Table S1.

	Very preterm		Moderately preterm	
	Spontaneous (n=1 061) OR 95% CI Model 3	Medically indicated (n=695) OR 95% CI Model 3	Spontaneous (n=9 828) OR 95% CI Model 3	Medically indicated (n=3 466) OR 95% CI Model 3
Paternal depression				
No depression	1.00	1.00	1.00	1.00
New depression	1.04 (0.68-1.57)	**1.67** (1.07-2.61)	1.09 (0.94-1.25)	1.24 (0.98-1.57)
Recurrent depression	1.28 (0.88-1.86)	1.06 (0.61-1.85)	1.08 (0.94-1.23)	1.04 (0.81-1.34)
Maternal depression				
No depression	1.00	1.00	1.00	1.00
New depression	1.28 (0.94-1.74)	1.17 (0.76-1.79)	**1.20** (1.07-1.33)	**1.71** (1.45-2.03)
Recurrent depression	1.03 (0.77-1.39)	1.13 (0.80-1.61)	**1.38** (1.27-1.51)	**1.38** (1.18-1.61)

Model 3 adjusted for variables in Model 2 and for the pregnancy complications and outcome, i.e. preeclampsia, SGA, placental abruption, gestational diabetes, and sex of child.

Note: Model 3 is based on 341 827 observations with complete information on covariates.

Table S2. Paternal and maternal depression and risks of very (≤31weeks) and moderately (32-36 weeks) preterm birth among those mothers living with the father (N= 340 951).

Mother living with the father (N= 340 951)

	Very preterm (≤31weeks) (n=1 779)			Moderately preterm (32-36 weeks) (n=13 308)		
	N (%)	OR 95% CI		N (%)	OR 95% CI	
		Model 1	Model 2		Model 1	Model 2
Paternal depression						
No depression	1 685(0.5)	1.00	1.00	12 734(3.9)	1.00	1.00
New depression	51(0.8)	**1.56** (1.18-2.06)	**1.47** (1.09-1.98)	281(4.6)	**1.15** (1.02-1.30)	1.09 (0.96-1.24)
Recurrent depression	43(0.6)	1.22 (0.89-1.67)	1.17 (0.85-1.61)	293(4.3)	1.10 (0.97-1.23)	1.06 (0.94-1.20)
Maternal depression						
No depression	1 621(0.5)	1.00	1.00	12 052(3.8)	1.00	1.00
New depression	76(0.8)	**1.51** (1.20-1.90)	1.28 (1.00-1.65)	491(5.1)	**1.32** (1.21-1.45)	**1.31** (1.19-1.44)
Recurrent depression	82(0.6)	1.17 (0.94-1.46)	1.09 (0.87-1.37)	765(5.7)	**1.48** (1.37-1.60)	**1.43** (1.32-1.55)

Mother not living with the father (N=14 147)

	Very preterm (≤31weeks) (n=107)			Moderately preterm (32-36 weeks) (n=682)		
	N (%)	OR 95% CI		N (%)	OR 95% CI	
		Model 1	Model 2		Model 1	Model 2
Paternal depression						
No depression	97(0.8)	1.00	1.00	612(4.7)	1.00	1.00
New depression	5(0.7)	0.95 (0.39-2.35)	0.77 (0.29-2.07)	43(6.4)	1.36 (0.99-1.88)	1.40 (1.00-1.95)
Maternal depression						
No depression	84(0.7)	1.00	1.00	520(4.5)	1.00	1.00
New depression	11(0.9)	1.23 (0.66-2.30)	0.84 (0.40-1.78)	82(6.8)	**1.54** (1.21-1.96)	**1.54** (1.20-1.99)
Recurrent depression	12(0.9)	1.25 (0.68-2.30)	1.25 (0.67-2.33)	80(5.9)	**1.35** (1.06-1.73)	1.28 (0.99-1.66)

Model 1: adjusted for calendar year of birth, maternal age, parity, paternal education and paternal age (≥45).

Model 2: adjusted for variables in Model 1, smoking, BMI, and also chronological order of parental depression.

Note: Parental depressions were measured in 12 months before conception until 24 gestational weeks.

In the population of mother living with father:

Model 1 is based on 340 951 observations with complete information on covariates.

Model 2 is based on 327 300 observations with complete information on covariates

In the population of mother not living with father:

Model 1 is based on 14 147 observations with complete information on covariates.

Model 2 is based on 13 111 observations with complete information on covariates