



# Maternal sex-hormone exposure and the risk of eating disorders in daughters

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## Abstract

**OBJECTIVE.** Along with socio-cultural influences and psychological vulnerability, the origins of the female preponderance are thought to be based on biological factors. One such biological mechanism is suggested to be the exposure to prenatal sex-hormone milieu. Prenatal testosterone, and higher testosterone/estrogen ratio specifically, drive the organizational changes to brain structure and function. Potential effects of prenatal sex hormones on later eating disorders in offspring have been investigated with indirect methods.

**METHODS.** We utilized a direct, prospective method, examining the association between prenatal sex-hormones in maternal sera and the risk of bulimia nervosa (BN) and anorexia nervosa (AN) among daughters. Females with BN (55), AN (150), sister controls without eating disorders (one per case), and population controls (one per case) were derived from Finnish registers. Maternal gestational testosterone and estradiol levels were assayed from archived specimens stored in a national serum biobank.

**RESULTS.** When females with BN were compared to their sister controls, those with higher gestational testosterone levels were at an increased risk of BN. No significant associations with BN were found when the comparison was made to population controls, and when estradiol levels and testosterone/estrogen ratio were assessed. We neither found associations between

gestational sex-hormone levels and the risk of AN.

**DISCUSSION.** Among females with familial liability for BN, higher gestational testosterone exposure may have a role in later development of BN, whereas lower testosterone exposure may have a protective effect. We found no evidence for the involvement of gestational sex-hormones in the etiology of AN.

**Topics:** Other

**For workshops only**

No Answer Given

**Submission Format:** Poster

**Is It a Student Paper?** No