Trends in attention-deficit hyperactivity disorder medication use: a retrospective observational study using population-based databases


Abstract

BACKGROUND: The use of medications to treat attention deficit hyperactivity disorder (ADHD) has increased, but the prevalence of ADHD medication use across different world regions is not known. Our objective was to determine regional and national prevalences of ADHD medication use in children and adults, with a specific focus on time trends in ADHD medication prevalence.

METHODS: We did a retrospective, observational study using population-based databases from 13 countries and one Special Administrative Region (SAR): four in Asia and Australia, two in North America, five in northern Europe, and three in western Europe. We used a common protocol approach to define study populations and parameters similarly across countries and the SAR. Study populations consisted of all individuals aged 3 years or older between Jan 1, 2001, and Dec 31, 2015 (dependent on data availability). We estimated annual prevalence of ADHD medication use with 95% CI during the study period, by country and region and stratified by age and sex. We reported annual absolute and relative percentage changes to describe time trends.

FINDINGS: 154·5 million individuals were included in the study. ADHD medication use prevalence in 2010 (in children aged 3-18 years) varied between 0·27% and 6·69% in the countries and SAR assessed (0·95% in Asia and Australia, 4·48% in North America, 1·95% in northern Europe, and 0·70% in western Europe). The prevalence of ADHD medication use among children increased over time in all countries and regions, and the absolute increase per year ranged from 0·02% to 0·26%. Among adults aged 19 years or older, the prevalence of any ADHD medication use in 2010 varied between 0·003% and 1·48% (0·05% in Asia and Australia, 1·42% in North America, 0·47% in northern Europe, and 0·03% in western Europe). The absolute increase in ADHD medication use prevalence per year ranged from 0·0006% to 0·12%. Methylphenidate was the most commonly used ADHD medication in most countries.

INTERPRETATION: Using a common protocol and data from 13 countries and one SAR, these results show increases over time but large variations in ADHD medication use in multiple regions. The recommendations of evidence-based guidelines need to be followed consistently in clinical practice. Further research is warranted to describe the safety and effectiveness of ADHD medication in the short and long term, and to inform evidence-based guidelines, particularly in adults.