

Publication

A multinational case-control study on childhood brain tumours, anthropogenic factors, birth characteristics and prenatal exposures : a validation of interview data

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Little is known about the aetiology of childhood brain tumours. We investigated anthropometric factors (birth weight, length, maternal age), birth characteristics (e.g. vacuum extraction, preterm delivery, birth order) and exposures during pregnancy (e.g. maternal: smoking, working, dietary supplement intake) in relation to risk of brain tumour diagnosis among 7-19 year olds. The multinational case-control study in Denmark, Sweden, Norway and Switzerland (CEFALO) included interviews with 352 (participation rate=83.2%) eligible cases and 646 (71.1%) population-based controls. Interview data were complemented with data from birth registries and validated by assessing agreement (Cohen's Kappa). We used conditional logistic regression models matched on age, sex and geographical region (adjusted for maternal age and parental education) to explore associations between birth factors and childhood brain tumour risk. Agreement between interview and birth registry data ranged from moderate (Kappa=0.54; worked during pregnancy) to almost perfect (Kappa=0.98; birth weight). Neither anthropogenic factors nor birth characteristics were associated with childhood brain tumour risk. Maternal vitamin intake during pregnancy was indicative of a protective effect (OR 0.75, 95%-CI: 0.56-1.01). No association was seen for maternal smoking during pregnancy or working during pregnancy. We found little evidence that the considered birth factors were related to brain tumour risk among children and adolescents.

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