

Functional Impairment of Patients with Attention-Deficit/Hyperactivity Disorder (ADHD): An Alternative Cost-Effectiveness Analysis of Clinically Proven Treatment Strategies based upon the NIMH MTA Study

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Beyond disease-defining core symptoms of inattention, hyperactivity, and impulsivity, ADHD is characterized by functional impairment of patients. The Columbia Impairment Scale (CIS) is a parent rating scale with relatively strong psychometric properties, tapping four major dimensions: interpersonal relations, psychopathology, schoolwork, and use of leisure time.

Objectives: CIS ratings from the NIMH MTA Study (n=579 children with ADHD according to DSM-IV-criteria) were used as an alternative outcome measure to evaluate the cost-effectiveness of medication management (MedMgt), intense behavioral treatment (Beh), both combined (Comb), or community care (CC) in the study population and in three subgroups: hyperkinetic disorder (according to ICD-10-criteria preferred in Europe); pure HKD or HKD/HKCD, and in pure ADHD, over 14 months.

Methods: For costing (societal and third-party payer's perspectives), patient-level resource utilization data were combined with country-specific unit costs for Germany, Netherlands, Sweden, United Kingdom, and United States (year 2005). Incremental cost-effectiveness ratios (ICERs) were determined using functional improvement (CIS effect size [ES], Cohen's d) as clinical outcome criterion. Four treatment strategies and a hypothetical "Do Nothing" alternative were compared with each other.

Results: The four MTA treatment strategies were all clinically effective. Across jurisdictions, both CC versus "Do Nothing" (ICERs ranging from 1,200€/ES to 2,600€/ES) and MedMgt (ICERs versus "Do Nothing" from 1,000€/ES to 2,700€/ES, ICERs versus CC from dominance to 3,000€/ES) appeared attractive on grounds of cost-effectiveness. MedMgt dominated Beh, and ICERs for Comb versus MedMgt ranged from 500,000€/ES to 1,000,000€/ES. Results for subgroups with pure ADHD, HKD/HKCD, and pure HKD were broadly similar. Sensitivity analyses including probabilistic evaluations using non-parametric bootstrapping supported these findings.

Conclusions: Despite notable international differences in terms of diagnostic criteria, standards of care, and unit costs, the cost-effectiveness of MTA-based clinical treatment strategies for patients with pure ADHD seemed remarkably similar across jurisdictions. The impact of comorbidity remains to be explored.

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