



Attention-deficit/hyperactivity disorder (ADHD) among children and adolescents in the ambulatory health care in Germany

Part 4 – Trends in pharmacotherapy between 2009 and 2016

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Abstract

Background

The aim of the current study is to examine the temporal trends in pharmacotherapy of children and adolescents with the diagnosis ‘attention-deficit/hyperactivity disorder’ (ADHD). In particular, we are interested in the question, whether restrictions regarding stimulant prescribing issued by the Federal Joint Committee had effects on prescribing patterns.

Methods

Nationwide drug prescription data of outpatient care for the years 2009 to 2016 were used in this study. ADHD diagnoses were based on the ICD-10 classification (code F90.- “hyperkinetic disorders”). The study population comprised children and adolescents between 5 and 14 years of age, for whom F90.- diagnoses were coded at least in two different quarters of the year (e.g. N=262,766 in 2016). The examined drugs were methylphenidate (ATC code, N06BA04), atomoxetine (N06BA09), dexamfetamine (N06BA02), lisdexamfetamine (N06BA12) and guanfacine (N06BA14). We calculated the proportions of ADHD patients with at least one of the above mentioned prescriptions. In addition, analysis was performed by sex, age, regional Associations of Statutory Health Insurance Physicians and the specialty of the prescribing physician.

Results

The proportion of patients with at least one prescription of (any) psychostimulant decreased from about 50% in 2009 to 44% in 2016. The proportion of ADHD patients with methylphenidate and atomoxetine prescriptions showed a decreasing trend. In contrast to that, the proportion of patients prescribed lisdexamfetamine increased from 1.7% (2013) to 6.5% (2016). In 2016, 38% and 2.9% of children with ADHD received at least one prescription of methylphenidate and/or atomoxetine. Dexamfetamine, licensed in 2012, was prescribed to less than one percent of ADHD patients in all years. Guanfacine, which was licensed in 2016, was prescribed to about 1.1% of ADHD patients. Boys were more likely

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to receive a psychostimulant prescription. In addition, the chance of pharmacotherapy increased with advancing age of the patients. We observed clear east-west differences. The proportion of methylphenidate prescription was higher in west than east federal states. However, atomoxetine was more often prescribed in east than west federal states. The proportion of methylphenidate prescribed by pediatric psychiatrists and psychotherapists increased from 28% in 2009 to 41% in 2016, corresponding to an increase of 46%. In contrast, the role of other physician groups in prescribing ADHD-specific medications decreased over the examined years.

Conclusion

The frequency of psychostimulant prescriptions among children and adolescents with ADHD in the ambulatory health care sector began decreasing in 2013 and remained stable in the following years. The role of specialists from the mental health area increased whereas the proportions of prescriptions from other physician groups decreased. One of the possible explanations for these developments is prescription restrictions issued by the Federal Joint Committee in recent years. Of note, the introduction of new medications for ADHD treatment did not lead to the increase of the proportion of ADHD children receiving pharmacotherapy. Rather traditional medications were substituted by new ones.

Keywords

ADHD, atomoxetine, attention-deficit/hyperactivity disorder, children and adolescents, dexamfetamine, Germany, guanfacin, lisdexamfetamine, methylphenidate, pharmacotherapy

Citation

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