

Table S1 Search strategy

| #  | PubMed  |           |
|----|---|-----------|
| #1 | Search: "Infant, Premature"[Mesh]   | 67,258    |
| 2  | Search: Premature Birth"[Mesh]  | 23,140    |
| 3  | Search: ((((((((((((((Birth, Premature[Title/Abstract]) OR (Births, Premature[Title/Abstract])) OR (Premature Births[Title/Abstract])) OR (Preterm Birth[Title/Abstract])) OR (Birth, Preterm[Title/Abstract])) OR (Births, Preterm[Title/Abstract])) OR (Preterm Births[Title/Abstract])) OR (Infants, Premature[Title/Abstract])) OR (Premature Infant[Title/Abstract])) OR (Premature Infants[Title/Abstract])) OR (Preterm Infants[Title/Abstract])) OR (Infant, Preterm[Title/Abstract])) OR (Infants, Preterm[Title/Abstract])) OR (Preterm Infant[Title/Abstract])) OR (Neonatal Prematurity[Title/Abstract])) OR (Prematurity, Neonatal[Title/Abstract])) OR (Premie*[Title/Abstract])) OR (premie[Title/Abstract])) OR (premies[Title/Abstract])) OR (Prematur* birth[Title/Abstract])) OR (Prematur* deliver*[Title/Abstract])) | 86,743    |
| 4  | #1 or #2 or #3  | 122,038   |
| 5  | Search: "Infant, Low Birth Weight"[Mesh]  | 39,764    |
| 6  | Search: ((((((((((((((Birth Weight, Low[Title/Abstract]) OR (Low-Birth-Weight Infant[Title/Abstract])) OR (Infant, Low-Birth-Weight[Title/Abstract])) OR (Low Birth Weight[Title/Abstract])) OR (Birth Weight, Low[Title/Abstract])) OR (Infant, Extremely Low Birth Weight[Title/Abstract])) OR (Infant, Very Low Birth Weight[Title/Abstract])) OR (VLBW[Title/Abstract])) OR (ELBW[Title/Abstract])) OR (LBW[Title/Abstract]))   | 36,544    |
| 7  | #5 or #6  | 57,461    |
| 8  | #4 or #7  | 155,325   |
| 9  | Search: ("Docosahexaenoic Acids"[Mesh]) OR "Fatty Acids, Omega-3"[Mesh]   | 30,199    |
| 10 | Search: ((((((((((((((Omega 3[Title/Abstract]) OR (Docosahexenoic Acids[Title/Abstract])) OR (Docosahexaenoate[Title/Abstract])) OR (n 3 fatty acid[Title/Abstract])) OR (n 3 Oil[Title/Abstract])) OR (n3 Oil[Title/Abstract])) OR (Docosahexaenoic Acid*[Title/Abstract])) OR (Polyunsaturated Fatty Acid*[Title/Abstract])) OR (polyunsaturated FA[Title/Abstract])) OR (alga* oil[Title/Abstract])) OR (essential fatty acid*[Title/Abstract])) OR (fish oil[Title/Abstract])) OR (DHA[Title/Abstract]))  | 70,361    |
| 11 | #9 or #10   | 76,053    |
| 12 | Search: ((((((((((((((Randomized controlled trial[Publication Type]) OR (controlled clinical trial[Publication Type])) OR (Random[Title/Abstract])) OR (Randomized[Title/Abstract])) OR (Randomly[Title/Abstract])) OR (Randomize[Title/Abstract])) OR (Randomization[Title/Abstract])) OR (Placebo[Title/Abstract])) OR (Random*[Title/Abstract])) OR (groups[Title/Abstract]))  | 3,994,075 |
| 13 | #8 and #11 and #12  | 555       |

Web of science

|    |  |           |
|----|--|-----------|
| #1 | (((TS=("Infant, Premature")) OR TS=("Premature Birth")) OR TS=("Birth, Premature")) OR TS=("Preterm Birth")) OR TS=("Premature")) OR TS=("Premature Infant")) OR TS=("Preterm Infants")) OR TS=("Preterm Infant")) OR TS=("Preterm")) OR TS=("low birth weight")) OR TS=("LBW")) OR TS=("VLBW")) OR TS=("ELBW")) | 259165    |
| #2 | (((TS=("Omega 3")) OR TS=("n 3 fatty acid")) OR TS=("n 3 Oil")) OR TS=("n3 Oil")) OR TS=("Polyunsaturated Fatty Acid\$")) OR TS=("Polyunsaturated FA")) OR TS=("Docosahexaenoic Acid\$")) OR TS=("alga* oil")) OR TS=("essential fatty acid\$")) OR TS=("DHA"))  | 89968     |
| #3 | #1 and #2  | 1,925     |
| #4 | (((TS=("Randomized controlled trial")) OR TS=("Random")) OR TS=("Randomized")) OR TS=("Randomly")) OR TS=("Randomize")) OR TS=("Randomization")) OR TS=("Placebo")) OR TS=("Random*"))   | 2,384,408 |
| #5 | #3 and #4  | 678       |

Embase

|    |  |         |
|----|--|---------|
| 12 | #10 NOT #11  | 470     |
| 11 | 'update review':ab OR 'rat':ti,ab OR 'rats':ti,ab OR 'mouse':ti,ab OR 'mice':ti,ab OR 'swine':ti,ab OR 'sheep':ti,ab OR 'rabbit':ti,ab OR 'systematic review':ti,ab  | 4346928 |
| 10 | #3 AND #6 AND #9   | 523     |
| 9  | #7 OR #8   | 2454087 |
| 8  | 'controlled clinical trial':ti,ab OR 'random':ti,ab OR 'randomized':ti,ab OR 'randomly':ti,ab OR 'randomize':ti,ab OR 'randomization':ti,ab OR 'placebo':ti,ab OR 'random*':ti,ab OR 'double blind':ti,ab  | 2228992 |
| 7  | 'randomized controlled trial'/exp OR 'randomized controlled trial'   | 1124333 |
| 6  | #4 OR #5   | 78607   |
| 5  | 'omega 3':ti,ab OR 'n 3 fatty acid':ti,ab OR 'n 3 oil':ti,ab OR 'n3 oil':ti,ab OR 'polyunsaturated fatty acid\$':ti,ab OR 'polyunsaturated fa':ti,ab OR 'docosahexaenoic acid\$':ti,ab OR 'alga* oil':ti,ab OR 'essential fatty acid\$':ti,ab OR 'dha':ti,ab   | 55406   |
| 4  | 'docosahexaenoic acid'/exp OR 'docosahexaenoic acid' OR 'omega 3 fatty acid'/exp OR 'omega 3 fatty acid'   | 60624   |
| 3  | #1 OR #2   | 239856  |
| 2  | 'premature infant\$':ti,ab OR 'preterm infant\$':ti,ab OR 'premature birth\$':ti,ab OR 'preterm birth\$':ti,ab OR 'birth, premature':ti,ab OR 'birth, preterm':ti,ab OR 'neonatal prematurity':ti,ab OR 'prematur* birth':ti,ab OR 'prematur* deliver*':ti,ab OR 'premie':ti,ab OR 'birth weight, low':ti,ab OR 'extremely low birth weight':ti,ab OR 'very low birth weight':ti,ab OR 'vlbw':ti,ab OR 'elbw':ti,ab OR 'lbw':ti,ab | 78072   |
| 1  | 'prematurity'/exp OR 'prematurity' OR 'low birth weight'/exp OR 'low birth weight' OR 'very low birth weight'/exp OR 'very low birth weight'   | 218640  |

Cochrane Central Register of Controlled Trials

|    |   |       |
|----|---|-------|
| #1 | MeSH descriptor: [Infant, Premature] explode all trees  | 5864  |
| #2 | MeSH descriptor: [Premature Birth] explode all trees  | 2512  |
| #3 | MeSH descriptor: [Infant, Low Birth Weight] explode all trees   | 3051  |
| #  | #1 OR #2 OR #3  | 9781  |
| 5  | (Birth, Premature):ti,ab,kw OR (Births, Premature):ti,ab,kw OR (Premature Births):ti,ab,kw OR (Premature Birth*):ti,ab,kw OR (Birth, Preterm):ti,ab,kw OR (Premature Infant*):ti,ab,kw OR (preterm infant*):ti,ab,kw OR (preterm birth*):ti,ab,kw OR (Neonatal Prematurity):ti,ab,kw OR (Premie*):ti,ab,kw OR (premie):ti,ab,kw OR (Prematur* birth):ti,ab,kw OR (Prematur* born):ti,ab,kw OR (Low-Birth-Weight Infant):ti,ab,kw OR (Birth Weight, Low):ti,ab,kw OR (Birth Weights, Low):ti,ab,kw OR (LBW):ti,ab,kw OR (VLBW):ti,ab,kw OR (ELBW):ti,ab,kw | 25505 |
| 6  | #4 OR #5  | 25695 |
| 7  | MeSH descriptor: [Docosahexaenoic Acids] explode all trees  | 1676  |
| 8  | MeSH descriptor: [Fatty Acids, Omega-3] explode all trees   | 4468  |
| 9  | #7 OR #8  | 4468  |
| 10 | (Omega 3):ti,ab,kw OR (Docosahexenoic Acids):ti,ab,kw OR (Docosahexaenoate):ti,ab,kw OR (n 3 fatty acid):ti,ab,kw OR (n 3 Oil):ti,ab,kw OR (n3 Oil):ti,ab,kw OR (Docosahexaenoic Acid*):ti,ab,kw OR (Polyunsaturated Fatty Acid*):ti,ab,kw OR (polyunsaturated FA):ti,ab,kw OR (alga* oil):ti,ab,kw OR (essential fatty acid*):ti,ab,kw OR (DHA):ti,ab,kw   | 14660 |
| 11 | #9 OR #10   | 14927 |
| 12 | #6 AND #11  | 673   |
| 13 | Trials results only   |       |