

Maternal Eating Disorders and Their Effect on Pregnancy and Neonatal Outcomes – A Systematic Review

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Introduction

Anorexia nervosa and bulimia nervosa have a prevalence of approximately 1%, affecting thousands of pregnant women annually throughout the developed world.

Aims

To explore the patterns of anorexia nervosa and bulimia nervosa in the perinatal period and their effect on pregnancy and neonatal outcomes, in an effort to increase understanding and improve management of this population.

Methods

Papers were identified by structured searches in the Medline, Embase and Cochrane databases, handsearching, and citation chaining. The population was pregnant women with a diagnosis of anorexia nervosa and/or bulimia nervosa. The outcomes were effects on pregnancy, birth, and, the foetus/neonate.

Results

See table below.

Discussion

Eating disorders in women of childbearing age are common and have adverse reproductive effects. Unfortunately, no best practice guidelines have yet been developed for this population. The Royal Australian and New Zealand College of Psychiatrists guidelines for the treatment of eating disorders simply states that it puts sufferers at 'increased risk' and that they 'may benefit from the increased intensity of therapy and eating supervision available in an inpatient or day patient unit'. Further studies should be performed to determine optimum therapeutic options specific to the pregnant state. In the interim, emotional and medical support should be provided along their journey to motherhood, with input from a multidisciplinary team. An understanding of this topic is desirable to provide this vulnerable population with the care they deserve.

References

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Table. Summary of studies reporting on pregnancy and neonatal outcomes associated with eating disorders in pregnancy.

	Micali et al. 2007 (1)	Linna et al. 2014 (2)	Abraham 1998 (3)	Bulik et al. 1999 (4)	Sollid et al. 2004 (5)	Ekeus et al. 2006 (6)	Kouba et al. 2005 (7)	Franco et al. 2001 (8)	Conti et al. 1998 (9)
Type of study	Prospective cohort	Register-based prospective cohort	Retrospective interview	Retrospective cohort plus case-control	Register-based prospective cohort	Register-based prospective cohort	Prospective cohort	Prospective cohort	Retrospective case-control
Sample size (S = study, C = control)	S = 452 C = 10,636	S = 2257 C = 9028	S = 43 C = 43	S = 66 C = 98	S = 302 C = 504	S = 1000 C = 827,582	S = 49 C = 68	S = 49	S = 88 C = 86
Cohort (ED = eating disorder, AN = anorexia nervosa, BN = bulimia nervosa)	Women with vs without an ED expected to deliver 1 April 1991 – 31 December 1992	All patients treated in the ED clinic 1995-2010 vs matched controls	Consecutive BN patients at the clinic 10-15 years after initial presentation vs matched controls	Women with AN assessed initially at the ED Service 1981 – 1984 vs controls	Women hospitalised with an ED who then gave birth 1973 – 1993 vs controls	Women discharged from hospital with AN 1973 – 1996 vs non-AN women, who gave birth 1983 – 2002	Consecutive prenatal clinic patients with vs without an ED August 1997 – June 2001	Women who sought treatment for an ED October 1987 – June 1990 who later reported a live birth	Women who delivered low birth weight babies vs women who delivered babies with birth weight >2500 g
Location of recruitment	Avon, UK	Helsinki University Central Hospital	Sydney-based eating disorder clinic	The Princess Margaret Hospital, Christchurch	Nationwide Denmark	Nationwide Sweden	13 prenatal clinics in northwest Stockholm	Massachusetts General Hospital	Major teaching hospital in Sydney
Strengths	Sample representative of entire British population; high response rate (85-90%)	Large sample size; large comprehensive dataset; matched controls	Long period of study; high retention rate (90%); controls matched for age and parity	Moderate length of study; combined cohort and case-control design; age-matched controls	Inclusive of whole national population; long study period; use of two national health registers	Inclusive of whole national population; large sample size; long study period	Moderate length of study; diagnosis confirmed according to DSM-IV	Moderate length of study; records obtained for 49 of 63 live births (78%)	Controls matched for age, parity, and health insurance status; high response rate (87%)
Weaknesses	Short study period; self-classification of ED; insufficient power for some outcomes	Sample drawn from specialised clinic so that severe ED may be over-represented; classification not standardised	Small sample size; retrospective so questionable recall; subjects from only one centre	Small sample size; limited statistical power; retrospective so questionable recall; subjects from only one centre	Inconsistent coding of registers over the 20 year period of study – led to exclusion of some births, may confound results	Inclusion of only hospitalised women so severe cases may be over-represented	Small sample size; 6 patients who screened positive for an eating disorder refused to participate	Small sample size; no controls; subjects from only one centre; reclassification from DSM-III-R to DSM-IV criteria during study	Short study period; retrospective so questionable recall; relied on self-reporting
Key findings (ED = eating disorder, AN = anorexia nervosa, BN = bulimia nervosa, SGA = small for gestational age, LBW = low birth weight)	ED → ↑ risk of miscarriage, LBW No significant difference in prematurity between ED and control groups	AN → ↑ risk slow foetal growth, prematurity, perinatal death, SGA, LBW, very premature BN → ↑ risk prematurity, need for resuscitation, very low Apgar scores (<3) at 1 minute	BN → ↑ risk of miscarriage	AN → ↑ risk of miscarriage, prematurity	ED → ↑ risk of prematurity, SGA, LBW	No significant difference in prematurity, caesarean rate, SGA or LBW between AN and control groups	No significant difference in prematurity or caesarean rate between study and control groups ED → ↑ risk of SGA, LBW, smaller head circumference	ED → ↑ rate of caesarean section	ED → ↑ risk of SGA