

The risk of cerebral palsy and autism in children born after assisted conception

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ABSTRACT

The PhD project was carried out at the School of Public Health, the University of Aarhus, and the aim was to assess the risk of cerebral palsy (CP) and autism in children born after assisted conception, that is in vitro fertilization (IVF) as well as ovulation induction without IVF. The study was a follow-up study including all children born in Denmark from 1995 to 2003, 588.967 children, and based on the following Danish registers: the Medical Birth Register, the IVF Register, the Danish Drug Prescription Register, the National Cerebral Palsy Register containing validated CP diagnoses and the Danish Psychiatric Central Research Register.

We found an increased risk of CP in children born after assisted conception in crude analyses, relative risk (RR) 1.92 (95% confidence interval (CI) 1.60-2.31) and when we adjusted for sex, maternal age, parity, educational level and smoking during pregnancy RR 1.74 (95% CI 1.42-2.13). When we included the intermediate factors multiplicity and preterm delivery, the risk for CP after assisted conception disappeared, RR 0.97 (95% CI 0.78-1.22).

The risk of autism in children born after assisted conception was also increased, crude hazard rate ratio (HRR) 1.25 (95% CI 1.09-1.43). In a stratum of children with normal birth weight, the risk remained statistically significant when we adjusted for sex, maternal age, parity, educational level, smoking during pregnancy and multiplicity, HRR 1.20 (95% CI 1.02-1.41).

It can be concluded that for autism the increased risk in assisted conception was not explained by multiplicity and preterm delivery as seemed to be the case for CP.