



The role of maternal bulimia nervosa and anorexia nervosa before and during pregnancy in early childhood wheezing

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Background

Maternal stress and mental disorders during pregnancy, namely depression and anxiety, have been associated with childhood wheezing and asthma. To our knowledge, no previous studies have evaluated maternal eating disorders in association with infant respiratory outcomes.

Objectives & Methods

We analysed 4652 singletons from the Italian web-based birth cohort NINFEA to investigate the associations of maternal bulimia nervosa, anorexia nervosa and purging behaviours with infant wheezing. To explore potential pathways, we also studied the associations of maternal eating disorders with a priori selected determinants of infant wheezing.

Results

Self-reported ever diagnosis of bulimia nervosa and anorexia nervosa had both a prevalence of 1.2%, with less than 1% of mothers suffering from anorexia nervosa or bulimia nervosa during pregnancy. There were 17.4% of children who experienced at least one wheezing episode between 6 and 18 months of age.

Associations of maternal eating disorders with infant wheezing

Maternal eating disorders	Exposed cases (%)	Infant wheezing	
		OR _{Adj} [†] [95% CI]	OR _{Adj} [‡] [95% CI]
Bulimia nervosa			
Ever	17 (2.1)	2.39 [1.37, 4.16]	1.92 [1.08, 3.44]
During pregnancy	7 (0.9)	2.38 [1.02, 5.56]	1.78 [0.74, 4.27]
Only before pregnancy	10 (1.2)	2.37 [1.15, 4.89]	2.25 [1.07, 4.70]
Anorexia nervosa			
Ever	11 (1.4)	1.23 [0.66, 2.31]	0.97 [0.51, 1.83]
During pregnancy	5 (0.6)	3.49 [1.21, 10.07]	2.58 [0.85, 7.85]
Only before pregnancy	6 (0.7)	0.81 [0.35, 1.84]	0.74 [0.32, 1.74]
Purging behaviours			
12 months before pregnancy	53 (6.6)	1.57 [1.14, 2.16]	1.47 [1.06, 2.04]
During pregnancy	22 (2.7)	1.46 [0.90, 2.36]	1.28 [0.77, 2.11]

[†]Adjusted for maternal age, nationality, maternal educational level, parity, Region of birth, maternal asthma, atopy, and smoking during pregnancy

[‡]Adjusted as [†] and further adjusted for maternal depression and anxiety

Associations of maternal eating disorders during pregnancy with determinants of infant wheezing

Wheezing determinants	Bulimia nervosa	Anorexia nervosa
	RRR/OR/ β [95% CI] [†]	RRR/OR/ β [95% CI] [†]
Maternal BMI		
Underweight	2.08 [0.57, 7.62]	7.74 [2.26, 26.51]
Normal weight	Reference	
Overweight	1.45 [0.39, 5.32]	NA [‡]
Obese	4.32 [1.27, 14.66]	NA [‡]
Maternal smoking		
During pregnancy	3.12 [1.04, 9.35]	NA [‡]
After pregnancy	2.72 [1.06, 6.97]	NA [‡]
Caesarean delivery		
	2.69 [1.11, 6.54]	1.09 [0.27, 4.38]
Gestational age (weeks)		
	-0.35 [-0.81, 0.10]	-0.60 [-1.81, 0.62]
Birth weight (grams)		
	-84.1 [-301.5, 133.4]	-285.1 [-552.3, -17.9]
Breastfeeding <6 months		
	3.55 [1.52, 8.30]	3.32 [1.00, 11.04]
Day-care attendance		
	3.08 [1.22, 7.76]	2.52 [0.78, 8.21]

[†] Adjusted for maternal age, education, nationality, and Region of delivery

[‡] Not Applicable (less than three exposed cases)

Conclusions

Maternal bulimia nervosa before and during pregnancy and maternal anorexia nervosa during pregnancy are positively associated with wheezing in early childhood. Maternal lifestyle, perinatal events and child-care practice might be involved in these associations.