspecified) Follow-up time: 1 month Arm 1: Sample size 74; mean 37.4; SE (0.41) Arm 3: Sample size 43; mean 37.1; SE (0.44) Follow-up time: 21 months Arm 1: Sample size 74; mean 47.7; SE (0.36) Arm 3: Sample size 43; mean 48.4; SE (0.4) Follow-up time: 3 months Arm 1: Sample size 74; mean 40.6; SE (0.43) Arm 3: Sample size 43; mean 40.6; SE

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(0.5) Outcome: length (cm) (Unspecified) Follow-up time: 1 month Arm 1: Sample size 74; mean 55.6; SE (0.64) Arm 3: Sample size 43; mean 56.3; SE (0.69) Follow-up time: 21 months Arm 1: Sample size 74; mean 85.4; SE (0.56) Arm 3: Sample size 43; mean 85.5; SE (0.62) Follow-up time: 3 months Arm 1: Sample size 74; mean 61.9; SE (0.65) Arm 3: Sample size 43; mean 61.7; SE (0.76) Outcome: weight (kg) (Unspecified) Follow-up time: 1 month Arm 1: Sample size 74; mean 4.45; SE (0.226) Arm 3: Sample size 43; mean 4.52; SE (0.244) Follow-up time: 21 months Arm 1: Sample size 74; mean 11.35; SE (0.197) Arm 3: Sample size 43; mean 10.75; SE (0.22) Follow-up time: 3 months Arm 1: Sample size 74; mean 6.03; SE (0.23) Arm 3: Sample size 43; mean 6.19; SE (0.269)
Makrides et al., 2009[116]	Study Population: Preterm infants Breast-	Inclusion Criteria: infants born at < 33 wk	Start time: Infants 4 days after birth	Outcome domain: Cognitive development Outcome: Bayley Scale of Infant

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study name: DINO Study dates: Enrollment April 2001 to October 2005 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, Multiple foundations and Societies, Manufacturer supplied product, Some authors serve on scientific advisory boards for corporations, Some authors have received research funding from infant formula manufacturers Study follow-up: 18 months Original, same study, or follow-up studies: Smithers, 2008[104]; Smithers, 2010[117]; Manley, 2011[118]; Collins, 2011[105]; Atwell, 2013[119]; Collins, 2015[120]	feeding women Pregnant enrolled 545 Infants enrolled 657 Infants completers 614 Lactating age: 30 years (5.5 years) NR Infant age: 4 days after birth (29 weeks gestation) 2 to 6 days after birth Race of Mother: White European (90%)	of gestation Exclusion Criteria: Infants born with major congenital or chromosomal abnormalities, lactating women for whom tuna oil was contraindicated(women with bleeding disorders or taking anticoagulants)	Duration: Infants until infants reached their "expected" date of delivery Arm 1: Placebo Description: Soy oil capsules or regular preterm formula Manufacturer: Clover Corporation Dose: six 500-mg soy oil capsules Blinding: all capsules were similar in size, shape, and color Maternal conditions Infant conditions Current smoker 25.1% during pregnancy Pre-term birth 100% Low birth weight 44.5% Other conditions 1 SGA 18.6% Arm 2: tuna oil capsules Description: DHA-rich tuna oil capsules or high-DHA formula Manufacturer: Clover Corporation Dose: 6 500 mg capsules Maternal conditions Infant conditions DHA: Capsules: Intended to achieve breast milk concentration of 1.0%.Formula: 1.0% AA: Capsules: not intended to alter AA levels. Formula: 0.6% Current smoker 25.6% during pregnancy Pre-term birth 100% Low birth weight 45.7% Other conditions 1 SGA 18.9%	Development (Mental developmental index) (Primary) Follow-up time: 18 months Arm 1: Sample size 335; mean 93.0; SD (17.3) Arm 2: Sample size 322; mean 94.9; SD (14.5) Outcome domain: Neurological development Outcome: Bayley psychomotor development index (Secondary) Follow-up time: 18 months Arm 1: Sample size 335; mean 92.1; SD (16.3) Arm 2: Sample size 322; mean 93.1; SD (16.1)
Makrides et al., 2010[35]	Study Population:	Inclusion Criteria: with	Start time: Pregnant < 21 week's gestation	Outcome domain: Ante or postnatal

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study name: DOMInO Study dates: 2005-2008 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, Manufacturer supplied product Original, same study, or follow-up studies: Smithers, 2011[53]; Palmer, 2012[54]; Zhou, 2012[55]; Palmer, 2013[56]; Makrides, 2014 [57]	Healthy pregnant women Pregnant enrolled 2399 Pregnant withdrawals 1 Infants enrolled 605 Infants withdrawals 32 Infants completers 726 Pregnant age: 28.9 (DHA5.7___ control5.6) Race of Mother: NR (NR)	singleton pregnancies at less than 21 weeks' gestation were approached by study research assistants while attending routine antenatal appointments Exclusion Criteria: already taking a prenatal supplement with DHA, their fetus had a known major abnormality, they had a bleeding disorder in which tuna oil was contraindicated, were taking anticoagulant therapy, had a documented history of drug or alcohol abuse, were participating in another fatty acid trial, were unable to give written informed consent, or if English was not the main language spoken at home	Duration: NR Arm 1: vegetable oil capsules Description: a blend of 3 non-genetically modified oils (rapeseed, sunflower, and palm) in equal proportions Manufacturer: Efamol, Surrey, England. Dose: 3* 500mg capsule / day Blinding: All capsules were similar in size, shape, and color Arm 2: DHA Description: DHA-rich fish oil concentrate Manufacturer: ; Incromega 500 TG, Croda Chemicals, East Yorkshire, England Dose: 500mg capsule *3/day DHA: 800mg EPA: 100mg	depression Outcome: % with Edinburgh Postnatal Depression Scale (EPDS) > 12 (Primary) Follow-up time: 6 months Arm 1: 138/1202 (11.5%) Arm 2: 117/1197 (9.74%) Follow-up time: 6 weeks Arm 1: 131/1202 (10.88%) Arm 2: 115/1197 (9.61%) Outcome domain: Birth weight Reason results are not reported: duplicate data of id 4404 Outcome: (Secondary) Outcome domain: Cognitive development Outcome: Bayley Scale of Infant Development III (Cognitive Component) (Primary) Follow-up time: 18 months Arm 1: Sample size 375; weighted mean 101.75; SD (12.56) Arm 2: Sample size 351; weighted mean 101.81; SD (11.05) Outcome domain: LBW Reason results are not reported: duplicate data of id 4404 Outcome domain: duration of gestation Outcome: gestational age (days) (Secondary) Follow-up time: birth Arm 1: Sample size 1202; median 281.0; IQR Arm 2: Sample size 1197; median 282.0;

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				IQR Outcome: incidence of premature birth (Secondary) Follow-up time: birth Arm 1: 88/1202 (7.34%) Arm 2: 67/1197 (5.6%)
Makrides et al., 2014[57] Study name: DOMInO Study dates: October 31, 2005 to September 25, 2012 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, Manufacturer supplied product, Some authors have received research funding from infant formula manufacturers Original, same study, or follow-up studies: Makrides, 2010 [35] Smithers, 2011[53]; Palmer, 2012[54]; Zhou, 2012[55]; Palmer, 2013[56]	Study Population: Healthy pregnant women Infants enrolled 726 Infants completers 646 Race of Mother: NR (100)	Inclusion Criteria: Women with singleton pregnancies at less than 21 weeks' gestation Exclusion Criteria: Already taking a prenatal supplement with DHA, fetus had a known major abnormality, had a bleeding disorder in which tuna oil was contraindicated, were taking anticoagulant therapy, had a documented history of drug or alcohol abuse, were participating in another fatty acid trial, were unable to give written informed consent, or if English was not the main language spoken at home	Start time: Pregnant <21 weeks gestation Duration: Pregnant <21 weeks gestation until birth Arm 1: Placebo Description: rapeseed, sunflower, and palm oil capsules Manufacturer: Enfamol Dose: 3 500mg capsules/day Blinding: similar in size, shape, and color Arm 2: DHA supplement Description: DHA-rich fish oil capsules Manufacturer: Enfamol Dose: 3 500mg capsules/day DHA: 800 mg/d EPA: 100 mg/day	Outcome domain: ADHD Outcome: hyperactivity disorder Follow-up time: 4 years Arm 1: 0/333 (0.0%) Arm 2: 0/313 (0.0%) Outcome domain: Autism Outcome: diagnosis of autism Follow-up time: 4 years Arm 1: 4/333 (1.2%) Arm 2: 2/313 (0.64%) Outcome domain: Cognitive development Outcome: Behavior Rating Inventory of Executive Function-Preschool: Emergent Meta-Cognition Index (Secondary) Follow-up time: 4 years Arm 1: Sample size 333 Arm 2: Sample size 313 Outcome: Behavior Rating Inventory of Executive Function-Preschool: Emotional Control Scale (Secondary) Follow-up time: 4 years Arm 1: Sample size 333 Arm 2: Sample size 313 Outcome: Behavior Rating Inventory of Executive Function-Preschool: Flexibility Index (Secondary) Follow-up time: 4 years

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 1: Sample size 333 Arm 2: Sample size 313 Outcome: Behavior Rating Inventory of Executive Function-Preschool: Global Executive Composite score (Secondary) Follow-up time: 4 years Arm 1: Sample size 333 Arm 2: Sample size 313 Outcome: Behavior Rating Inventory of Executive Function-Preschool: Inhibition Scale (Secondary) Follow-up time: 4 years Arm 1: Sample size 333 Arm 2: Sample size 313 Outcome: Behavior Rating Inventory of Executive Function-Preschool: Inhibitory Self-Control Index (Secondary) Follow-up time: 4 years Arm 1: Sample size 333 Arm 2: Sample size 313 Outcome: Behavior Rating Inventory of Executive Function-Preschool: Plan/Organize Scale (Secondary) Follow-up time: 4 years Arm 1: Sample size 333 Arm 2: Sample size 313 Outcome: Behavior Rating Inventory of Executive Function-Preschool: Shift Scale (Secondary) Follow-up time: 4 years Arm 1: Sample size 333 Arm 2: Sample size 313 Outcome: Behavior Rating Inventory of Executive Function-Preschool: Working Memory Scale (Secondary) Follow-up time: 4 years

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 1: Sample size 333 Arm 2: Sample size 313 Outcome: CELF-P2 Core Language Score (Secondary) Follow-up time: 4 years Arm 1: Sample size 333 Arm 2: Sample size 313 Outcome: Day-night stroop (measure of efficiency) (Secondary) Follow-up time: 4 years Arm 1: Sample size 333 Arm 2: Sample size 313 Outcome: Differential Ability Scales, second edition (DAS II) score: General Conceptual Ability Score (Secondary) Follow-up time: 4 years Arm 1: Sample size 333 Arm 2: Sample size 313
Malcolm et al., 2003[100] Study name: NR Study dates: NR Study design: Trial randomized parallel Location: NR Funding source / conflict: NR	Study Population: NR Pregnant enrolled 100 Pregnant withdrawals 37 Pregnant completers 63 Infants enrolled 60 Infants withdrawals 5 Infants completers 55 Infant age: 279.6 (8.5) Race of Mother: NR (NR) Baseline biomarker	Inclusion Criteria: d women who were expected to deliver their infants at term and planned to feed them on breast and/or formula milk Exclusion Criteria: diabetes, twin pregnancies, pre-eclampsic toxaemia, a past history of abruption or postpartum hemorrhage, allergy to fish products, a	Start time: Pregnant week 15 Infants birth Duration: Pregnant birth Arm 1: Placebo Description: contained 323 mg sunflower oil with high levels of oleic acid and was free of any significant amounts of LCPUFAs or their precursors Manufacturer: R P Scherer Limited (Swindon, Wiltshire, UK) Dose: 323 mg per capsule * 2 Blinding: e identical in appearance and could not be identified on the basis of scent or taste Total N-3: 0 Arm 2: DHA	Outcome domain: Visual function Outcome: Peak latencies of major components of the transient flash visual evoked potential waveform: N1 (Primary) Follow-up time: 50 weeks (corrected age) Arm 1: Sample size 18; mean 58.1; SD (21.4) Arm 2: Sample size 19; mean 54.7; SD (16.2) Follow-up time: 66 weeks (corrected age) Arm 1: Sample size 24; mean 57.3; SD (10.7) Arm 2: Sample size 23; mean 61.5; SD (5.4) Follow-up time: birth Arm 1: Sample size 4; mean 74.8; SD (16.8)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	information: Only reported: "The fish oil and placebo groups did not differ in maternal RBC and plasma fatty acid composition at enrollment"	thrombophilic tendency, or who were receiving drugs that affect thrombocyte function (non-steroidal anti-inflammatories)	Description: f a blended fish oil, Marinol D40, and contained 100 mg DHA in 323 mg oil per capsule Manufacturer: R P Scherer Limited (Swindon, Wiltshire, UK) Dose: 323 mg capsule * 2 DHA: 200 mg EPA: .64 mg (estimated based on the FA composition)	Arm 2: Sample size 5; mean 62.2; SD (3.8) Outcome: Peak latencies of major components of the transient flash visual evoked potential waveform: N2 (Primary) Follow-up time: 50 weeks (corrected age) Arm 1: Sample size 28; mean 112.8; SD (46.5) Arm 2: Sample size 24; mean 128.9; SD (47.9) Follow-up time: 66 weeks (corrected age) Arm 1: Sample size 26; mean 122.1; SD (33.7) Arm 2: Sample size 25; mean 128.5; SD (30.3) Follow-up time: birth Arm 1: Sample size 22; mean 149.9; SD (28) Arm 2: Sample size 27; mean 153.5; SD (28.9) Outcome: Peak latencies of major components of the transient flash visual evoked potential waveform: N3 (Primary) Follow-up time: 50 weeks (corrected age) Arm 1: Sample size 20; mean 277.3; SD (49.4) Arm 2: Sample size 14; mean 241.8; SD (49.8) Follow-up time: 66 weeks (corrected age) Arm 1: Sample size 15; mean 209.2; SD (38.2) Arm 2: Sample size 11; mean 228.9; SD (55.9) Follow-up time: birth Arm 1: Sample size 27; mean 298.4; SD (52.8)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 2: Sample size 26; mean 292.2; SD (58.2) Outcome: Peak latencies of major components of the transient flash visual evoked potential waveform: P1 (Primary) Follow-up time: 50 weeks (corrected age) Arm 1: Sample size 22; mean 84.2; SD (22.5) Arm 2: Sample size 23; mean 80.3; SD (21.1) Follow-up time: 66 weeks (corrected age) Arm 1: Sample size 26; mean 76.5; SD (19.5) Arm 2: Sample size 25; mean 80.1; SD (15.8) Follow-up time: birth Arm 1: Sample size 5; mean 107.8; SD (11.8) Arm 2: Sample size 9; mean 101.0; SD (13.6) Outcome: Peak latencies of major components of the transient flash visual evoked potential waveform: P2 (Primary) Follow-up time: 50 weeks (corrected age) Arm 1: Sample size 26; mean 162.5; SD (26.5) Arm 2: Sample size 21; mean 164.2; SD (29.9) Follow-up time: 66 weeks (corrected age) Arm 1: Sample size 19; mean 152.5; SD (43.6) Arm 2: Sample size 12; mean 150.6; SD (33) Follow-up time: birth Arm 1: Sample size 27; mean 201.8; SD (33.3)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 2: Sample size 28; mean 201.9; SD (28.4) Outcome domain: growth Outcome: head circumference (cm) (Secondary) Follow-up time: 50 weeks PCA (postconceptional age) Arm 1: Sample size 27; mean 40.1; SD (2.3) Arm 2: Sample size 28; mean 39.9; SD (1.5) Follow-up time: 66 weeks (post conceptional age) Arm 1: Sample size 27; mean 44.1; SD (1.7) Arm 2: Sample size 28; mean 43.8; SD (2.4) Outcome: length (cm) (Secondary) Follow-up time: 50 weeks PCA (postconceptional age) Arm 1: Sample size 27; mean 60.5; SD (2.9) Arm 2: Sample size 28; mean 60.0; SD (2.6) Follow-up time: 66 weeks (post conceptional age) Arm 1: Sample size 27; mean 69.1; SD (3.2) Arm 2: Sample size 28; mean 68.5; SD (2.6) Outcome: weight (g) (Secondary) Follow-up time: 50 weeks PCA (postconceptional age) Arm 1: Sample size 27; mean 5995.7; SD (827.9)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 2: Sample size 28; mean 5894.4; SD (662.3) Follow-up time: 66 weeks (post conceptional age) Arm 1: Sample size 27; mean 8626.7; SD (208.2) Arm 2: Sample size 28; mean 8263.7; SD (999.4)
Manley et al., 2011[118] Study name: DINO Study dates: 2001-2007 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, Multiple foundations and Societies, Manufacturer supplied product, Some authors serve on scientific advisory boards for corporations Study follow-up: 18 months Original, same study, or follow-up studies: Smithers, 2008[104]; Makrides, 2009[116];	Study Population: Preterm infants Breast-feeding women Infants enrolled 657 Infants completers 614 Lactating age: Intervention: 29.9 (5.8) Placebo: 30.2 (5.4) Infant age: 4 days (median) Race of Mother: NR (100%)	Inclusion Criteria: Infants born before 33 weeks' gestation, within 5 days of the infant commencing any enteral feedings. Exclusion Criteria: major congenital or chromosomal abnormalities, from a multiple birth in which not all live-born infants were eligible, enrolled in other trials of fatty acid supplementation, or mother with contraindication to fish oil	Start time: Infants Within 5 days (or less) of starting enteral feeding Duration: Infants NR Arm 1: Standard DHA diet Description: Soy bean oil Manufacturer: Clover Corporation Dose: 6 capsules per day Maternal conditions Infant conditions Current smoker 25% during pregnancy Other maternal conditions 1arm_1_maternal_conditions_other1 Other maternal conditions 10 Birth by C-section: 69% Pre-term birth 100% Low birth weight 18.6% Arm 2: High DHA Description: Tuna fish oil Manufacturer: Clover Corporation Dose: 6 500-mg DHA-rich tuna oil capsules per day Maternal conditions Infant conditions DHA: DHA to achieve a breast milk	Outcome domain: allergies Outcome: hay fever (Secondary) Follow-up time: 12 months Arm 1: 13/249 (5.22%) Arm 2: 5/232 (2.16%) Follow-up time: 12 or 18 months Arm 1: 21/244 (8.61%) Arm 2: 8/231 (3.46%) Follow-up time: 18 months Arm 1: 10/311 (3.22%) Arm 2: 7/292 (2.4%) Outcome domain: atopic dermatitis Outcome: eczema (Secondary) Follow-up time: 12 months Arm 1: 40/249 (16.06%) Arm 2: 29/232 (12.5%) Follow-up time: 12 or 18 months Arm 1: 67/248 (27.02%) Arm 2: 61/236 (25.85%) Follow-up time: 18 months Arm 1: 51/311 (16.4%) Arm 2: 48/292 (16.44%) Outcome domain: respiratory illness Outcome: asthma (Secondary) Follow-up time: 12 months

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Smithers, 2010[117]; Collins, 2011[105]; Atwell, 2013[119]; Collins, 2015[120]			concentration that was 1% of total fatty acids Other dose 1: If supplementary formula was required, infants were given a high- DHA preterm formula (approximately 1.0%DHAand 0.6% AA). Current smoker 25% during pregnancy Other maternal conditions 1arm_2_maternal_conditions_other1 Other maternal conditions 10 Birth by C-section: 68.3% Pre-term birth 100% Low birth weight 18.9%	Arm 1: 25/249 (10.04%) Arm 2: 18/232 (7.76%) Follow-up time: 12 or 18 months Arm 1: 53/252 (21.03%) Arm 2: 47/237 (19.83%) Follow-up time: 18 months Arm 1: 46/311 (14.79%) Arm 2: 41/292 (14.04%)
Marks et al., 2006[168] Study name: CAPS Study dates: 1997-2004 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, Multiple foundations and Societies Study follow-up: 5 years Original, same study, or follow-up studies: Mihrshahi, 2003[166]; Mihrshahi, 2004[167]; Brew, 2015[165]; Toelle,	Study Population: Pregnant women with allergies Pregnant enrolled 616 Pregnant withdrawals 100 Pregnant completers 516 Infants completers 516 Race of Mother: NR	Inclusion Criteria: pregnant women whose unborn children were at increased risk of developing asthma because 1 or more parents or siblings had asthma or wheezing Exclusion Criteria: with a pet cat at home, strict vegetarians, women with a non-singleton pregnancy, and infants born earlier than 36 weeks of gestation. Infants had birth weights less than 2.5 kg, significant congenital malformations, or other significant neonatal disease.	Start time: Infants from the time the child started bottle-feeding, or to solid foods from age 6 months Duration: NR Arm 1: Diet control Description: polyunsaturated oils and spreads, containing 40% w6 FA, and sunola oil capsules Manufacturer: Crisco-Meadow Lea Foods Inc., Sydney, Australia Blinding: The approach to blinding participants and research staff is described in this article's Online Repository at www.jacionline.org. Arm 2: Active Description: canola-based oils and spreads, which are low in n-6 fatty acids, and tuna oil capsules, which contain n-3 fatty acids.	Outcome domain: allergies Outcome: any atopy (from skin prick test) (Secondary) Follow-up time: 5 years Arm 1: 108/249 (43.37%) Arm 2: 109/267 (40.82%) Outcome: rhinitis (Secondary) Follow-up time: 5 years Arm 1: 102/249 (40.96%) Arm 2: 111/267 (41.57%) Outcome domain: atopic dermatitis Outcome: current eczema (Secondary) Follow-up time: 5 years Arm 1: 59/249 (23.69%) Arm 2: 54/267 (20.22%) Outcome domain: respiratory illness Outcome: cough without cold (Secondary) Follow-up time: 5 years Arm 1: 36/249 (14.46%) Arm 2: 55/267 (20.6%) Outcome: frequent wheeze (Secondary)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
2010[169]				Follow-up time: 5 years Arm 1: 4/249 (1.61%) Arm 2: 5/267 (1.87%) Outcome: probable current asthma (Primary) Follow-up time: 5 years Arm 1: 51/249 (20.48%) Arm 2: 62/267 (23.22%)
Meldrum et al., 2012[140] Study name: Infant FishOil Supplementation Study (IFOS) Study dates: Recruitment from June 2005 through October 2008 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, None, Manufacturer supplied product Original, same study, or follow-up studies: D'Vaz, 2012[142]	Study Population: Pregnant women with allergies Pregnant enrolled 420 Infants enrolled 420 Infants completers 287 Mother age: NR (NR) NR Infant age: Birth (NA) NA Race of Mother: NR Baseline biomarker information: Cord blood data Fish oil group LA, linoleic acid 3.71 ALA, a-linolenic acid 0·496 EPA 0·334 DHA 7·36 DPA 0·700 AA, arachidonic acid 15·76 Olive oil group LA, linoleic acid 3.81 ALA,	Inclusion Criteria: allergic pregnant women were recruited as their infants are at a higher risk of developing allergic disease. Maternal atopy was defined by at least one positive skin prick test to at least one of a defined panel of allergens. Exclusion Criteria: maternal smoking, a pre-existing medical condition or high-risk pregnancy, more than three fish meals consumed per week or fish oil intake during pregnancy in excess of 1000 mg/d, preterm delivery, and infants with significant congenital abnormalities or	Start time: Infants birth Duration: Infants 6 months Arm 1: placebo Description: olive oil capsule Manufacturer: Ocean Nutrition, Canada Active ingredients: 66·6 % n-9 oleic acid Viability: he composition was regularly tested by an independent laboratory during the trial Dose: one 650 mg capsule Blinding: image and scent matched Arm 2: fish oil capsules Manufacturer: Ocean Nutrition, Canada Viability: he composition was regularly tested by an independent laboratory during the trial. Dose: one 650 mg capsule DHA: 280 mg EPA: 110 mg	Outcome domain: Cognitive development Outcome: Bayley Scales of Infant and Toddler Development (BSID-III) Composite Scores Cognitive (Primary) Follow-up time: 18 months Arm 1: Sample size 149; mean 105.28; SD (19.9) Arm 2: Sample size 138; mean 107.65; SD (11.6) Outcome: Bayley Scales of Infant and Toddler Development (BSID-III) Standard Scores Cognitive (Primary) Follow-up time: 18 months Arm 1: Sample size 149; mean 11.43; SD (2.3) Arm 2: Sample size 138; mean 11.55; SD (2.2) Outcome: Macarthur-Bates Communicative Development Inventory raw score: early gestures (Primary) Follow-up time: 12 months Arm 1: Sample size 66; mean 9.56; SD (3.14) Arm 2: Sample size 62; mean 10.29; SD (3.5) Follow-up time: 18 months Arm 1: Sample size 84; mean 13.62; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	a-linolenic acid 0·513 EPA 0·308 DHA 7·44 DPA 0·673 AA, arachidonic acid 15·54 Baseline Omega-3 intake: From maternal food questionnaire, while pregnant Fish oil group LA, linoleic acid 10·59 ALA, a-linolenic acid 0·87 EPA 0·07 DHA 0·09 AA, arachidonic acid 0·87 Olive oil group LA, linoleic acid 9·90 ALA, a-linolenic acid 0·89 EPA 0.06 DHA 0·08 AA, arachidonic acid 0·84	medical conditions.		(7.7) Arm 2: Sample size 77; mean 14.09; SD (2.3) Outcome: Macarthur-Bates Communicative Development Inventory raw score: later gestures (Primary) Follow-up time: 12 months Arm 1: Sample size 66; mean 11.26; SD (7.5) Arm 2: Sample size 62; mean 15.16; SD (8.3) Follow-up time: 18 months Arm 1: Sample size 84; mean 28.08; SD (7.7) Arm 2: Sample size 77; mean 30.81; SD (7.6) Outcome: Macarthur-Bates Communicative Development Inventory raw score: phrases understood (Primary) Follow-up time: 12 months Arm 1: Sample size 66; mean 13.6; SD (5.8) Arm 2: Sample size 62; mean 13.34; SD (6.7) Follow-up time: 18 months Arm 1: Sample size 84; mean 23.5; SD (5.1) Arm 2: Sample size 77; mean 24.06; SD (4.7) Outcome: Macarthur-Bates Communicative Development Inventory raw score: total gestures (Primary) Follow-up time: 12 months Arm 1: Sample size 66; mean 20.76; SD (10.1) Arm 2: Sample size 62; mean 25.47; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(10.9) Follow-up time: 18 months Arm 1: Sample size 84; mean 41.48; SD (9.3) Arm 2: Sample size 77; mean 44.75; SD (9) Outcome: Macarthur-Bates Communicative Development Inventory raw score: words spoken (Primary) Follow-up time: 12 months Arm 1: Sample size 66; mean 5.52; SD (8.7) Arm 2: Sample size 62; mean 6.11; SD (7.5) Follow-up time: 18 months Arm 1: Sample size 84; mean 58.5; SD (63.5) Arm 2: Sample size 77; mean 49.16; SD (55.8) Outcome: Macarthur-Bates Communicative Development Inventory raw score: words understood (Primary) Follow-up time: 12 months Arm 1: Sample size 66; mean 61.42; SD (52.2) Arm 2: Sample size 62; mean 68.3; SD (47.6) Follow-up time: 18 months Arm 1: Sample size 84; mean 190.43; SD (94.5) Arm 2: Sample size 77; mean 199.09; SD (83.7) Outcome domain: Neurological development Outcome: Categorical Child Behavior

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Checklist: Sleep problems - number with t-score>59 (Primary) Follow-up time: 18 months Arm 1: 56/144 (39.0%) Arm 2: 54/125 (43.5%)
Meldrum et al., 2015[51] Study name: Dunstan Study dates: 10/2012-12/2013 for 12-year follow-up Study design: Trial randomized parallel Location: Australia Funding source / conflict: Multiple foundations and Societies, None Study follow-up: 12 years Original, same study, or follow-up studies: Dunstan, 2003[50]; Dunstan, 2008[44];	Study Population: Healthy infants Healthy pregnant women Pregnant enrolled 98 Pregnant completers 82 Infants enrolled 82 Infants completers 50 Pregnant age: Fish oil 30.9 Control 32.6 (Fish oil: 3.7 Control: 3.6) Infant age: NR (NR) Race of Mother: NR (100)	Inclusion Criteria: Pregnant women with allergies Exclusion Criteria: Women were ineligible for the study if they smoked, had medical problems, a complicated pregnancy, seafood allergy, or if their normal dietary intake exceeded two meals of fish per week. Children were excluded from the study if they were born before 36 weeks' gestation or with major disease (to avoid the confounding effects on immune response) or if cord blood was not collected	Start time: Pregnant 20 weeks gestation Duration: Pregnant to birth Arm 1: Placebo Description: Olive oil capsules Manufacturer: Pan Laboratories Dose: 4 1g capsules per day Blinding: Randomisation and allocation of capsules was carried out in a blinded manner, and capsules in the two groups were image matched Arm 2: Fish oil Manufacturer: Ocean Nutrition Active ingredients: 3–4 mg/g oil a-tocopherol (vitamin E) Dose: 4 1g capsules per day DHA: 2.2g EPA: 1.1g	Outcome domain: Cognitive development Outcome: Wechsler Intelligence Scale for Children IV (Secondary) Follow-up time: 12 years Arm 1: Sample size 25; mean 107.6; SD (9.9) Arm 2: Sample size 25; mean 108.6; SD (12.2) Outcome domain: Neurological development Outcome: Beery-Buktenica Development Test of Visual-Motor Integration (TVMI) (Secondary) Follow-up time: 12 years Arm 1: Sample size 23; mean 103.2; SD (9.9) Arm 2: Sample size 24; mean 104.4; SD (9)
Mihrshahi et al., 2003[166] Study name: CAPS Study dates: 1997-2002	Study Population: Pregnant women with allergies Pregnant enrolled 616	Inclusion Criteria: At least one parent or sibling with symptoms of asthma as assessed by screening	Start time: Infants initiation of bottle feeding or 6 months of age Duration: Infants NR	Outcome domain: allergies Outcome: any atopy Follow-up time: 18 months Arm 1: 58/275 (21.1%) Arm 2: 51/279 (18.2%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, Multiple foundations and Societies, Manufacturer supplied product Study follow-up: 18 months Original, same study, or follow-up studies: Mihrshahi, 2004[167]; Mihrshahi, 2006[168]; Brew, 2015[165] Toelle, 2010[169]	(all 4 arms) Pregnant withdrawals 62 Pregnant completers 554 Pregnant age: 28.5 (5.3) Race of Mother: NR (96.9%) Other race/ethnicity (Aboriginal 3.1%)	questionnaire, Reasonable fluency in English, Telephone at home, Reside within 30 km from center of recruitment Exclusion Criteria: Pet cat at home, Families on strict vegetarian diet, Multiple births, Babies born earlier than 36 weeks gestation, with congenital malformations or other serious disease, or requiring major surgery or hospitalization for greater than 1 week	Arm 1: Diet Control/HDM control or intervention Brand name: Sunola oil Manufacturer: Clover Corporation Arm 2: Dietary intervention/HDM control or intervention Description: 500mg n-3 rich tuna fish oil supplement Manufacturer: Clover Corporation DHA: 76-128 mg EPA: 18-30 mg Other dose 1: based on age and fluid intake	Outcome domain: atopic dermatitis Outcome: eczema or dermatitis (Primary) Follow-up time: 18 months Arm 1: 77/275 (28.1%) Arm 2: 85/279 (30.5%) Outcome domain: respiratory illness Outcome: asthma (Primary) Follow-up time: 18 months Arm 1: 34/275 (12.5%) Arm 2: 41/279 (14.7%) Outcome: wheeze ever (Primary) Follow-up time: 18 months Arm 1: 145/275 (52.6%) Arm 2: 119/279 (42.8%)
Miles et al., 2011[78] Study name: SiPS Study dates: NR Study design: Trial randomized parallel Location: UK Funding source / conflict: Government, Some authors employed	Study Population: Healthy pregnant women Pregnant enrolled 123 Pregnant completers 101 Pregnant age: Salmon: 29.5 Control: 28.4 (Salmon 0.5 Control: 0.6) Race of Mother: NR	Inclusion Criteria: age 18–40 y; ,19 wk gestation; healthy, uncomplicated singleton pregnancy; infant at risk of atopy (one or more first-degree relatives of the baby affected by atopy, asthma, or allergy by self-report); consuming <2 portions of oily fish/mo (excluding canned	Start time: Pregnant Week 20 Duration: Pregnant Week 20 until Term (delivery) Arm 1: Control Description: No added fish DHA: 16 mg/d in diet EPA: 10 mg/d in diet EPA-DHA: 24 mg/d in diet Arm 2: Salmon Description: 2 portions salmon per week DHA: 326 mg/d	Outcome domain: Birth weight Outcome: birth weight (g) (Secondary) Follow-up time: birth Arm 1: Sample size 54; mean 3425.0; SE (82) Arm 2: Sample size 53; mean 3449.0; SE (72)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
by industry (companies that make the supplements) Original, same study, or follow-up studies: Noakes, 2012[88]	(100%)	tuna); not using fish-oil supplements currently or in the previous 3 mo Exclusion Criteria: age <18 or >40 y; .19 wk gestation; no first-degree relatives of the infant affected by atopy, asthma, or allergy; consuming >2 portions of oily fish/mo (excluding canned tuna); use of fish-oil supplements within previous 3 mo; participation in another research study; known diabetic; or presence of any autoimmune disease, learning disability, terminal illness, or mental health problems	EPA: 162 mg/d EPA-DHA: 491 mg/d	
Min et al., 2014[43] Study name: NR Study dates: Jan 2008 - Dec 2011 Study design: Trial randomized parallel Location: UK	Study Population: Healthy pregnant women, Pregnant women with type 2 diabetes Pregnant enrolled 85 Pregnant completers 59 Pregnant age: 29 18-44	Inclusion Criteria: Pregnant women of 17–45 years old with singleton pregnancies with either pre-existing Type 2 diabetes or without any known medical condition (uncomplicated pregnancy group)	Start time: Pregnant average: 9.9-12.1 weeks gestation (range: 4.3-15.9 weeks gestation) Duration: Pregnant until delivery; average: 26.5 weeks for placebo arm; 28.4 weeks for the fish oil arm Arm 1: Placebo, healthy women Description: high oleic acid sunflower oil Manufacturer: Equazen/Vifor Pharma Ltd. Active ingredients: oleic acid, 82.6%; vitamin E	Outcome domain: LBW Outcome: birthweight <1500g (Secondary) Follow-up time: birth Arm 1: 0/27 (0.0%) Arm 2: 1/32 (3.1%) Outcome: birthweight <2500g (Secondary) Follow-up time: birth Arm 1: 3/27 (11.1%) Arm 2: 4/32 (12.5%) Outcome domain: duration of gestation

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Funding source / conflict: Industry, Government, Multiple foundations and Societies, Manufacturer supplied product Original, same study, or follow-up studies: none	Infant age: 11.0-12.1 weeks gestation 6.0-15.9 weeks gestation Race of Mother: White European (22.3%) Black (28.2%) Asian (40.0%) Other race/ethnicity (9.4%)	Exclusion Criteria: Women planning to receive tocolytic or corticosteroid therapy. Note that pregnant women with pre-existing Type 2 diabetes were excluded from this systematic review.	(d- a tocopherol) NR% Dose: 2x 750 mg capsules/day Blinding: identical oblong soft gelatin capsule Maternal conditions Current smoker 0% Arm 2: Fish oil, healthy women Description: HA-enriched fish oil Brand name: Mumomega Manufacturer: Equazen/Vifor Pharma Ltd. Active ingredients: vitamin E (d- a tocopherol) NR% Dose: 2 750 mg capsules/day Maternal conditions DHA: 43.7% (600 mg/d) EPA: 7.5% (estimated to be 103 mg/d) Current smoker 13.3% Arm 3: Placebo, diabetic women Description: igh oleic acid sunflower oil Manufacturer: Equazen/Vifor Pharma Ltd. Active ingredients: oleic acid, 82.6%; vitamin E (d- a tocopherol) NR% Dose: 2 750 mg capsules/day Maternal conditions Current smoker 0% Other maternal conditions 1arm_3_maternal_conditions_other1 Other maternal conditions 10 Type 2 diabetes: 100% Arm 4: Fish oil, diabetic women Description: HA-enriched fish oil Brand name: Mumomega Manufacturer: Equazen/Vifor Pharma Ltd. Active ingredients: vitamin E (d- a tocopherol)	Outcome: gestational age birth (weeks) (Secondary) Follow-up time: birth Arm 1: Sample size 27; median 39.3; range Arm 2: Sample size 32; median 39.3; range Outcome: preterm birth (Secondary) Follow-up time: birth Arm 1: 3/27 (11.1%) Arm 2: 3/32 (9.4%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
			NR% Dose: 2 750 mg capsules/day Blinding: identical oblong soft gelatin capsule Maternal conditions DHA: 43.7% EPA: 7.5% Current smoker 4.9% Other maternal conditions 1arm_4_maternal_conditions_other1 Other maternal conditions 10 Type 2 diabetes: 100%	
Mozurkewich et al., 2013[42] Study name: NR Study dates: Oct 2008 - May 2011 Study design: Trial randomized parallel Location: US Funding source / conflict: Government, Manufacturer supplied product	Study Population: Healthy pregnant women Pregnant enrolled 126 Pregnant withdrawals 8 Pregnant completers 118 Pregnant age: EPA 29.9; DHA 30.6; placebo 30.4 (EPA 5.0; DHA 4.5; placebo 5.9) Race of Mother: White European (85%; 76%; 83%) Black (10%; 11%; 5%) Asian (3%; 3%; 2%) Hispanic (0%; 11%; 7%) Inuit Eskimo (0%; 0%; 2%) Pacific Islander (NR) Baseline biomarker	Inclusion Criteria: past history of depression, an EPDS score 9-19 (at risk for depression or mildly depressed), singleton gestation, a maternal age of 18 years or older, and a gestational age of 12-20 weeks Exclusion Criteria: had a history of a bleeding disorder, thrombophilia requiring anticoagulation, multiple gestation, bipolar disorder, current major depressive disorder, current substance abuse, lifetime substance dependence, or	Start time: Pregnant 12-20 week gestation Duration: Pregnant assuming till birth Arm 1: Control/Placebo Description: 98% soy oil and 1% each of lemon and fish oil Manufacturer: Nordic Naturals Corporation in Watsonville, CA Viability: centrifuged before separation into the 6 aliquots and were stored at 70 degrees C. Dose: 2 large and 4 small placebo capsules Blinding: The placebos were formulated to be identical in appearance to both the EPA- and DHA-rich supplements Arm 2: EPA-rich fish oil Description: an approximate 4:1 ratio of EPA to DHA (1060 mg EPA plus 274 mg DHA) Brand name: ProEPAXtra, Nordic Naturals Viability: centrifuged before separation into the 6 aliquots and were stored at 70 degrees C. Dose: 2 large EPA capsule and 4 small placebo	Outcome domain: Ante or postnatal depression Outcome: Beck Depression Inventory (BDI) (Primary) Follow-up time: 26-28 weeks Arm 1: Sample size 41; mean 6.3; SD (3.9) Arm 2: Sample size 39; mean 8.7; SD (4.2) Arm 3: Sample size 38; mean 7.0; SD (4.6) Follow-up time: 34-36 weeks Arm 1: Sample size 41; mean 7.4; SD (5.5) Arm 2: Sample size 39; mean 8.2; SD (5.7) Arm 3: Sample size 38; mean 6.9; SD (6.3) Follow-up time: 6-8 weeks post-partum Arm 1: Sample size 41; mean 5.9; SD (6.1) Arm 2: Sample size 39; mean 6.6; SD (5.2) Arm 3: Sample size 38; mean 5.7; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	information: EPA group: EPA 0.29+-0.18; DHA 4.24+-2.30; total n3 FA: 22.10+-3.72 DHA group: EPA 0.31+-0.24; DHA 4.66+-2.29; total n3 FA 36.41+-9.71 placebo: EPA .34+-0.22; DHA 3.85+-1.77; omega3 fa 322.86+-5.02	schizophrenia. Women were also ineligible if they were currently taking omega-3 fatty acid supplements or antidepressant medications or eating more than 2 fish meals per week.	DHA: 274 mg EPA: 1060 mg Arm 3: DHA-rich fish oil Description: DHA and EPA in an approximate 4:1 ratio o (900 mg DHA plus 180 mg EPA) Brand name: ProDHA, Nordic Naturals Viability: centrifuged before separation into the 6 aliquots and were stored at 70 degrees C. Dose: 2 large placebo oil and 4 small DHA rich DHA: 900 mg EPA: 180 mg	(4.8) Outcome domain: Birth weight Outcome: birth weight (g) (Secondary) Follow-up time: birth Arm 1: Sample size 40; mean 3309.0; SD (555) Arm 2: Sample size 40; mean 3402.0; SD (550) Arm 3: Sample size 38; mean 3774.0; SD (438) Outcome domain: Gestational hypertension preeclampsia eclampsia Outcome: gestational hypertension or preeclampsia (Secondary) Follow-up time: during pregnancy Arm 1: 5/41 (12.0%) Arm 2: 8/39 (21.0%) Arm 3: 2/38 (5.0%) Outcome domain: duration of gestation Outcome: gestational age (weeks) (Secondary) Follow-up time: birth Arm 1: Sample size 41; mean 39.1; SD (1.5) Arm 2: Sample size 39; mean 39.1; SD (1.5) Arm 3: Sample size 38; mean 40.4; SD (0.9)
Mulder et al., 2014[75] Study name: NR	Study Population: Healthy pregnant women	Inclusion Criteria: at least 16 wk gestation, not taking any lipid or fatty acid supplement,	Start time: Pregnant 16 weeks gestation Duration: Pregnant Until birth	Outcome domain: Birth weight Outcome: birth weight (g) (Unspecified) Follow-up time: birth Arm 1: Sample size 111; mean 3497.0;

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study dates: 2004 to 2008 Study design: Trial randomized parallel Location: Canada Funding source / conflict: Government Study follow-up: 18 months	Pregnant enrolled 271 Pregnant completers 200 Pregnant age: 33 years (4 years) NR Race of Mother: White European (73%) Other race/ethnicity (27%) Baseline biomarker information: maternal RBC Phusphatidylethanolamine DHA: placebo group 6.25 (1.60) g/ 100g DHA group 6.36 (1.62) g/ 100g Baseline Omega-3 intake: median (2.5 to 97.5th percentile range) intake: placebo group 80.0 (0.00-334) mg/day, DHA group 90.0 (6.00-472) mg/d	and were expected to deliver one infant at full-term gestation, with no maternal or fetal complications Exclusion Criteria: NR	Arm 1: placebo Description: corn and soybean oil supplement Manufacturer: Martek Biosciences Blinding: supplements were identical in appearance, contained an orange flavour mask Arm 2: DHA supplement Description: algal oil DHA supplement Manufacturer: Martek Biosciences DHA: 400 mg	SD (479) Arm 2: Sample size 104; mean 3494.0; SD (400) Outcome domain: Cognitive development Outcome: Number in highest quartile of Bayley Scales of Infant Development III: cognitive (Unspecified) Follow-up time: 18 months Arm 1: 18/80 (23.1%) Arm 2: 15/74 (20.0%) Outcome: Number in highest quartile of Bayley Scales of Infant Development III: expressive language (Unspecified) Follow-up time: 18 months Arm 1: 19/80 (24.1%) Arm 2: 28/74 (37.5%) Outcome: Number in highest quartile of Bayley Scales of Infant Development III: receptive language (Unspecified) Follow-up time: 18 months Arm 1: 16/80 (20.5%) Arm 2: 27/74 (36.5%) Outcome: Number in highest quartile of Infant MacArthur Communicative Development Inventory: words produced (Unspecified) Follow-up time: 14 months Arm 1: 13/81 (16.0%) Arm 2: 26/78 (33.3%) Follow-up time: 18 months Arm 1: 12/61 (19.1%) Arm 2: 27/73 (37.3%) Outcome: Number in highest quartile of Infant MacArthur Communicative Development Inventory: words understood

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(Unspecified) Follow-up time: 14 months Arm 1: 12/81 (14.8%) Arm 2: 28/78 (35.9%) Follow-up time: 18 months Arm 1: 11/61 (18.8%) Arm 2: 27/73 (37.3%) Outcome: Number in highest quartile of Toddler MacArthur Communicative Development Inventory: words produced (Unspecified) Follow-up time: 18 months Arm 1: 10/61 (17.1%) Arm 2: 26/73 (35.0%) Outcome domain: Neurological development Outcome: Number in highest quartile of Bayley Scales of Infant Development III: fine motor (Unspecified) Follow-up time: 18 months Arm 1: 20/80 (25.6%) Arm 2: 22/74 (30.1%) Outcome: Number in highest quartile of Bayley Scales of Infant Development III: gross motor (Unspecified) Follow-up time: 18 months Arm 1: 21/80 (26.6%) Arm 2: 22/74 (29.7%) Outcome domain: Visual function Outcome: number with visual acuity>==13 cycles/degree (Unspecified) Follow-up time: 12 months Arm 1: 20/95 (21.1%) Arm 2: 20/81 (24.7%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Outcome: number with visual acuity>==3.3 cycles/degree (Unspecified) Follow-up time: 2 months Arm 1: 8/94 (8.51%) Arm 2: 17/90 (18.9%) Outcome domain: growth Outcome: length-for-age z score (Unspecified) Follow-up time: 12 months Arm 1: Sample size 94; mean 0.44; SD (1.11) Arm 2: Sample size 84; mean 0.11; SD (1.06) Follow-up time: 18 months Arm 1: Sample size 82; mean 0.41; SD (1.14) Arm 2: Sample size 76; mean 0.16; SD (1.11) Follow-up time: 2 months Arm 1: Sample size 102; mean 0.29; SD (1.08) Arm 2: Sample size 92; mean 0.17; SD (1.04) Follow-up time: 6 months Arm 1: Sample size 101; mean 0.25; SD (1.06) Arm 2: Sample size 95; mean 0.17; SD (1.04) Follow-up time: 9 months Arm 1: Sample size 95; mean 0.22; SD (1.08) Arm 2: Sample size 88; mean -0.06; SD (1.05) Outcome: weight-for-age z score (Unspecified)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Follow-up time: 12 months Arm 1: Sample size 94; mean 0.15; SD (1.02) Arm 2: Sample size 81; mean 0.12; SD (1.05) Follow-up time: 18 months Arm 1: Sample size 70; mean 0.27; SD (0.99) Arm 2: Sample size 74; mean 0.21; SD (1.04) Follow-up time: 2 months Arm 1: Sample size 101; mean 0.06; SD (1.08) Arm 2: Sample size 90; mean -0.19; SD (1.08) Follow-up time: 6 months Arm 1: Sample size 101; mean 0.1; SD (1.01) Arm 2: Sample size 95; mean -0.06; SD (1.11) Follow-up time: 9 months Arm 1: Sample size 94; mean 0.03; SD (0.99) Arm 2: Sample size 87; mean 0.04; SD (1.11) Outcome: weight-for-length z score (Unspecified) Follow-up time: 12 months Arm 1: Sample size 93; mean -0.04; SD (0.99) Arm 2: Sample size 81; mean 0.14; SD (1.09) Follow-up time: 18 months Arm 1: Sample size 70; mean 0.14; SD (1.05) Arm 2: Sample size 74; mean 0.14; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(1.05) Follow-up time: 2 months Arm 1: Sample size 101; mean -0.16; SD (1.08) Arm 2: Sample size 90; mean -0.42; SD (1.2) Follow-up time: 6 months Arm 1: Sample size 101; mean 0.04; SD (1.04) Arm 2: Sample size 95; mean -0.11; SD (1.02) Follow-up time: 9 months Arm 1: Sample size 94; mean -0.04; SD (0.99) Arm 2: Sample size 87; mean 0.17; SD (1.05)
Noakes et al., 2012[88] Study name: SiPS Study dates: Not reported Study design: Trial randomized parallel Location: UK Funding source / conflict: Government, None Original, same study, or follow-up studies: Miles, 2011[78]	Study Population: Healthy pregnant women Pregnant enrolled 123 Pregnant withdrawals 37 Pregnant completers 86 Pregnant age: Mean(SEM)(n):Control group -28.4 (0.6)(61); Salmon group- 29.5(0.5) (62) (NR) 18-40 years Race of Mother: NR (100)	Inclusion Criteria: age 18–40 y; >19 wk gestation; healthy uncomplicated singleton pregnancy; infant at risk of atopy (one or more first-degree relatives of the infant affected by atopy, asthma or allergy by self-report); consumption of < 2 portions oily fish per month, excluding tinned tuna; and no use of fish-oil supplements currently or in the previous 3 months.	Start time: Pregnant 20 weeks of gestation Duration: Pregnant until birth Arm 1: Control group Description: Women in the control group (n = 61) were asked to continue their habitual diet Blinding: Researchers responsible for assessing outcome measures (both laboratory and clinical) remained blinded to the groups Arm 2: Salmon group Description: Women in the salmon group (n = 62) were asked to incorporate 2 portions of farmed salmon (150 g/portion) into their diet per week Active ingredients: 30.5 g protein, 16.4 g fat,4.1 mg alpha-tocopherol, 1.6 mg gamma-tocopherol, 6 micro-g vitamin A, 14 micro-g	Outcome domain: atopic dermatitis Outcome: atopic dermatitis (Primary) Follow-up time: 6 months Arm 1: 12/48 (25.0%) Arm 2: 7/38 (18.42%) Outcome domain: respiratory illness Outcome: chest infection (Secondary) Follow-up time: 6 months Arm 1: 1/46 (2.17%) Arm 2: 3/37 (8.11%) Outcome: pneumonia/bronchiolitis (Secondary) Follow-up time: 6 months Arm 1: 1/46 (2.17%) Arm 2: 1/37 (2.7%) Outcome: wheeze (Secondary) Follow-up time: 6 months Arm 1: 11/46 (23.91%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
		Exclusion Criteria: age <18 or >40 y; <19 wk gestation; no first-degree relatives of the infant affected by atopy, asthma, or allergy; consumption of >2 portions oily fish per month, excluding tinned tuna; use of fish-oil supplements within the previous 3 mo; participation in another research study; known diabetes; presence of any autoimmune disease; learning disability; terminal illness; and mental health problems.	vitamin D3, and 43 micro-g Selenium Dose: two 150-g portions per week DHA: 1.16 g per portion EPA: 0.57g per portion EPA-DHA: 1.73 per portion Total N-3: 3.56g per portion Other dose 1: Docosapentaenoic acid-0.35g	Arm 2: 7/37 (18.92%)
Olsen et al., 2008[187] Study name: NR Study dates: 1989-2006 Study design: Trial randomized parallel Location: Denmark Funding source / conflict: Multiple	Study Population: Healthy pregnant women Pregnant enrolled 533 Infants enrolled 531 Infants completers 522 Pregnant age: Fish oil: 29.4 Olive oil: 29.7 No oil: 29.1 (Fish oil: (4.4) Olive oil: (4.3) No oil:	Inclusion Criteria: Women seen in the main midwife clinic in Aarhus Denmark at week 30 gestation Exclusion Criteria: History of placental abruption in a previous pregnancy or a serious bleeding episode in the current pregnancy; multiple pregnancies;	Start time: Pregnant 30 weeks gestation Duration: Pregnant to term Arm 1: Control Description: Olive oil Active ingredients: 72% oleic acid Dose: 4 one gram capsules Blinding: Gelatin capsules were coloured, and the capsules and their boxes looked identical. ALA: 12% Arm 2: Fish oil	Outcome domain: respiratory illness Outcome: asthma (all types) (Secondary) Follow-up time: 16 years Arm 1: 11/136 (8.09%) Arm 2: 8/263 (3.04%) Arm 3: 3/129 (2.33%) Outcome: asthma (allergic) (Secondary) Follow-up time: 16 years Arm 1: 8/136 (5.88%) Arm 2: 2/263 (0.76%) Arm 3: 0/129 (0.0%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
foundations and Societies Study follow-up: 16 years	(4.1)) NR Race of Mother: NR (100)	allergy to fish; regular use of fish oil prostaglandin inhibitors	Brand name: Pikasol Fish Oil Manufacturer: Lube Limited Active ingredients: 2mg tocopherol/ml Dose: 4 1-gm capsules EPA: 32% EPA-DHA: 23% Total N-3: 2.7g marine n-3PUFA/day Arm 3: No oil Description: no intervention at all	
Palmer et al., 2012[54] Study name: DOMInO Study dates: 2006-2009 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Industry, Government, Manufacturer supplied product Original, same study, or follow-up studies: Makrides, 2010[35]; Smithers, 2011[53]; Zhou, 2012[55]; Palmer, 2013[56]; Makrides, 2014 [57]	Study Population: Pregnant women with allergies Pregnant enrolled 706 Pregnant withdrawals 25 Pregnant completers 681 Infants enrolled 706 Infants withdrawals 25 Infants completers 681 Pregnant age: Treatment: 29.6 Placebo: 29.5 (Treatment: 5.7 Placebo: 5.6) NR Race of Mother: NR (100)	Inclusion Criteria: Included if the unborn baby had a mother, father, or sibling with a history of any medically diagnosed allergic disease (asthma, allergic rhinitis, eczema) and they were enrolled from the Women's and Children's Hospital or Flinders Medical Centre in Adelaide. Exclusion Criteria: NR	Start time: Pregnant 21 weeks of gestation Infants 21 weeks of gestation Duration: Pregnant until delivery Infants till delivery Arm 1: Placebo Description: 338 women assigned to control supplements-vegetable oil capsules Dose: three 500 mg vegetable oil capsules daily Blinding: All capsules were similar in size, shape, and colour. Neither the women nor the research staff was aware of the treatment allocated. Arm 2: n-3 LCPUFA group Description: 368 women assigned to fish oil concentrate Brand name: Incromega 500 TG Manufacturer: Croda Chemicals, East Yorkshire, UK Dose: e three 500 mg capsules daily DHA: 800mg EPA: 100mg	Outcome domain: allergies Outcome: food allergy with sensitization (Primary) Follow-up time: 1 year Arm 1: 11/338 (3.25%) Arm 2: 11/368 (2.99%) Outcome domain: atopic dermatitis Outcome: eczema with sensitization (Primary) Follow-up time: 1 year Arm 1: 39/338 (11.54%) Arm 2: 26/368 (7.07%) Outcome domain: respiratory illness Outcome: respiratory tract infection (Secondary) Follow-up time: 1 year Arm 1: 66/338 (19.53%) Arm 2: 65/368 (17.66%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Palmer et al., 2013[56] Study name: DOMInO Study dates: 2006-2011 (allergy follow-up to Domino study) Study design: Trial randomized parallel Location: Australia Funding source / conflict: Industry, Government, Some authors serve on scientific advisory boards for corporations Study follow-up: 3 years Original, same study, or follow-up studies: Makrides, 2010[35]; Smithers, 2011[53]; Palmer, 2012[54]; Zhou, 2012[55]	Study Population: Children with family history of allergy Pregnant enrolled 706 Pregnant completers 638 Infants enrolled 706 Infants completers 638 Pregnant age: DHA: 28.9 Control: 28.9 (DHA: 5.7) Control: 5.6) Infant age: Birth Race of Mother: NR (100)	Inclusion Criteria: Women whose infants had a parent or sibling with a history of any medically diagnosed allergic disease (asthma, allergic rhinitis, eczema) Exclusion Criteria: Already taking a prenatal supplement with DHA Fetus had a known major abnormality, Bleeding disorder in which tuna oil was contraindicated, Taking anticoagulant therapy A documented history of drug or alcohol abuse, Participating in another fatty acid trial, Unable to give written informed consent, or English was not the main language spoken at home	Start time: Pregnant <21 weeks gestation Duration: Pregnant to term Arm 1: Control Description: vegetable oil Dose: 3 500-mg vegetable oil capsules per day Blinding: This was a double-blinded study; all capsules were similar in size, shape and colour Arm 2: Fish oil Brand name: Incromega 500 TG, Manufacturer: Croda Chemicals, East Yorkshire, England Dose: 3 500-mg capsules per day DHA: 800 mg per day EPA: 100 mg per day	Outcome domain: allergies Outcome: allergic rhinitis (Primary) Follow-up time: 3 years Arm 1: 20/338 (5.92%) Arm 2: 18/368 (4.89%) Outcome: food allergy (Primary) Follow-up time: 3 years Arm 1: 14/338 (4.14%) Arm 2: 18/368 (4.89%) Outcome domain: atopic dermatitis Outcome: eczema (Primary) Follow-up time: 3 years Arm 1: 64/338 (18.93%) Arm 2: 15/368 (4.08%) Outcome domain: respiratory illness Outcome: asthma (Primary) Follow-up time: 3 years Arm 1: 5/338 (1.48%) Arm 2: 6/368 (1.63%)
Peat et al., 2004[167] Study name: CAPS Study dates: 2000-2003	Study Population: Pregnant women whose unborn children were at high risk of developing asthma	Inclusion Criteria: at least 1 parent or sibling with current asthma or frequent wheeze as assessed by screening	Start time: Infants 6 months of age Duration: Infants NR Arm 1: Placebo group Description: The control group received	Outcome domain: atopic dermatitis Outcome: any eczema (Secondary) Follow-up time: 3 years Arm 1: 81/259 (31.3%) Arm 2: 74/267 (27.7%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study design: Trial randomized factorial design Location: Australia Funding source / conflict: Industry, Government Study follow-up: 3 years Original, same study, or follow-up studies: Mihrshahi, 2003[166]; Mihrshahi, 2006[168]; Brew, 2015[165] Toelle, 2010[169]	Pregnant enrolled 616 Pregnant withdrawals 90 Pregnant completers 526 Pregnant age: Placebo: 29.1 Diet: 28.6 (Placebo: 5.0 Diet: 5.3) NR Race of Mother: NR (100)	questionnaire, fluency in English, a telephone at home, and residence within 30 km of the recruitment center. Exclusion Criteria: a pet cat at home, a vegetarian diet, multiple births, and less than 36 weeks gestation.	placebo supplement capsules of Sunola oil containing 83% monounsaturated oils (Clover Corp) and were provided with widely used soybean-based polyunsaturated oils and margarines high in omega-6 fatty acids for use in all food preparation Manufacturer: Clover Corp; Goodman Fielder Blinding: The research team responsible for recruitment was blind to the methods of randomization until recruitment was complete. The research nurses and research assistants who undertook the outcome assessments, laboratory analyses, and statistical analyses were blind to the group allocation of the participants. Arm 2: Active intervention group Description: tuna fish oil capsules Manufacturer: Clover Corp; Goodman Fielder Dose: 500 mg tuna fish oil capsules daily Total N-3: 184 mg	Outcome domain: respiratory illness Outcome: any asthma (Primary) Follow-up time: 3 years Arm 1: 108/259 (41.7%) Arm 2: 107/267 (40.07%) Outcome: any cough (Primary) Follow-up time: 3 years Arm 1: 157/259 (60.62%) Arm 2: 132/267 (49.44%) Outcome: any wheeze (Secondary) Follow-up time: 3 years Arm 1: 108/259 (41.7%) Arm 2: 107/267 (40.07%)
Pietrantoni et al., 2014[30] Study name: NR Study dates: NR Study design: Trial randomized parallel Location: Italy Funding source / conflict: Government	Study Population: Healthy pregnant women Pregnant enrolled 300 Pregnant completers 255 Pregnant age: DHA 30.86 +-4.18/placebo group 29.92+-4.8 Race of Mother: NR (NR)	Inclusion Criteria: Caucasians 22 to 35 yrs, 8 week gestational age, single pregnancy, BMI between 18.5 and 25.0kg/m2, habitual fish consumption (twice a week at least), high school or university degree, average socioeconomic status, absence of uterine abnormalities (fibroids,	Start time: Pregnant 8th weeks Duration: Pregnant 8th week to delivery Arm 1: Placebo Description: Olive oil Arm 2: DHA group Description: DHA capsule Dose: 2* 100mg capsule DHA: 100mg * 2 capsule	Outcome domain: duration of gestation Outcome: preterm-premature rupture of membranes (Unspecified) Follow-up time: birth Arm 1: 4/126 (3.2%) Arm 2: 1/129 (0.8%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
		cervical incompetence, uterine malformations etc.) Exclusion Criteria: smoking, substance abuse including alcohol, allergy to fish or derivates, diabetes, hypertension, metabolic, cardiovascular, renal, psychiatric, neurologic, throbophilic, thyroid or autoimmune diseases, previous pregnancy complications (miscarriage, preterm or operative delivery), previous uterine surgery, recurrent genito-urinary infections		
Ramakrishnan et al., 2010[32] Study name: POSGRAD Study dates: Feb 2005 - Feb 2007 Study design: Trial randomized parallel Location: Mexico	Study Population: Healthy pregnant women Pregnant enrolled 1,094 Pregnant withdrawals 67 Pregnant completers 973 (for birthweight) Pregnant age: 26.2 (controls) 26.3 (DHA) (4.6 (controls) 4.8	Inclusion Criteria: 18-35 yrs. of age, in gestation weeks 18-22, planned to deliver at the IMSS General Hospital in Cuernavaca, exclusively or predominantly breastfeed for at least 3 months, liver in the area for at least 2	Start time: Pregnant at study entry Duration: Pregnant mid pregnancy (18-22 weeks gestation) until delivery Arm 1: Controls Description: Placebo containing olive oil Manufacturer: Martek Biosciences Dose: 1 capsule, twice a day Blinding: Identical tablets Arm 2: DHA	Outcome domain: Birth weight Outcome: birth weight (g) (Primary) Follow-up time: birth Arm 1: Sample size 486; mean 3202.0; SD (472) Arm 2: Sample size 487; mean 3207.2; SD (449.4) Outcome domain: LBW Outcome: birthweight <2500g (Secondary) Follow-up time: birth Arm 1: 27/486 (5.6%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Funding source / conflict: Government, March of Dimes Original, same study, or follow-up studies: Stein, 2012[33]; Imhoff-Kunsch, 2011[58]; Escamilla-Nunez, 2014[59]; Gonzalez-Casanova, 2015[60]; Ramakrishnan, 2015[61]; Stein, 2011[34]	(DHA)) Race of Mother: Hispanic (NR) Baseline Omega-3 intake: mg/day for all: LA: 17,846 in controls, 17,645 in DHA AA: 137 in controls, 140 in DHA ALA: 1,488 in controls, 1,477 in DHA EPA: 18 in controls, 18 in DHA DHA: 54 in controls, 56 in DHA	years after delivery. Exclusion Criteria: high-risk pregnancy; lipid metabolism or absorption disorders, regular intake of fish oil or DHA supplements; chronic use of certain medications (e.g., medications for epilepsy).	Description: Intervention Manufacturer: Martek Biosciences Dose: 1 capsule twice a day DHA: 400 mg/d, 200 mg/dl derived from algal source	Arm 2: 27/487 (5.5%) Outcome domain: duration of gestation Outcome: gestational age (weeks) (Primary) Follow-up time: birth Arm 1: Sample size 486; mean 39.1; SD (1.7) Arm 2: Sample size 487; mean 39.0; SD (1.9) Outcome: incidence of premature birth (Secondary) Follow-up time: birth Arm 1: 40/486 (8.3%) Arm 2: 49/487 (10.1%)
Ramakrishnan et al., 2015[61] Study name: POSGRAD Study dates: 2005-2009 Study design: Trial randomized parallel Location: Mexico Funding source / conflict: Government, None, March of Dimes Study follow-up: 18 months Original, same study, or	Study Population: Healthy pregnant women Pregnant enrolled 1094 Pregnant completers 968 Infants enrolled 973 Infants completers 730 Pregnant age: Placebo: 26.3 Intervention: 26.5 (Placebo: 4.6 Intervention: 4.9) Infant age: Placebo: 20.5 weeks gestation Intervention: 20.6 weeks gestation (Placebo: 2.1	Inclusion Criteria: Women who were in gestation week 18–22, age 18–35 years, planned to deliver at the IMSS General Hospital and to remain in the area for the next 2 years, and planned predominant breastfeeding for at least 3 months Exclusion Criteria: High risk pregnancy, had any lipid metabolism/absorption conditions, regularly took DHA or fish oil supplements, or used	Start time: Pregnant 18-22 weeks gestation Duration: Pregnant 18-22 weeks gestation until delivery Arm 1: Control Description: Corn and soy oils with no added antioxidants Dose: 2 capsules/day Blinding: Similar in appearance and taste to the DHA capsules Arm 2: Intervention Description: Algal-sourced DHA capsule Manufacturer: Martek Biosciences Dose: 2 capsules/day DHA: 200 mg * 2 = 400 mg/d	Outcome domain: Cognitive development Outcome: Bayley Mental Development Index (Primary) Follow-up time: 18 months Arm 1: Sample size 365; mean 95.2; SD (9.3) Arm 2: Sample size 365; mean 94.3; SD (10.7) Outcome domain: Infants born small gestational age Outcome: IUGR (Secondary) Follow-up time: birth Arm 1: 36/365 (9.9%) Arm 2: 39/365 (10.7%) Outcome domain: Neurological development Outcome: Bayley PDI (Primary) Follow-up time: 18 months

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
follow-up studies: Ramakrishnan, 2010[32]; Stein, 2012[33]; Imhoff-Kunsch, 2011[58]; Escamilla-Nunez, 2014[59]; Gonzalez-Casanova, 2015[60]; Ramakrishnan, 2015[61]	weeks Intervention: 2.0 weeks) Race of Mother: NR (NR) Baseline Omega-3 intake: From original study ref 3364 mg/day for all: LA: 17,846 in controls, 17,645 in DHA AA: 137 in controls, 140 in DHA ALA: 1,488 in controls, 1,477 in DHA EPA: 18 in controls, 18 in DHA DHA: 54 in controls, 56 in DHA	certain chronic medications (such as antiepileptic drugs)		Arm 1: Sample size 365; mean 93.3; SD (9.8) Arm 2: Sample size 365; mean 93.0; SD (8.9)
Sala-Vila et al., 2004[110] Study name: NR Study dates: NR Study design: Trial randomized parallel Location: Spain Funding source / conflict: Multiple foundations and Societies, Manufacturer supplied product	Study Population: Healthy infants Infants enrolled 35 Infants completers 35 Pregnant age: 28.3 Infant age: NR Race of Mother: NR (100)	Inclusion Criteria: full-term infants (37–42 wk gestation), of appropriate weight-for-gestation-age Exclusion Criteria: NR	Start time: Infants birth Duration: Infants 3 mo Arm 1: Human Milk (HM) Description: breast milk with composition of protein carbohydrate fat ash Arm 2: E-PL formula Description: E-PL formula provided 10% of its fat from egg PLs Brand name: Ovotin 120, Lucas Meyer DHA: 1.25% AA: 1.9% Arm 3: S-TG formula Description: single-cell (SC)-TG formula provided _x0004_0.3 and 0.5% of its fat from	Outcome domain: growth Outcome: head circumference (cm) (Unspecified) Follow-up time: 3 months Arm 1: Sample size 11; mean 41.86; SE (1.78) Arm 2: Sample size 12; mean 42.01; SE (1.46) Arm 3: Sample size 12; mean 43.98; SE (1.38) Outcome: length (cm) (Unspecified) Follow-up time: 3 months Arm 1: Sample size 11; mean 60.5; SE (6.31) Arm 2: Sample size 12; mean 61.08; SE (5.31) Arm 3: Sample size 12; mean 60.98; SE (3.98)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
			TGs synthesized by single cells of algal and fungal microorganisms Manufacturer: Martek Biosciences DHA: 0.1g/100g; 0.3% of 40-45% DHASCO AA: 0.4g/100g, 0.5% of 38-44% ARASCO	Outcome: weight (g) (Unspecified) Follow-up time: 3 months Arm 1: Sample size 11; mean 6460.1; SE (630.6) Arm 2: Sample size 12; mean 6640.8; SE (741) Arm 3: Sample size 12; mean 6491.9; SE (906.1)
Smithers et al., 2008[104] Study name: DINO Study dates: 2001-2004 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Manufacturer supplied product Study follow-up: 2 months, 4 months Original, same study, or follow-up studies: Makrides, 2009[116]; Smithers, 2010[117]; Manley, 2011[118]; Collins, 2011[105]; Atwell, 2013[119]; Collins, 2015[120]	Study Population: Preterm infants Lactating enrolled unclear Infants enrolled 143 Infants completers 125 Lactating enrolled unclear Mother age: Control: 31 Treatment: 29 (Control: 6 Treatment: 6) Infant age: 5 days (control) (mean gestational age at birth 29.4 weeks) 6 days (Treatment) (3) Race of Mother: NR (NR) Baseline Omega-3 intake: Intervention	Inclusion Criteria: infants born_x0001_33 wk gestation at the Women's and Children's Hospital of the Child, Youth, and Women's Health Service, Adelaide, Australia, between April 2001 and September 2003 Exclusion Criteria: Infants with major congenital or chromosomal abnormalities, lactating mothers for whom tuna oil was contraindicated (women with blood-thinning disorders or currently taking anticoagulants)	Start time: Lactating approximately 5 days after birth Infants approximately 5 days after birth Duration: Lactating to estimated due date Infants to estimated due date Arm 1: Control group Description: Placebo capsules and/or formula Active ingredients: Linoleic acid 53.4% of fatty acids Dose: 6 500-mg capsules per day to mothers Blinding: The soy and tuna oil capsules were identical in size, color, and shape ALA: 5.9% of total fatty acids Arm 2: Treatment Description: DHA supplemented breastfeeding mothers and/or formula Active ingredients: Linoleic acid 2.7% of fatty acids Dose: 6 capsules or formula ad lib ALA: 0.4% total FA DHA: 29.5% total FA EPA: 6.5% total FA AA: 1.8% total FA	Outcome domain: Visual function Outcome: Visual evoked potential acuity (cyc/deg) (Primary) Follow-up time: 2 months (corrected age) Arm 1: Sample size 61; mean 5.6; SD (2.4) Arm 2: Sample size 54; mean 5.6; SD (2.4) Follow-up time: 4 months (corrected age) Arm 1: Sample size 51; mean 8.2; SD (1.8) Arm 2: Sample size 44; mean 9.6; SD (3.7) Outcome: Visual evoked potential latency: 48 min of arc (ms) (Secondary) Follow-up time: 4 months (corrected age) Arm 1: Sample size 67; mean 138.0; SD (23) Arm 2: Sample size 58; mean 135.0; SD (23) Outcome: Visual evoked potential latency: 69 min of arc (ms) (Secondary) Follow-up time: 2 months (corrected age) Arm 1: Sample size 66; mean 200.0; SD (29) Arm 2: Sample size 58; mean 193.0; SD (27)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
	begun at birth: see below			Follow-up time: 4 months (corrected age) Arm 1: Sample size 67; mean 131.0; SD (21) Arm 2: Sample size 58; mean 129.0; SD (20) Outcome: Visual evoked potential latency: 96 min of arc (ms) (Secondary) Follow-up time: 2 months (corrected age) Arm 1: Sample size 66; mean 188.0; SD (27) Arm 2: Sample size 58; mean 182.0; SD (24) Outcome domain: growth Reason results are not reported: duplicate data of id 8885 Outcome: (Secondary)
Smithers et al., 2010[117] Study name: DINO Study dates: April 2001 through September 2003 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, Multiple foundations and Societies, Manufacturer supplied product, Some	Study Population: Preterm infants Lactating enrolled 545 Infants enrolled 657 Infants completers 614 Lactating enrolled 545 Lactating age: 30 years (5.5 years) NR Infant age: 4 days after birth (29 weeks gestation) 2 to 6 days after birth	Inclusion Criteria: infants born at < 33 wk of gestation Exclusion Criteria: Infants born with major congenital or chromosomal abnormalities or born to lactating women for whom tuna oil was contraindicated (women with bleeding disorders or taking anticoagulants)	Start time: Lactating 4 days after birth Infants 4 days after birth Duration: Lactating until infants reached their "expected" date of delivery. Infants until infants reached their "expected" date of delivery Arm 1: Placebo Description: Soy oil capsules or standard preterm formula if not breastfeeding Manufacturer: Clover Corporation Dose: six 500-mg soy oil capsules Blinding: all capsules were similar in size, shape, and color DHA: Formula: 0.35% AA: Formula: 0.6% Total N-3: Capsules: did not change FA content of breastmilk	Outcome domain: Cognitive development Outcome: MacArthur Communicative Development Inventory (MCDI) vocabulary production score (Secondary) Follow-up time: 26 months CA Arm 1: Sample size 67; mean 316.0; SD (192) Arm 2: Sample size 60; mean 308.0; SD (179)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
authors serve on scientific advisory boards for corporations, Some authors have received research funding from infant formula manufacturers Study follow-up: 3-5 years Original, same study, or follow-up studies: Smithers, 2008[104]; Makrides, 2009[116]; Manley, 2011[118]; Collins, 2011[105]; Atwell, 2013[119]; Collins, 2015[120]	Race of Mother: White European (90%)		Arm 2: DHA Description: DHA-rich tuna oil capsules or high-DHA formula Manufacturer: Clover Corporation Dose: six 500 mg capsules per day DHA: Capsules: Achieved breast milk concentration of 1.0%. Formula: 1.0% AA: Capsules: Did not change AA in breast-milk. Formula 0.6% Other dose 1: DHA-rich tuna oil capsules to achieve a breast milk DHA concentration that was approximately 1% of total fatty acids without altering the naturally occurring concentration of arachidonic acid (AA) in breast milk	
Smithers et al., 2011[53] Study name: DOMInO Study dates: Enrollment from June 2007 to August 2008 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, Manufacturer supplied product, Some authors	Study Population: Healthy infants Healthy pregnant women Infants enrolled 185 Infants completers 182 Pregnant age: Tx = 29.5 years, Placebo = 28.7 years (Tx = 5.5 years, Placebo = 5.4 years) NR Infant age: (NA) NA Race of Mother: NR (NR)	Inclusion Criteria: singleton pregnancies at less than 21 weeks' gestation Exclusion Criteria: already taking a prenatal supplement with DHA, fetus had a known major abnormality, mother had a bleeding disorder in which tuna oil was contraindicated, taking anticoagulant therapy, history of	Start time: Pregnant 18 to 21 weeks gestation Duration: Pregnant until birth Arm 1: placebo Description: vegetable oil capsule Manufacturer: Efamol Dose: 3 500 mg capsules Blinding: similar in size, shape, and color Arm 2: Omega 3 supplement Description: fish oil capsule Brand name: Incromega Manufacturer: Croda Chemicals Dose: 3 500 mg capsules DHA: 800/3 mg EPA: 100/3 mg	Outcome domain: Visual function Outcome: VEP Latency: 20 min of arc (ms) (Secondary) Follow-up time: 4 months Arm 1: Sample size 93; mean 133.0; SD (14) Arm 2: Sample size 89; mean 133.0; SD (15) Outcome: VEP Latency: 48 min of arc (ms) (Secondary) Follow-up time: 4 months Arm 1: Sample size 93; mean 121.0; SD (12) Arm 2: Sample size 89; mean 121.0; SD (10) Outcome: VEP Latency: 69 min of arc (ms) (Secondary)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
serve on scientific advisory boards for corporations, Some authors have received research funding from infant formula manufacturers Study follow-up: 4 months Original, same study, or follow-up studies: Makrides, 2010[35]; Palmer, 2012[54]; Zhou, 2012[55]; Palmer, 2013[56]; Makrides, 2014 [57]		drug or alcohol abuse, participating in another fatty acid trial, unable to give written informed consent, or English was not the main language spoken at home		Follow-up time: 4 months Arm 1: Sample size 93; mean 116.0; SD (9) Arm 2: Sample size 89; mean 115.0; SD (8) Outcome: VEP acuity (adjusted) (cyc/deg) (Primary) Follow-up time: 4 months Arm 1: Sample size 93; mean 8.55; SD (1.97) Arm 2: Sample size 89; mean 8.37; SD (1.97) Outcome: VEP acuity (unadjusted) (cyc/deg) (Primary) Follow-up time: 4 months Arm 1: Sample size 93; mean 8.55; SD (1.86) Arm 2: Sample size 89; mean 8.37; SD (2.11)
Stein et al., 2011[34] Study name: POSGRAD Study dates: 02. 2005-02.2007 Study design: Trial randomized parallel Location: Mexico Funding source / conflict: Government, Multiple foundations and Societies	Study Population: Healthy infants Pregnant enrolled 1094 Pregnant completers 973 Pregnant age: placebo 26.3; DHA 26.4 (placebo 4.6; DHA 4.9) Infant age: 39.1 (placebo 1.6; DHA 1.8) Race of Mother: NR	Inclusion Criteria: women were 18–35 y, were in gestation wk 18–22, and planned to deliver at the IMSS General Hospital in Cuernavaca, exclusively or predominantly breast-feed for at least 3 mo, and to live in the area for at least 2 y after delivery Exclusion Criteria: NR	Start time: Pregnant 18-22 Gestational week Infants birth Duration: Pregnant birth Arm 1: Placebo Description: Olive oil Manufacturer: Martek Biosciences Dose: 2 capsules olive oil Blinding: Similar in appearance and taste to DHA capsules Arm 2: DHA Description: algal DHA capsules Manufacturer: Martek Biosciences Dose: 2 capsules * 200mg	Outcome domain: Birth weight Outcome: birth weight (g) (Primary) Follow-up time: birth Arm 1: Sample size 370; mean 3220.0; SD (475) Arm 2: Sample size 369; mean 3242.0; SD (441) Outcome domain: Infants born small gestational age Outcome: IUGR (intrauterine growth retardation); birth weight for gestational age < 10th percentile (Secondary) Follow-up time: birth Arm 1: 38/368 (10.3%) Arm 2: 39/369 (10.6%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Original, same study, or follow-up studies: Stein, 2012[33]; Imhoff-Kunsch, 2011[58]; Escamilla-Nunez, 2014[59]; Gonzalez-Casanova, 2015[60]; Ramakrishnan, 2015[61]; Ramakrishnan, 2011[32]			DHA: 400 mg	Outcome domain: LBW Outcome: birthweight <2500g (Secondary) Follow-up time: birth Arm 1: 20/370 (5.4%) Arm 2: 16/369 (4.3%) Outcome domain: duration of gestation Outcome: gestational age (weeks) (Primary) Follow-up time: birth Arm 1: Sample size 368; mean 39.1; SD (1.6) Arm 2: Sample size 369; mean 39.1; SD (1.8) Outcome: incidence of premature birth (Secondary) Follow-up time: birth Arm 1: 30/368 (8.2%) Arm 2: 33/369 (8.9%) Outcome domain: growth Outcome: head circumference (cm) (Primary) Follow-up time: 18 months Arm 1: Sample size 370; mean 47.0; SD (1.4) Arm 2: Sample size 369; mean 47.0; SD (1.5) Outcome: length (cm) (Primary) Follow-up time: 18 months Arm 1: Sample size 370; mean 79.5; SD (2.8) Arm 2: Sample size 369; mean 79.6; SD (2.8) Outcome: weight (kg) (Primary)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Follow-up time: 18 months Arm 1: Sample size 370; mean 10.4; SD (1.2) Arm 2: Sample size 369; mean 10.4; SD (1.1)
Stein et al., 2012[33] Study name: POSGRAD Study dates: Feb 2005-Feb 2007 Study design: Trial randomized parallel Location: NR Funding source / conflict: Government Original, same study, or follow-up studies: Ramakrishnan, 2010[32]; Imhoff-Kunsch, 2011[58]; Escamilla-Nunez, 2014[59]; Gonzalez-Casanova, 2015[60]; Ramakrishnan, 2015[61]	Study Population: Healthy infants Healthy pregnant women Pregnant enrolled 1094 Pregnant withdrawals 63 Pregnant completers 900 Pregnant age: 26.3 (4.6-4.8) Infant age: 39.1 (1.7-1.8) Race of Mother: NR (NR)	Inclusion Criteria: Singleton live births without congenital anomalies Exclusion Criteria: 3364: high risk pregnancy, (history and prevalence of pregnancy complications, including abruptio placentae, preeclampsia, pregnancy-induced hypertension, any serious bleeding episode in the current pregnancy, and physician referral); lipid metabolism or absorption disorders, regular intake of fish oil or DHA supplement, or chronic use of certain medication(e.g.. epilepsy medications)	Start time: Pregnant 18-22 wk Duration: Pregnant to birth Arm 1: Placebo Description: A mixture of corn and soy oil Manufacturer: Martek Biosciences Blinding: "Participants and members of the study team were unaware of the treatment scheme throughout the intervention period of the study" Arm 2: DHA Description: DHA 400 mg/d Manufacturer: Martek Biosciences Dose: 2 capsule per day DHA: 2*200mg	Outcome domain: LBW Outcome: birthweight <2500g (Primary) Follow-up time: birth Arm 1: 24/452 (5.3%) Arm 2: 17/448 (3.8%) Outcome domain: Neurological development Outcome: auditory evoked responses: latency 1 (ms) (Primary) Follow-up time: 1 month Arm 1: Sample size 377; mean 1.63; SD (0.14) Arm 2: Sample size 372; mean 1.62; SD (0.16) Follow-up time: 3 months Arm 1: Sample size 334; mean 1.58; SD (0.15) Arm 2: Sample size 330; mean 1.58; SD (0.15) Outcome: auditory evoked responses: latency 1-3 (ms) (Primary) Follow-up time: 1 month Arm 1: Sample size 377; mean 2.57; SD (0.36) Arm 2: Sample size 372; mean 2.56; SD (0.27) Follow-up time: 3 months Arm 1: Sample size 334; mean 2.44; SD (0.28)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 2: Sample size 330; mean 2.45; SD (0.28) Outcome: auditory evoked responses: latency 1-5 (ms) (Primary) Follow-up time: 1 month Arm 1: Sample size 377; mean 4.93; SD (0.36) Arm 2: Sample size 372; mean 4.91; SD (0.39) Follow-up time: 3 months Arm 1: Sample size 334; mean 4.75; SD (0.39) Arm 2: Sample size 330; mean 4.72; SD (0.39) Outcome: auditory evoked responses: latency 3 (ms) (Primary) Follow-up time: 1 month Arm 1: Sample size 377; mean 4.19; SD (0.33) Arm 2: Sample size 372; mean 4.18; SD (0.32) Follow-up time: 3 months Arm 1: Sample size 334; mean 4.02; SD (0.32) Arm 2: Sample size 330; mean 4.03; SD (0.33) Outcome: auditory evoked responses: latency 3-5 (ms) (Primary) Follow-up time: 1 month Arm 1: Sample size 377; mean 2.37; SD (0.3) Arm 2: Sample size 372; mean 2.37; SD (0.34) Follow-up time: 3 months Arm 1: Sample size 334; mean 2.31; SD (0.35)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 2: Sample size 330; mean 2.28; SD (0.33) Outcome: auditory evoked responses: latency 5 (ms) (Primary) Follow-up time: 1 month Arm 1: Sample size 377; mean 6.55; SD (0.42) Arm 2: Sample size 372; mean 6.52; SD (0.48) Follow-up time: 3 months Arm 1: Sample size 334; mean 6.33; SD (0.4) Arm 2: Sample size 330; mean 6.29; SD (0.42) Outcome domain: Visual function Outcome: Visual evoked potential: Amplitude P (mV) (Primary) Follow-up time: 3 months Arm 1: Sample size 342; mean 8.14; SD (6.04) Arm 2: Sample size 337; mean 7.75; SD (5.97) Follow-up time: 6 months Arm 1: Sample size 342; mean 11.3; SD (6.9) Arm 2: Sample size 337; mean 11.2; SD (7.2) Outcome: Visual evoked potential: Latency N1 (ms) (Primary) Follow-up time: 3 months Arm 1: Sample size 342; mean 93.9; SD (17.1) Arm 2: Sample size 337; mean 94.2; SD (16.3) Follow-up time: 6 months

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 1: Sample size 342; mean 91.9; SD (15.1) Arm 2: Sample size 337; mean 90.5; SD (14.6) Outcome: Visual evoked potential: Latency N3 (ms) (Primary) Follow-up time: 3 months Arm 1: Sample size 342; mean 157.1; SD (24.1) Arm 2: Sample size 337; mean 154.8; SD (23.8) Follow-up time: 6 months Arm 1: Sample size 342; mean 154.9; SD (20.2) Arm 2: Sample size 337; mean 154.2; SD (19.9) Outcome: Visual evoked potential: Latency P1 (ms) (Primary) Follow-up time: 3 months Arm 1: Sample size 342; mean 126.3; SD (18.3) Arm 2: Sample size 337; mean 125.8; SD (17.5) Follow-up time: 6 months Arm 1: Sample size 342; mean 123.5; SD (14.3) Arm 2: Sample size 337; mean 122.7; SD (14.6) Outcome domain: duration of gestation Reason results are not reported: duplicate data of id 3364 Outcome: (Primary)
Toelle et al., 2010[169]	Study Population: Healthy infants	Inclusion Criteria: Pregnant women	Start time: Infants birth	Outcome domain: allergies Outcome: atopy (Primary)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study name: CAPS Study dates: 1997-2008 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, Manufacturer supplied product Study follow-up: 8 years Original, same study, or follow-up studies: Mihrshahi, 2003[166]; Mihrshahi, 2004[167]; Mihrshahi, 2006[168]; Brew, 2015[165]	Pregnant enrolled 616 Pregnant completers Infants enrolled 616 Infants completers 450 Pregnant age: 28.5 years (5.3 years) Race of Mother: NR (NR)	whose unborn children were at high risk of developing asthma because of a family history (at least one parent or sibling with symptoms of asthma as assessed by screening questionnaire), reasonable fluency in English, telephone at home, reside within 30 km from center of recruitment Exclusion Criteria: Pet cat at home, families on strict vegetarian diet, multiple births, babies born earlier than 36 weeks gestation, birth weight below 2.5 kg, babies requiring surgery, babies requiring hospitalization for more than 1 week, babies with significant neonatal disease, babies with congenital malformations	Duration: Infants 5 years Arm 1: Control Description: Low-n3 capsules and cooking oils Brand name: Sunola Active ingredients: Capsules: 7% n-6 FA, 82% monounsaturated FA, 9% saturated FA, and 1.7% minor FA; cooking oils: 40% n-6 FA, 20% n-9 FA Dose: Designed to maintain the current n-3 to n-6 ingested FA ratio in the general population (1:15 to 1:20) Blinding: Similar appearance Total N-3: Capsules: 0.3%; cooking oil: 1.2% Arm 2: Omega 3 supplementation Description: High n-3 FA capsules and cooking oils Active ingredients: Capsules: 6% n-6 polyunsaturated FA, 24% monounsaturated FA, 28% saturated FA, and 5% minor FA; cooking oil: 6% n-6 FA, 40% n-9 FA Blinding: Similar appearance N-6 N-3: 5:1 Total N-3: Capsules: 37%; cooking oil: 6%	Follow-up time: 8 yrs Arm 1: 99/220 (45.0%) Arm 2: 104/230 (45.1%) Outcome: rhinitis (Secondary) Follow-up time: 8 yrs Arm 1: 65/220 (29.6%) Arm 2: 70/230 (30.4%) Outcome domain: atopic dermatitis Outcome: eczema (Secondary) Follow-up time: 8 yrs Arm 1: 31/220 (14.2%) Arm 2: 35/230 (15.3%) Outcome domain: respiratory illness Outcome: asthma (Primary) Follow-up time: 8 yrs Arm 1: 44/220 (20.0%) Arm 2: 57/230 (24.8%) Outcome: wheeze (Primary) Follow-up time: 8 yrs Arm 1: 51/220 (23.2%) Arm 2: 73/230 (31.7%)
Tofail et al., 2006[77] Study name: NR	Study Population: Healthy infants Healthy pregnant women	Inclusion Criteria: seems as if all pregnant women at 25	Start time: Pregnant 25 weeks gestation Duration: Pregnant until birth	Outcome domain: Birth weight Outcome: birth weight (kg) (Unspecified) Follow-up time: birth

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study dates: Enrollment January to March 2000 Study design: Trial randomized parallel Location: Bangladesh Funding source / conflict: Government Study follow-up: 10 months	Pregnant enrolled 400 Pregnant completers 151 Pregnant age: 22.7 years (4.35 years) NR Race of Mother: Asian (100%)	weeks gestation were enrolled, no inclusion criteria specified Exclusion Criteria: NR	Arm 1: placebo Description: soy oil capsule Dose: 4 one gram capsules per day Blinding: capsules were identical in appearance Other dose 1: LNA 0.27 g Other dose 2: linoleic acid 2.25 g Arm 2: DHA supplement Description: fish oil capsules Dose: 4 one gram capsules per day DHA: 1.2 g EPA: 1.8 g	Arm 1: Sample size 124; mean 2.7; SD (0.4) Arm 2: Sample size 125; mean 2.7; SD (0.4) Outcome domain: Cognitive development Outcome: Bayley Scale of Infant Development (Mental developmental index) (Unspecified) Follow-up time: 10 months Arm 1: Sample size 124; mean 101.5; SD (7.8) Arm 2: Sample size 125; mean 102.5; SD (8) Outcome domain: Neurological development Outcome: Bayley Scale of Infant Development (Psychomotor developmental index) (Unspecified) Follow-up time: 10 months Arm 1: Sample size 124; mean 100.5; SD (10.1) Arm 2: Sample size 125; mean 101.7; SD (10.9) Outcome domain: growth Outcome: head circumference (cm) (Unspecified) Follow-up time: 10 months Arm 1: Sample size 124; mean 43.2; SD (1.4) Arm 2: Sample size 125; mean 43.0; SD (1.4)
Unay et al., 2004[138]	Study Population:	Inclusion Criteria:	Start time: Infants week 1	Outcome domain: Neurological

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Study name: NR Study dates: 2000-2001 Study design: Trial randomized parallel Location: Turkey Funding source / conflict: NR	Healthy infants Infants enrolled 54 Infants completers 44 Infant age: NR (term) Race of Mother: NR (NR)	healthy, full term newborns of appropriate size for gestational age, who were not going to be breast fed because that was the mother's wish or because of maternal illness or medication incompatible with breast feeding just after birth Exclusion Criteria: Perinatal asphyxia, central nervous system infection, congenital malformation, or significant hyperbilirubinaemia	Duration: Infants 16 weeks Arm 1: Formula B Description: Infant formula without added DHA Brand name: Nutrilon I Manufacturer: NV Nutricia Netherlands Active ingredients: Linoleic acid 11.2gm/100gm fat ALA: 2.2g/100g fat AA: Trace Arm 2: Formula A Description: DHA-containing formula Brand name: Farley's First MIlk Manufacturer: HJ Heinz UK Blinding: not reported ALA: 1.2g/100gm DHA: 0.5g/100gm AA: Trace Arm 3: Human milk Description: Breast milk Active ingredients: Linoleic acid: 10.85 gm/100gm fat ALA: 1.03gm/100g fat DHA: 0.25 gm/100gm fat AA: 0.46 gm/100g fat	development Outcome: brainstem auditory evoked potentials: interpeak latency I-III (Unspecified) Follow-up time: 16 weeks Arm 1: Sample size 22; mean decrease 0.25; SD (0.14) Arm 2: Sample size 22; mean decrease 0.34; SD (0.16) Outcome: brainstem auditory evoked potentials: interpeak latency I-V (Unspecified) Follow-up time: 16 weeks Arm 1: Sample size 22; mean decrease 0.33; SD (0.16) Arm 2: Sample size 22; mean decrease 0.47; SD (0.2) Outcome: brainstem auditory evoked potentials: interpeak latency III-V (Unspecified) Follow-up time: 16 weeks Arm 1: Sample size 22; mean decrease 0.08; SD (0.07) Arm 2: Sample size 22; mean decrease 0.14; SD (0.1) Outcome: brainstem auditory evoked potentials: wave I (Unspecified) Follow-up time: 16 weeks Arm 1: Sample size 22; mean decrease 0.27; SD (0.14) Arm 2: Sample size 22; mean decrease 0.35; SD (0.13) Outcome: brainstem auditory evoked potentials: wave III (Unspecified) Follow-up time: 16 weeks Arm 1: Sample size 22; mean decrease

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				0.52; SD (0.15) Arm 2: Sample size 22; mean decrease 0.69; SD (0.16) Outcome: brainstem auditory evoked potentials: wave V (Unspecified) Follow-up time: 16 weeks Arm 1: Sample size 22; mean decrease 0.6; SD (0.11) Arm 2: Sample size 22; mean decrease 0.83; SD (0.18)
Werkman et al., 1996[154] Study name: NR Study dates: 1987-1990 Study design: Trial randomized parallel Location: US Funding source / conflict: Government, Manufacturer supplied product Study follow-up: 12 months	Study Population: Preterm infants Infants enrolled 67 Infants completers 64 Mother age: 23 y (6 y) Infant age: Born at 29 wks gestation (2 wks) Race of Mother: NR (100)	Inclusion Criteria: Preterm infants weighing between 748 and 1398 g at birth. They were eligible for this study when they had tolerated enteral intakes > 462 kJ/kg body weight/day for 5-7 days Exclusion Criteria: Need for mechanical ventilation at that time, intraventricular hemorrhage > grade 2, retinopathy of prematurity > stage 2, surgery for necrotizing enterocolitis, a weight less than the fifth percentile for gestational age, and a history of maternal substance abuse	Start time: Infants 25 days Duration: Infants 25 days - 9 months Arm 1: Placebo term and pre-term infant formulas Active ingredients: n-6: 19.1-33.2% of total FA Dose: Formula remained the infants' major source of nutrients and energy through at least 9 mo past expected term, but other foods were gradually added to the diet beginning at -4 mon past term Blinding: NR Total N-3: Preterm: 3% of total FA; term: 4.8% of total FA Arm 2: DHA-supplemented term and pre-term infant formulas Description: Marine oil replaced fat blend in commercial formulas Brand name: Similac Manufacturer: Ross Products Division Active ingredients: 18.7-32.6% of total FA Dose: Formula remained the infants' major source of nutrients and energy through at least	Outcome domain: Cognitive development Outcome: Fagan Test of Intelligence: average time/look (seconds) (Unspecified) Follow-up time: 12 months Arm 1: Sample size 34; mean 1.18; SD (0.05) Arm 2: Sample size 33; mean 1.11; SD (0.05) Follow-up time: 6.5 months Arm 1: Sample size 34; mean 1.75; SD (0.06) Arm 2: Sample size 33; mean 1.62; SD (0.06) Follow-up time: 9 months Arm 1: Sample size 34; mean 1.3; SD (0.06) Arm 2: Sample size 33; mean 1.13; SD (0.05) Outcome: Fagan Test of Intelligence: looks to familiar (number) (Unspecified) Follow-up time: 12 months Arm 1: Sample size 34; mean 18.8; SD (0.8) Arm 2: Sample size 33; mean 21.7; SD (0.8)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
			9 mo past expected term, but other foods were gradually added to the diet beginning at -4 mon past term ALA: Preterm: 3.1% of total FA; Term: 4.9% of total FA DHA: 0.2% of total FA EPA: 0.3% of total FA Other dose 1: Preterm: 3.6% of total FA; term: 5.4% of total FA	Follow-up time: 6.5 months Arm 1: Sample size 34; mean 18.8; SD (1) Arm 2: Sample size 33; mean 22.1; SD (1) Follow-up time: 9 months Arm 1: Sample size 34; mean 18.2; SD (0.9) Arm 2: Sample size 33; mean 21.4; SD (0.9) Outcome: Fagan Test of Intelligence: looks to novel (number) (Unspecified) Follow-up time: 12 months Arm 1: Sample size 34; mean 23.6; SD (0.8) Arm 2: Sample size 33; mean 26.0; SD (0.8) Follow-up time: 6.5 months Arm 1: Sample size 34; mean 22.2; SD (1) Arm 2: Sample size 33; mean 26.0; SD (1) Follow-up time: 9 months Arm 1: Sample size 34; mean 22.1; SD (0.9) Arm 2: Sample size 33; mean 25.2; SD (0.8) Outcome: Fagan Test of Intelligence: novel time (% of total) (Unspecified) Follow-up time: 12 months Arm 1: Sample size 34; mean 64.6; SD (1.2) Arm 2: Sample size 33; mean 60.5; SD (1.3) Follow-up time: 6.5 months Arm 1: Sample size 34; mean 60.4; SD (1.4) Arm 2: Sample size 33; mean 59.8; SD (1.3) Follow-up time: 9 months

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Arm 1: Sample size 34; mean 62.2; SD (1.2) Arm 2: Sample size 33; mean 62.2; SD (1.2) Outcome: Fagan Test of Intelligence: time to familiar (seconds) (Unspecified) Follow-up time: 12 months Arm 1: Sample size 34; mean 16.3; SD (0.8) Arm 2: Sample size 33; mean 19.3; SD (0.9) Follow-up time: 6.5 months Arm 1: Sample size 34; mean 26.6; SD (1.1) Arm 2: Sample size 33; mean 26.6; SD (1.1) Follow-up time: 9 months Arm 1: Sample size 34; mean 18.2; SD (1) Arm 2: Sample size 33; mean 18.3; SD (0.9) Outcome: Fagan Test of Intelligence: time to novel (seconds) (Unspecified) Follow-up time: 12 months Arm 1: Sample size 34; mean 32.6; SD (1.2) Arm 2: Sample size 33; mean 31.9; SD (1.2) Follow-up time: 6.5 months Arm 1: Sample size 34; mean 45.3; SD (1.5) Arm 2: Sample size 33; mean 45.9; SD (1.5) Follow-up time: 9 months Arm 1: Sample size 34; mean 32.9; SD (1.3) Arm 2: Sample size 33; mean 32.6; SD

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(1.3) Outcome: Fagan Test of Intelligence: time/familiar look (seconds) (Unspecified) Follow-up time: 12 months Arm 1: Sample size 34; mean 0.85; SD (0.05) Arm 2: Sample size 33; mean 0.91; SD (0.05) Follow-up time: 6.5 months Arm 1: Sample size 34; mean 1.42; SD (0.06) Arm 2: Sample size 33; mean 1.31; SD (0.06) Follow-up time: 9 months Arm 1: Sample size 34; mean 1.04; SD (0.06) Arm 2: Sample size 33; mean 0.91; SD (0.05) Outcome: Fagan Test of Intelligence: time/novel look (seconds) (Unspecified) Follow-up time: 12 months Arm 1: Sample size 34; mean 1.43; SD (0.07) Arm 2: Sample size 33; mean 1.27; SD (0.07) Follow-up time: 6.5 months Arm 1: Sample size 34; mean 2.03; SD (0.09) Arm 2: Sample size 33; mean 1.88; SD (0.08) Follow-up time: 9 months Arm 1: Sample size 34; mean 1.51; SD (0.08) Arm 2: Sample size 33; mean 1.33; SD (0.07) Outcome: Fagan Test of Intelligence: total

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				looks (number) (Unspecified) Follow-up time: 12 months Arm 1: Sample size 34; mean 42.4; SD (1.3) Arm 2: Sample size 33; mean 47.7; SD (1.4) Follow-up time: 6.5 months Arm 1: Sample size 34; mean 41.0; SD (1.7) Arm 2: Sample size 33; mean 48.2; SD (1.7) Follow-up time: 9 months Arm 1: Sample size 34; mean 40.3; SD (1.5) Arm 2: Sample size 33; mean 47.0; SD (1.5) Outcome: Fagan Test of Intelligence: total time (seconds) (Unspecified) Follow-up time: 12 months Arm 1: Sample size 34; mean 48.9; SD (1.4) Arm 2: Sample size 33; mean 51.2; SD (1.4) Follow-up time: 6.5 months Arm 1: Sample size 34; mean 72.0; SD (1.8) Arm 2: Sample size 33; mean 72.6; SD (1.7) Follow-up time: 9 months Arm 1: Sample size 34; mean 51.1; SD (1.6) Arm 2: Sample size 33; mean 50.9; SD (1.5) Outcome domain: Visual function Outcome: number of total looks

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				(Unspecified) Follow-up time: 12 months Arm 1: Sample size 34; mean 38.4; SD (1.6) Arm 2: Sample size 33; mean 38.9; SD (1.7) Follow-up time: 6.5 months Arm 1: Sample size 34; mean 52.6; SD (2.1) Arm 2: Sample size 33; mean 56.3; SD (2) Follow-up time: 9 months Arm 1: Sample size 34; mean 39.1; SD (1.8) Arm 2: Sample size 33; mean 42.0; SD (1.8) Outcome: time/total looks (seconds) (Unspecified) Follow-up time: 12 months Arm 1: Sample size 34; mean 1.39; SD (0.06) Arm 2: Sample size 33; mean 1.34; SD (0.06) Follow-up time: 6.5 months Arm 1: Sample size 34; mean 2.01; SD (0.08) Arm 2: Sample size 33; mean 1.84; SD (0.07) Follow-up time: 9 month
Willatts et al., 2013[170] Study name: NR Study dates: 1992 Study design: Trial	Study Population: Healthy infants Infants enrolled 237 Infants completers 147 Infant age: birth	Inclusion Criteria: Healthy term singletons, 37-42 weeks gestation, 2500-4000g birthweight	Start time: Infants Birth to 1 week Duration: Infants 4 months Arm 1: Non-LC-PUFA Description: Control formula lacking LCPUFA Manufacturer: Milupa GmbH	Outcome domain: Cognitive development Outcome: Wechsler Preschool and Primary Scale of Intelligence: Full-Scale IQ (Secondary) Follow-up time: 6 year Arm 1: Sample size 76; mean 100.9; SD (16.2)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
randomized parallel Location: Italy, UK, Belgium Funding source / conflict: Industry Study follow-up: 6 years	Race of Mother: NR (100)	Exclusion Criteria: NR	Viability: g/100 g fat Dose: NR Blinding: NR ALA: 0.7 DHA: 0 AA: <0.10 Arm 2: LC-PUFA formula Manufacturer: Milupa GmbH Dose: NR ALA: 0.62 g/100g fat DHA: 0.21 g/100g fat AA: 0.35 g/100g fat	Arm 2: Sample size 71; mean 98.0; SD (14.8) Outcome: Wechsler Preschool and Primary Scale of Intelligence: Performance IQ (Secondary) Follow-up time: 6 year Arm 1: Sample size 76; mean 101.3; SD (15.5) Arm 2: Sample size 71; mean 99.6; SD (13.6) Outcome: Wechsler Preschool and Primary Scale of Intelligence: Verbal IQ (Secondary) Follow-up time: 6 year Arm 1: Sample size 76; mean 100.2; SD (16.4) Arm 2: Sample size 71; mean 97.3; SD (17.5)
Zhou et al., 2012[55] Study name: DOMInO Study dates: 10. 2005 - 01. 2008 Study design: Trial randomized parallel Location: Australia Funding source / conflict: Government, Multiple foundations and Societies, Manufacturer supplied product	Study Population: Healthy pregnant women Pregnant enrolled 2399 Race of Mother: White European (88%;88%) Asian (7%;8%) Inuit Eskimo (2%;1%) Other race/ethnicity (NR)	Inclusion Criteria: NR Exclusion Criteria: If already taking a dietary supplement containing DHA, their fetus had a known major abnormality, they had a bleeding disorder for which fish oil was contraindicated, they were receiving anticoagulant therapy, they had a documented history of drug or alcohol abuse,	Start time: Pregnant medium gestational age 19 weeks Duration: Pregnant birth Arm 1: control Description: 500-mg vegetable oil capsules Dose: 3*500mg 3 non-genetically modified oils (rapeseed, sunflower, and palm) in equal proportions Blinding: All capsules were similar in size, shape, and color Arm 2: DHA Description: DHA-rich fish oil Manufacturer: Incromega 500 TG; Croda Chemicals	Outcome domain: Birth weight Outcome: birth weight (g) (Secondary) Follow-up time: birth Arm 1: Sample size 1202; mean 3407.0; SD (576) Arm 2: Sample size 1197; mean 3475.0; SD (564) Outcome domain: Gestational hypertension preeclampsia eclampsia Outcome: preeclampsia (Secondary) Follow-up time: during pregnancy Arm 1: 58/1202 (4.85%) Arm 2: 60/1197 (4.97%) Outcome: pregnancy induced hypertension (Secondary) Follow-up time: during pregnancy

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Original, same study, or follow-up studies: Makrides, 2010[35]; Smithers, 2011[53]; Palmer, 2012[54]; Palmer, 2013[56]; Makrides, 2014[57]		they were participating in another fatty acid trial, or English was not the main language spoken at home	Dose: 3*500mg capsule DHA: 800 mg EPA: 100 mg	Arm 1: 107/1202 (8.88%) Arm 2: 98/1197 (8.18%) Outcome domain: Infants born small gestational age Outcome: SGA for weight (Secondary) Follow-up time: birth Arm 1: 82/1202 (6.83%) Arm 2: 73/1197 (6.13%) Outcome domain: LBW Outcome: birthweight <2500g (Secondary) Follow-up time: birth Arm 1: 63/1202 (5.27%) Arm 2: 41/1197 (3.41%)
de Jong et al., 2010[64] Study name: Groningen LCPUFA study Study dates: 1997-2008 Study design: Trial randomized parallel Location: Netherlands Funding source / conflict: Government Study follow-up: 9 years Original, same study, or follow-up studies: Bouwstra, 2003[62];	Study Population: Healthy infants Infants enrolled 474 Infants completers 341 Infant age: Gestational age 39.6 wk (1.3 weeks) NR Race of Mother: White European (100)	Inclusion Criteria: healthy term infants Exclusion Criteria: Infants who had a congenital disorder that interfered with adequate functioning in daily life, infants from multiple births, infants whose mothers did not have mastery of the Dutch language or suffered from significant illness or disability, adopted and foster infants, and formula-fed infants who had received human milk for >5 d.	Start time: Infants birth Duration: NR Arm 1: control group Description: standard formula Manufacturer: Zoetermeer, Netherlands Active ingredients: linoleic acid (11mol%); ALA 1.27 mol% Blinding: NR Arm 2: Omega 3 group Description: LCPUFA formula Brand name: Nutrilon Premium Manufacturer: Nutricia, Zoetermeer, The Netherlands Dose: NR DHA: 0·30 % (by weight) AA: 0·45 % (by weight)	Outcome domain: Neurological development Outcome: Touwen examination: neurologically normal (Unspecified) Follow-up time: 9 years Arm 1: 56/123 (46.0%) Arm 2: 44/91 (48.0%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
Bouwstra, 2005[63]; de Jong, 2012[65]; van Goor, 2010[36]; Goor, 2011[66]			Arm 3: Breast fed group Description: Breast feeding only - no formula	

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
de Jong et al., 2012[65] Study name: Groningen LCPUFA study Study dates: Enrollment from February 1997 through October 1999, follow-up 9 years later Study design: Trial randomized parallel Location: Netherlands Funding source / conflict: Industry, Government, Some authors have received research funding from infant formula manufacturers Study follow-up: 9 years Original, same study, or follow-up studies: Bouwstra, 2003[62]; Bouwstra, 2005[63]; de Jong, 2010[64]; van Goor, 2010[36]; Goor, 2011[66]	Study Population: Healthy infants Infants enrolled 314 Infants completers 214 Mother age: 31 years (5 years) NR Infant age: birth (NA) NA Race of Mother: White European (100%)	Inclusion Criteria: healthy infants Exclusion Criteria: infants who had a congenital disorder that interfered with adequate functioning in daily life, infants from multiple births, infants whose mothers did not have mastery of the Dutch language or suffered from significant illness or disability, adopted and foster infants, and formula-fed infants who had received human milk for >5 d.	Start time: Infants birth Duration: Infants 2 months Arm 1: Control formula Description: Standard formula with no supplemental LCPUFA Brand name: Nutrilon premium Manufacturer: Nutricia, Zoetermeer, Netherlands Active ingredients: linoleic acid (11mol%); ALA 1.27 mol% Blinding: NR Maternal conditions Current smoker 23% during pregnancy Other maternal conditions 1arm_1_maternal_conditions_other1 Other maternal conditions 10 maternal hypertension 17% Arm 2: Omega 3 supplemented formula Description: LCPUFA formula Manufacturer: Nutricia, Zoetermeer, Netherlands Active ingredients: linoleic acid (11mol%); ALA 1.30 mol% Maternal conditions DHA: 0.30% by weight AA: 0.45% by weight Current smoker 32% during pregnancy Other maternal conditions 1arm_2_maternal_conditions_other1 Other maternal conditions 10 maternal hypertension 12%	Outcome domain: Cognitive development Reason results are not reported: No usable data. Outcome: (Secondary)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
			Arm 3: breastfeeding comparison group Maternal conditions Current smoker 10% during pregnancy Other maternal conditions 1arm_3_maternal_conditions_other1 Other maternal conditions 10 maternal hypertension 9%	
van Goor et al., 2010[36] Study name: Groningen LCPUFA study Study dates: Enrollment from December 2004 until December 2006 Study design: Trial randomized parallel Location: Netherlands Funding source / conflict: Industry, Government Study follow-up: 12 weeks Original, same study, or follow-up studies: Bouwstra, 2003[62]; Bouwstra, 2005[63]; de Jong, 2010[64]; de Jong, 2012[65]; Goor, 2011[66]	Study Population: Healthy pregnant women Breast-feeding women Pregnant enrolled 183 Pregnant completers 125 Infants completers 119 Pregnant age: 32 years (5 years) Infant age: 14 to 20 weeks gestation Race of Mother: NR (100)	Inclusion Criteria: healthy women with a first or second low-risk singleton pregnancy Exclusion Criteria: women with vegetarian or vegan diets and women with diabetes mellitus	Start time: Pregnant 14 to 20 weeks gestation Infants 14 to 20 weeks gestation Duration: Pregnant until 3 months after delivery Infants until 3 months of age Arm 1: placebo Description: soybean oil capsule Manufacturer: Wuhan Alking Bioengineering Active ingredients: standard dose vitamins and minerals Dose: 2 capsules Maternal conditions ALA: 60 mg DHA: 0 EPA: 0 AA: 0 Other dose 1: LA 535 mg Current smoker 2% Arm 2: DHA group Description: DHA fish oil capsule Manufacturer: Wuhan Alking Bioengineering Active ingredients: standard dose vitamins and minerals Dose: 2 capsules Maternal conditions ALA: 32 mg	Outcome domain: Neurological development Outcome: general movements: number definitely abnormal (Secondary) Follow-up time: 12 weeks Arm 1: 0/36 (0.0%) Arm 2: 1/42 (2.38%) Arm 3: 0/41 (0.0%) Follow-up time: 2 weeks Arm 1: 1/36 (2.78%) Arm 2: 0/42 (0.0%) Arm 3: 0/41 (0.0%) Outcome: general movements: number mildly abnormal (Secondary) Follow-up time: 12 weeks Arm 1: 11/36 (30.56%) Arm 2: 25/42 (59.52%) Arm 3: 14/41 (34.15%) Follow-up time: 2 weeks Arm 1: 11/36 (30.56%) Arm 2: 20/42 (47.62%) Arm 3: 15/41 (36.59%) Outcome: general movements: number normal optimal (Secondary) Follow-up time: 12 weeks Arm 1: 2/36 (5.56%) Arm 2: 0/42 (0.0%) Arm 3: 1/41 (2.44%)

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
			DHA: 220 mg EPA: 34 mg AA: 15 mg Other dose 2: LA 274 mg Current smoker 2% Arm 3: DHA + AA group Description: DHA + AA capsule Brand name: Marinol D40 Manufacturer: Lipid Nutrition B.V., Wormerveer, The Netherlands Active ingredients: standard dose vitamins and minerals Dose: 2 capsules Maternal conditions ALA: 7 mg DHA: 220 mg EPA: 36 mg AA: 220 mg Other dose 2: LA 46 mg Current smoker 3%	Follow-up time: 2 weeks Arm 1: 1/36 (2.78%) Arm 2: 0/42 (0.0%) Arm 3: 1/41 (2.44%) Outcome: general movements: number normal suboptimal (Secondary) Follow-up time: 12 weeks Arm 1: 23/36 (63.89%) Arm 2: 16/42 (38.1%) Arm 3: 26/41 (63.41%) Follow-up time: 2 weeks Arm 1: 19/36 (52.78%) Arm 2: 17/42 (40.48%) Arm 3: 22/41 (53.66%) Outcome: neonatal neurological classification: number definitely abnormal (Secondary) Follow-up time: 2 weeks Arm 1: 0/36 (0.0%) Arm 2: 0/42 (0.0%) Arm 3: 0/41 (0.0%) Outcome: neonatal neurological classification: number mildly abnormal (Secondary) Follow-up time: 2 weeks Arm 1: 7/36 (19.44%) Arm 2: 6/42 (14.29%) Arm 3: 8/41 (19.51%) Outcome: neonatal neurological classification: number normal (Secondary) Follow-up time: 2 weeks Arm 1: 28/36 (77.78%) Arm 2: 35/42 (83.33%) Arm 3: 33/41 (80.49%) Outcome domain: duration of gestation

Author, Year, Study, Location, Funding Source, Follow-up	Population and participant information	Inclusion and Exclusion Criteria	Start time, Duration, Arms	Results
				Outcome: gestational age birth (weeks) (Secondary) Follow-up time: birth Arm 1: Sample size 36; mean 40.2; SD (1) Arm 2: Sample size 42; mean 40.2; SD (1.1) Arm 3: Sample size 41; mean 40.2; SD (1.1)