

Neurological disorders affecting child brain development and behaviour

What the Berlaymont Declaration says:



Neuro-behavioural disorders and thyroid disease and disorders affecting brain development represent a high and increasing paediatric disease burden in countries where these disease trends have been followed.

Much of the impact of EDCs on brain development is a downward trend in children's IQ, which is not normally measured. (30) We therefore focus on autism and Attention Deficit Hyperactivity Disorder (ADHD) since these are conditions that are diagnosed and reported.

AUTISM SPECTRUM DISORDERS (ASD)



The prevalence of autistic disorders is currently around one in 500

Incidence & Costs

A number of recent studies show an increase in the incidence and prevalence of autism over the last 50 years. For example, a review of studies from a variety of countries concluded that the prevalence of autistic disorders has increased, and is currently around 20 per 10,000 population. (31) The increases in incidence in these and other studies is explained in part by the inclusion of milder cases or the reduction in the age of diagnosis over this time period. (32) However, other factors such as EDCs are not precluded. (33)

WHO (2013) estimate ASD to account for 0.3% of the global burden of disease. (34)

A small number of studies have estimated the economic costs associated with ASD. Most of these studies are from the US. One found that the average cost of ASD per child is €12,445, of which health care costs constitute 20% and education costs constitute 50%. (35) A study undertaken in the UK estimated costs of ASD to both children and adults. It distinguished between cases with and without intellectual disability. The study found that for someone with autism without intellectual disability the undiscounted lifetime cost was €3.5 million. The undiscounted lifetime cost for someone with autism who was also intellectually disabled was 50% higher at €5.2 million. The aggregate national cost of supporting children with ASD was €3.1 billion, of which 60% was comprised of educational costs. Aggregate national cost for adults excluding benefit payments was €28.4 billion. For adults with intellectual disability, approximately 50% of the costs were associated with accommodation for which the main cost component for those without disability was lost productivity, of circa 60%. (36)

ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

Attention Deficit Hyperactivity Disorder (ADHD) is now the most common neuro-developmental disorder in children in Europe. (36) One in twenty of school-aged children in England and Wales are currently affected by some form of ADHD. (37) The worldwide prevalence of ADHD is estimated to be 5.3% (4), with a rate of 11% (equivalent to 6.4M children) in the USA. (38)

Costs associated with ADHD in Europe are currently significant and expected to rise. A study published in 2007 suggested that a projected 10-fold increase in the prevalence of this condition over the 10-year period to 2012 would drive overall annual costs of treating ADHD to €311 million in Germany and to €91 million in the UK (39), (40). It is acknowledged that increasing prevalence is likely to be, in part, due to better diagnosis. These European cost estimates only include direct treatment; US evidence suggests that these costs comprise 5% - 20% of the total costs. Thus, in the US, total costs per person (children) equate to €10,650. (41) These costs include medication, educational facilities and formal and informal care by professional providers and family.

The number of prescriptions for one common medication for this condition (methylphenidate, trade name Ritalin) increased more than 55 times in 10 years to 2003 in the UK. Educational costs for children with ADHD are considerably higher than for other children. (41) Costs often endure beyond childhood because children do not always grow out of ADHD. Up to 65% of adolescents with this condition will continue to present with the disorder as adults. (41)

Table 6
Costs and trends in neurological disorders affecting children

Endocrine- related disease or condition	Incidence/ prevalence trends	Cost of illness
Autism	Studies in several countries show a population rate of one in 500 (31, 32)	Total annual cost in EU28: €226 billion (36)
Attention Deficit Hyperactivity Disorder (ADHD)	In the UK, 3.62% of boys and 0.85% of girls aged 4-15 are affected Incidence rates in EU countries range from 2-10% (42)	Total cost in EU28: €0.72 billion (treatment costs only)