

Time trends of children with cerebral palsy in Norway; a national register-based study

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Background

The stable prevalence of cerebral palsy (CP) for more than 50 years is claimed to indicate that CP cannot be prevented. However, during the last 20 years several new interventions have been introduced in obstetric and neonatal care.

Objective

On this background we explored time trends in the prevalence of CP in children born 1999-2010.

Methods

Data was provided by the CP and Medical Birth Registries of Norway. Logistic regression was used to estimate prevalence with 95% confidence intervals (CI) of CP and CP subtypes per 1000 live births over time. Linear-by-linear χ^2 statistics were used to explore time trends in proportions of children with severe associated impairments.

Results

Among 707 916 births, 1664 children were diagnosed with CP (prevalence: 2.4; CI 2.2-2.5). The prevalence decreased from 2.62 (CI 2.24-3.07) in 1999 to 1.89 (CI 1.58-2.27) in 2010. While the prevalence of unilateral spastic CP remained stable (~ 0.10 ; CI 0.09-0.11), that of bilateral spastic CP was halved (1999: 1.31; CI 1.05-1.64; 2010: 0.67; CI 0.50-0.91). The prevalence of dyskinetic CP changed in a non-linear upside down U-shape, decreasing from birth year 2007 ($p=0.05$). Among children with CP, the proportion able to walk without assistance steadily increased while the proportion in need of assistance or completely unable to walk decreased ($p=0.013$). Moreover, the proportions recorded with epilepsy ($p<0.0001$), intellectual disability ($p<0.0001$), and with limited speech ability also decreased ($p=0.023$). However, the proportion of children with reduced eating abilities ($p=0.153$), or with impaired or severely impaired vision ($p=0.073$) and/or hearing did not change ($p=0.326$).

Conclusion

We found that the prevalence of CP declined for children born in Norway 1999-2010 by 2.8% per year, as did the proportion with severe associated impairments. These improved outcomes are most likely explained by improvements in obstetric and neonatal during the last two decades.