

Patterns and Predictors of Psychotropic Polypharmacy in Autism Spectrum Disorder: The Impact of ADHD, Anxiety, and Mood Disorders

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Abstract

Objective: In individuals with Autism Spectrum Disorder (ASD), the use of psychotropic medications is increasingly rising to manage frequent psychiatric comorbidities beyond the core symptoms. This trend elevates the risk of polypharmacy (the concurrent use of multiple medications), particularly in the presence of co-occurring diagnoses such as attention-deficit/hyperactivity disorder (ADHD), anxiety, and mood disorders. The objective of this study is to analyze psychotropic prescribing trends in ASD cases and assess the statistical impact of comorbid psychiatric diagnoses on the polypharmacy burden using data from existing studies.

Methodology: This study utilized a systematic review and meta-analysis approach to evaluate data from peer-reviewed articles published over the last 15 years that investigated psychotropic use and comorbidities (ADHD, anxiety, mood disorders) in individuals diagnosed with ASD. Statistical data were pooled to determine polypharmacy rates and their associations with specific diagnoses by calculating Odds Ratios (OR) and 95% Confidence Intervals (CI). A random-effects model was applied, and heterogeneity was assessed using the I^2 statistic.

Results: The meta-analysis included 25 independent studies, encompassing a total of over 158,400 ASD cases. The overall prevalence of psychotropic medication use was 58.4%, while the prevalence of polypharmacy (concurrent use of ≥ 2 different psychotropic classes) was determined to be 26.8%. A comorbid ADHD diagnosis was identified as the factor that increased the risk of polypharmacy the most (OR: 3.45, $p < 0.001$). The concurrent use of multiple medications was also found to be significantly high in cases with anxiety (OR: 2.78, $p < 0.001$) and mood disorders (OR: 2.95, $p < 0.001$). The most frequently observed polypharmacy regimen was the combination of an antipsychotic and a stimulant (41.2%).

Discussion: Our findings indicate that psychotropic polypharmacy is a substantial clinical reality in ASD patients, largely driven by comorbid ADHD, anxiety, and mood disorders. These comorbidities complicate treatment processes and have the potential to increase the side effect burden. It is essential for clinicians to adhere to rational prescribing principles in order to minimize adverse drug interactions.

Keywords

Autism Spectrum Disorder, Polypharmacy, Psychotropic Drugs, Comorbidity, ADHD, Anxiety.