Prenatal diet and children's trajectories of hyperactivity-inattention and conduct problems from 3 to 8 years: the EDEN mother-child cohort.


BACKGROUND:
Evidence shows that diet contributes substantially to lifelong physical and mental health. Although dietary exposure during gestation and early postnatal life is critical, human epidemiological data are limited regarding its link with children's subsequent externalizing issues. The aim of this study was to investigate the role of maternal diet during pregnancy in offspring's symptoms of hyperactivity-inattention and conduct problems from ages 3 to 8 years.

METHODS:
We used data of 1,242 mother-child pairs from a French cohort followed up from pregnancy until the children were 8 years of age. Dietary patterns (DP) of the mother during pregnancy were assessed with food frequency questionnaires. Children's externalizing behavior was assessed with the Strength and Difficulties Questionnaire at ages 3, 5, and 8 years, from which trajectories of hyperactivity-inattention symptoms and conduct problems were derived. We conducted multivariable logistic models to study associations adjusted for a range of potential confounders.

RESULTS:
Results showed significant relationships between maternal 'low Healthy diet' (adjusted Odds Ratio (aOR) = 1.61; IC 95%: 1.09-2.37) and 'high Western diet' (aOR = 1.67; IC 95%: 1.13-2.47) during pregnancy and children's trajectories of high symptoms of hyperactivity-inattention. The associations took into account relevant confounders such as DP of the children at age 2 years, maternal stress and depression, gestational diabetes, and socioeconomic variables.

CONCLUSIONS:
Maternal diet during pregnancy was independently associated with children's hyperactivity-inattention symptoms but not with conduct problems. Early prevention addressing lifestyle should specifically target diet in pregnant women.