

The genetic and environmental influences of premenstrual disorder in twins.

ABSTRACT

The objectives were to determine (1) the prevalence of premenstrual syndrome in a sample of twins and (2) the relative contribution of genes and environment in premenstrual syndrome. A group of 193 subjects inclusive of same gender twins ($n = 176$) and females from opposite sex twin sets ($n = 17$) entered the study. Heritability analysis used same gender twin data only. The probandwise concordance rate for the presence or absence of premenstrual syndrome was calculated and the heritability of premenstrual syndrome was assessed by a quantitative genetic model fitting approach using MX software. The prevalence of premenstrual syndrome was 43.0% and 46.8% in monozygotic and dizygotic twins, respectively. The probandwise concordance for premenstrual syndrome was higher in monozygotic (0.81) than in dizygotic twins (0.67), indicating a strong genetic effect. Quantitative genetic modeling found that a model comprising of additive genetic (A) and unique environment (E) factors provided the best fit (A: 95%, E: 5%). No association was found between premenstrual symptom and the following variables: belonging to the opposite gender twin set, birth weight, being breast fed and vaccination. These results established a clear genetic influence in premenstrual syndrome.

Keyword: Twins; Premenstrual syndrome; Genetic and environmental influences.