

Maternal anxiety, depression and asthma and adverse pregnancy outcomes – a population based study

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Table S1 Estimation of odds ratios and beta coefficients in women with anxiety/depression versus women without anxiety/depression, depending on asthma status*. Multiplicative interaction between maternal anxiety or depression and maternal asthma for the effect on pregnancy, delivery, and perinatal outcomes.

	All women without asthma		All women with asthma		Multiplicative interaction
	Crude	Adjusted [†]	Crude	Adjusted [†]	for adjusted [†] estimates
	OR or Beta (95% CI)	OR or Beta (95% CI)	OR or Beta (95% CI)	OR or Beta (95% CI)	P-values
Pregnancy Characteristics					
<i>Preeclampsia or Eclampsia</i>	1.21 (1.16 - 1.26)	1.15 (1.10 - 1.20)	1.21 (1.07 - 1.37)	1.14 (1.00 - 1.29)	0.842
<i>Placental abruption</i>	1.18 (1.03 - 1.36)	1.04 (0.90 - 1.20)	1.00 (0.64 - 1.57)	0.86 (0.55 - 1.34)	0.399
Labor Characteristics					
<i>Mode of Delivery</i>					
<i>Vaginal non-instrumental delivery</i>	Ref.	Ref.	Ref.	Ref.	Ref.
<i>Elective CS (before start of labor)</i>	1.68 (1.63 - 1.74)	1.62 (1.57 - 1.68)	1.40 (1.27 - 1.55)	1.35 (1.22 - 1.50)	<0.001 [‡]
<i>Vaginal instrumental delivery</i>	1.10 (1.07 - 1.14)	1.14 (1.10 - 1.18)	1.05 (0.94 - 1.18)	1.10 (0.98 - 1.24)	0.609
<i>Emergency CS prior to or after start of labor</i>	1.37 (1.33 - 1.41)	1.30 (1.26 - 1.34)	1.34 (1.23 - 1.47)	1.25 (1.14 - 1.37)	0.405
Birth outcome and post-partum					
<i>Birth weight, mean grams</i>	-62 (-67 to -57) [‡]	-49 (-55 to -44) [‡]	-80 (-98 to -61) [‡]	-66 (-84 to -48) [‡]	0.060
<i>Gest. age, mean weeks</i>	-0.31 (-0.33 to -0.29) [‡]	-0.28 (-0.30 to -0.26) [‡]	-0.37 (-0.43 to -0.31) [‡]	-0.33 (-0.39 to -0.27) [‡]	0.080
<i>Small for gestational age</i>	1.16 (1.10 - 1.24)	1.00 (0.94 - 1.07)	1.26 (1.07 - 1.49)	1.05 (0.89 - 1.24)	0.611
<i>Large for gestational age</i>	1.16 (1.11 - 1.21)	1.10 (1.05 - 1.15)	1.16 (1.00 - 1.35)	1.07 (0.92 - 1.26)	0.782

* Anxiety, depression and asthma from the year before pregnancy until end of pregnancy.

[†] Adjusted for country of birth, smoking, cohabitation, maternal education level, BMI, age

[‡] P<0.01

Table S2. The association between anxiety/depression during pregnancy* and perinatal characteristics; adjusted logistic and linear full cohort analysis, stratified on birth years 2001-2004 or 2010-2013

	Current Anxiety/depression	
	2001-2004	2010-2013
	Logistic & Linear Regression Adjusted† OR and beta (95% CI)	Logistic & Linear Regression Adjusted† OR and beta (95% CI)
Pregnancy Characteristics		
<i>Preeclampsia or Eclampsia</i>	1.07 (0.95 - 1.20)	1.12 (1.06 - 1.19)
<i>Placental abruption</i>	0.93 (0.65 - 1.31)	0.98 (0.79 - 1.23)
Labor Characteristics		
<i>Mode of Delivery</i>		
<i>Vaginal non-instrumental delivery</i>	Ref.	Ref.
<i>Elective CS (before start of labor)</i>	1.59 (1.46 - 1.73)	1.59 (1.52 - 1.67)
<i>Vaginal instrumental delivery</i>	1.14 (1.04 - 1.24)	1.18 (1.12 - 1.24)
<i>Emergency CS prior to or after start of labor</i>	1.24 (1.15 - 1.34)	1.33 (1.28 - 1.39)
Birth outcome and post-partum		
<i>Birth weight, mean grams</i>	-42 (-55 to -29)‡	-50 (-57 to -43)‡
<i>Gest. age, mean weeks</i>	-0.24 (-0.29 to -0.20)‡	-0.30 (-0.33 to -0.28)‡
<i>Small for gestational age</i>	0.91 (0.78 - 1.06)	1.02 (0.93 - 1.11)
<i>Large for gestational age</i>	1.13 (1.01 - 1.27)	1.12 (1.05 - 1.19)

* Maternal anxiety and/or depression from the year before pregnancy until delivery

† Adjusted for country of birth, smoking, cohabitation, maternal education level, BMI, age

‡ P < 0.001

Table S3. Pregnancies with maternal anxiety/depression diagnose in the year before pregnancy until delivery with or without medication*. Years 2006-2013.

	Current Anxiety/depression with medication		Current Anxiety/depression w/o medication		
	n=11,724		n=6960		
	n(%)		n(%)	Logistic & Linear Regression Crude est (95% CI)	Logistic & Linear Regression Adj† est (95% CI)
Pregnancy Characteristics					
<i>Preeclampsia or Eclampsia</i>	626 (5.3)	1.00	292 (4.2)	0.78 (0.67 - 0.90)	0.81 (0.70 - 0.94)
<i>Placental abruption</i>	54 (0.5)	1.00	28 (0.4)	0.87 (0.55 - 1.38)	0.92 (0.57 - 1.47)
Labor Characteristics					
<i>Mode of Delivery</i>					
<i>Vaginal non-instrumental delivery</i>	8100 (69.6)	1.00	4819 (69.6)	Ref.	Ref.
<i>Elective CS (before start of labor)</i>	1120 (9.6)	1.00	831 (12.0)	1.25 (1.13 - 1.38)	1.30 (1.17 - 1.43)
<i>Vaginal instrumental delivery</i>	916 (7.8)	1.00	476 (6.8)	0.87 (0.78 - 0.98)	0.89 (0.79 - 1.01)
<i>Emergency CS prior to or after start of labor</i>	1511 (12.9)	1.00	802 (11.5)	0.89 (0.81 - 0.98)	0.94 (0.86 - 1.04)
<i>Missing</i>	77 (0.7)		32 (0.5)		
Birth outcome and post-partum					
<i>Birth weight, mean grams</i>	3471	3471	3522	50 (33 to 68)‡	58 (41 to 75)‡
<i>Missing</i>	28 (0.2)		9 (0.1)		
<i>Gest. age, mean weeks</i>	39.2	1.00	38.9	0.25 (0.19 to 0.31)‡	0.25 (0.19 to 0.31)‡
<i>Missing</i>	0 (0.0)		2 (0.0)		
<i>Small for gestational age</i>	287 (2.5)	1.00	153 (2.2)	0.89 (0.73 - 1.09)	0.92 (0.75 - 1.12)
<i>Missing</i>	24 (0.2)		5 (0.1)		
<i>Large for gestational age</i>	496 (4.2)	1.00	304 (4.4)	1.03 (0.89 - 1.20)	1.10 (0.94 - 1.28)
<i>Missing</i>	24 (0.2)		5 (0.1)		

* Anxiety/depression diagnosis in the Swedish National Patient Register. Antidepressant medication dispensed at least twice in the year before pregnancy until birth according to the Swedish Prescribed Drug Register

† Adjusted for country of birth, smoking, cohabitation, maternal education level, BMI, age

‡ $P < 0.001$