| **Supplementary Table S1. Studies included in meta-analysis of maternal depression and child cognitive development** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Study** | **Country, Study Type, Sample Size** | **Measure of Maternal Depressiona** | **Measure of Cognitive Developmentb** | **Domain/Subscale of Outcome Measurement** | **Results Used in Analysis** | **Confounding** |
| Black et al (2007) | Bangladesh, prospective cohort;  *n*= 346 mother-child pairs | Categorical  Maternal postnatal depression using the CES-D (>16) at 12 months postpartum | BSID-II at 12 months | Raw scores for the mental and motor scales were converted to age-normed MDI scores (standardized, μ=100, SD=15) | Exposed group (μ=90.88889, SD=4.807999) and unexposed group (μ=91.17143, SD=4.344442)  Adjusted B = -0.18, SE=0.63 | Adjusted for MDI score at 6 months, income, parental education, gender, birth order, hemoglobin, iron, zinc, weight-for-age and height-for-age at 6 months and change to 12 months, and breast fed. |
| Cornish et al (2005) | Australia, prospective cohort;  *n=*73 mother-child pairs | Maternal postnatal depression using the CES-D (>16) and CIDI at 15 months postpartum | BSID-II at 15 months | MDI (standardized, μ=100, SD=15) | Exposed group (μ=94.6, SD=10.9) and unexposed group (μ=100.4, SD=10.8) | N/A |
| Cicchetti et al (1997) | US, cross-sectional; *n*=134 mother-toddler pairs | Maternal postnatal depression using the DIS-III-R and BDI at 21 months postpartum | BSID at 21 months | MDI | Exposed group (μ= 111.4, SD=17.8) and unexposed group (μ=108.8, SD= 17.3) | N/A |
| Conroy et al (2012) | UK, prospective cohort; *n*=132 mother-child pairs | Maternal postpartum depression using the SCID-I NP at 6 weeks postpartum | BSID-II at 18 months | MDI (standardized, μ=100, SD=15) | Exposed group (μ=87.62, SD=20.2) and unexposed group (μ=94.3, SD=16.8)  Adjusted B = -7.26, SE= 2.95, CI (-13.04, -1.47) | Adjusted for occupational status, ethnicity, partner status, maternal depression at 18 months, infant gender and sensitivity |
| Hanley et al (2013) | Canada, prospective cohort;  *n*= 83 mother-child pairs | Maternal postnatal depressed mood using the EPDS (>13) and the clinician-rated HAM-D (>14) at 10 months postpartum | BSID-III at 10 months | Cognitive subscale | Exposed group (μ=11.5, SD=2.1) and unexposed group (μ=11, SD=2.3) | N/A |
| Husain et al (2012) | UK, prospective cohort; *n*= 147 child-mother pairs | Maternal antenatal depression using the EPDS (>12) and SCAN during the third trimester of pregnancy | BSID-III at 6 months | Cognitive subscale (standardized, μ=100, SD=15) | Exposed group (μ= 93.8, SD=10.4) and unexposed group (μ=96.2, SD=9.6) | N/A |
| Hay and Kumar (1994) | UK, prospective cohort; *n*=92 mother-child pairs | Maternal postpartum depression through clinical diagnosis by psychiatrist using the RDC at 1st year after birth | MSCA at 4 years of age | GCI (standardized, μ= 100, SD=15) | Exposed group (μ=105.1, SD=14.5) and unexposed group (μ=114.8, SD=12) | N/A |
| Kurstjens and Wolke (2001)c | Germany, prospective cohort; *n*= 737 mother-child pairs | Maternal postpartum depression using the SADS (>2) and RDCS for DSM-IV diagnosis after the first year of the child’s life | CMM at 4 years and 8 months | Standardized (μ=100, SD=15) | Exposed group (μ= 97.1, SD=16.3) and unexposed group (μ=97.0, SD=20.7) | N/A |
| Koutra et al (2013) | Greece, prospective cohort;  *n*=223 mother-child pairs | Categorical  Maternal postnatal depressed mood using the EPDS (>13) at 8 weeks postpartum | BSID-III at 18 months | Cognitive scale (standardized, μ=100, SD=15) | Exposed group (μ=94.9, SD=13.86) and unexposed group (μ=100.6, SD=14.23)  Adjusted B = -5.64, SE= 2, CI (-9.56, -1.72) | Adjusted for maternal age, maternal education, gestational age, quality of assessment, child gender, breastfeeding duration |
| Milgrom et al (2004) | Australia, prospective cohort;  *n*=56 mother-child pairs | Maternal postnatal depression through clinical diagnosis by psychiatrist and the HAM-D at 42 months postpartum | ESP at 42 months | Cognitive/Language profile was used including 4 subtests | Exposed group (μ=115.9, SD=8.4) and unexposed group (μ=121.3, SD=13.0) | N/A |
| Otake et al (2013) | Japan, prospective cohort;  *n*= 154 mother-child pairs | Maternal antenatal depression using the EPDS (>9) between the second and third trimesters | BSID-II at 6 months | MDI (scores 50-100) | Exposed group (μ= 90.2, SD=4.3) and unexposed group (μ=91.0, SD=5.8) | N/A |
| Pound (2005) | US, cross-sectional; *n*=59 mother-child pairs | Maternal postpartum depression using the EPDS (>12) and BDI (>13)at 4-8 months postpartum | BSID-III at 4-8 months | Mental subscale | Exposed group (μ=92.1, SD=15.2) and unexposed group (μ=98.0, SD=8.6) | N/A |
| Patel et al (2003) | Goa, India, prospective cohort; n=89 mother-child pairs | Maternal postpartum depression using the EPDS (≥ 11/12) at 6-8 weeks after childbirth | DASII at 6 months | Mental developmental quotients | Exposed group (μ=86.4, SD=7.19) and unexposed group (μ=90.3, SD=9.00) |  |
| Sutter-Dallay et al (2011) | France, prospective cohort;  *n*=598 mother-child pairs | Categorical  Maternal depressive symptoms using the EPDS (>12) at 6 weeks after delivery | BSID-II at 24 months | MDI (scores from 50 to 150) | Exposed group (μ=97.6, SD=15.6) and unexposed group (μ=102.8, SD=14.9)  Adjusted B = -1.05, CI=(-4.09, 1.98) | Adjusted for maternal age, education level, income, parity, infant gender |

1. Unless specified, measures of maternal depression were categorical. If a study assessed depressive symptoms at several time points, we used the postnatal assessment with the longest follow-up time. When a study used more than one measure to screen depressive symptoms among the study sample, we gave priority to the measures that were more commonly used in the literature.

b. Since only a few studies assessed any specific aspect of cognitive development, we focused on the general cognitive development as our outcome of interest.

c. Recruited as a subsample of 1329 mothers and their singleton offspring who were randomly selected from the total sample within the stratification variables: gender, SES, and neonatal risk, and assessed at 4 years and 8 months. 1011 out of the 1329 children (76.1%) were admitted to special care baby units within the first 10 days of life in South Bavaria and others were cared for on regular postnatal wards.

BSID, Bayley Scales of Infant Development; CES-D, Center for Epidemiologic Studies Depression Scale; DIS, Diagnostic Interview Schedule; EPDS, Edinburgh Postnatal Depression Scale; ESP, Early Screening Profiles; HAMD, Hamilton Rating Scale for Depression; CMM, the Columbia Mental Maturity Scales ; MDI, Mental Development Index; MSCA, McCarthy Scales of Children’s Abilities; MSEL, Mullen Scales of Early Learning; PDI, Psychomotor Development Index; PHQ-9, Patient Health Questionnaire (9th edition); RDC, Research Diagnostic Criteria; SADS, Schedule for Affective Disorders and Schizophrenia; SCID-INP, Structured Clinical Interview for DSM-IV Axis I Disorders Non-Patient Edition; DASII, the Development Assessment Scale for Indian Infants.