The treatment of attention deficit hyperactivity disorder has no proven long-term benefits but possible adverse effects

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Abstract:

Attention deficit hyperactivity disorder (ADHD) is a frequently diagnosed and treated the behavioral disorder in children and adolescents and may persist into adulthood. The core symptoms of ADHD frequently cause significant impairment in academic, social and behavioral functioning over many years in children, adolescents, and adults. Currently used treatments, such as pharmacotherapy and behavior therapy, can yield significant short-term benefits for many individuals with ADHD. Even though the positive therapeutic effects of medications such as methylphenidate have consistently been demonstrated in children and adults, the extent of their efficacy remains a matter of debate in view of possible bias of research studies and low quality of outcome measures. The therapeutic goals in ADHD should extend beyond the currently described treatment response and should account for the chronicity and long-term impact of the disorder, involving long-term objectives for the treatment of ADHD. The findings of drug trials assessing efficacy and safety over short time periods should be interpreted with caution and cannot be extrapolated to long-term outcomes. It is unclear whether or not the currently used treatments mitigate the negative impact of nontreatment on the quality of life of individuals with ADHD over an extended time period. Long-term randomized controlled trials (RCTs), which are the gold standard for measuring treatment effects, are largely absent and constitute a logistical and ethical challenge. In particular, there are no RCTs supporting the hypothesis that methylphenidate has a long-term “neuroprotective” impact. Long-term administration may result in a diminution of beneficial effects of the drugs used in ADHD since the brains of individuals with ADHD become more tolerant to the neurotransmitter changes induced by medication. Scant research has adequately evaluated the long-term safety of drugs for ADHD, and systematic monitoring is needed. Possible risks of long-term medication in certain patient subgroups, such as elderly adults, have not been sufficiently investigated. Adverse consequences of ADHD medications may include serious cardiovascular events. While an increased risk of cardiovascular adverse effects is likely to be small in children and adolescents treated with ADHD medications, the risk following long-term administration and in elderly patients may be higher. The long-term safety of ADHD medications remains an open question. Poorly determined long-term beneficial effects of medication need to be carefully weighed against possible over-prescription and a range of potential adverse effects. A method for identifying patients who may obtain more benefits than harms from ADHD medication should be investigated. The close connection of the pharmaceutical industry to the clinical evaluation of ADHD medications is a matter of serious concern, since drug trials funded by industry may result in biased findings and selective reporting of results. Many alternative treatments are rendered questionable by the lack of any methodologically sound evaluation. In future, it may be worth initiating large-scale, well-designed studies investigating the effects of other treatment approaches, such as physical exercise, on ADHD. In summary, treatment of ADHD has no proven beneficial impact on long-term outcomes but may be associated with various adverse effects.