

Maternal anxiety, depression and sleep disorders before and during pregnancy, and preschool ADHD symptoms in the NINFEA birth cohort study.

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Abstract

AIMS:

Maternal mental disorders have been associated with the risk of attention-deficit/hyperactivity disorder (ADHD) in children. Within the context of a mother-child cohort, we examined whether maternal anxiety, depression and sleep disorders are associated with pre-school ADHD symptoms.

METHODS:

The study included 3634 singletons from the Italian NINFEA (Nascita e INFanzia: gli Effetti dell'Ambiente) cohort. Maternal doctor-diagnosed anxiety, depression and sleep disorders before and during pregnancy were assessed from the questionnaires completed during pregnancy and 6 months after delivery. Mothers rated child ADHD symptoms at 4 years of age, according to the Diagnostic and Statistical Manual of Mental Disorders. Hyperactive-impulsive (ADHD-H), inattentive (ADHD-I) and total ADHD scores were analysed in the models adjusted for child's gender, first-born status, maternal age, education, alcohol consumption and smoking during pregnancy.

RESULTS:

The total ADHD score at age 4 was associated with maternal lifetime anxiety (17.1% percentage difference in score compared with never; 95% CI 7.3-27.9%), sleep disorders (35.7%; 95% CI 10.7-66.5%) and depression (17.5%; 95% CI 3.2-33.8%). Similar positive associations were observed also for ADHD-H and ADHD-I traits, with slightly attenuated associations between maternal sleep disorders and child ADHD-I score, and maternal depression and both ADHD scores. All the estimates were enhanced when the disorders were active during pregnancy and attenuated for disorders active only during the pre-pregnancy period.

CONCLUSIONS:

Maternal anxiety, depression and sleep disorders are associated with a relative increase in the number of ADHD-H, ADHD-I and total ADHD symptoms in preschoolers.