



## **Influence of age and comorbidity on medications prescribed for preschool aged children with ADHD: A DBPNet Study**

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**Purpose:** Describe factors that influence the prescription of stimulants and alpha-2 agonists (A2A) for the treatment of preschool age children with ADHD.

**Methods:** Demographic information, diagnoses, and medications prescribed by developmental-behavioral pediatricians (DBPs) were extracted from the electronic health record for all outpatient visits 1/1/2010 -12/31/2011 at 2 DBPNet sites. The subset of visits for children aged 2 through 5 years of age who had a primary diagnosis of ADHD were included in this analysis. Generalized estimating models were constructed to identify factors associated with prescribing stimulants or A2A.

**Results:** Over the 2 yrs, 984 preschool aged children were diagnosed with ADHD at the two sites of whom 457 (46.4%) were prescribed a stimulant and/or an A2A. Of these 457 children, 214 (46.8%) were only treated with a stimulant, 115 were only treated with an A2A (25.2%), and 128 (28.0%) were treated with both medications either concurrently or sequentially. Older preschool aged children were more likely to be treated with stimulants (OR=1.66,  $p<0.001$ ) whereas younger children were more likely to be treated with A2A (OR=0.82,  $p=0.02$ ). Having 3 or more comorbid diagnoses increased the likelihood of being prescribed stimulants (OR=2.12,  $p=0.001$ ) and A2A (OR=3.71,  $p<0.001$ ). Children with the following comorbid diagnoses were more likely to be prescribed stimulants than A2A: disruptive behavior disorders (45.3% vs 36.2%,  $p=0.05$ ), global developmental delay or intellectual disability (35.4% vs 27.7%,  $p=0.05$ ), and speech-language disorders (37.2% vs 26.8%,  $p<0.001$ ). Children with sleep disorders were more likely to be prescribed A2A (50.5% vs 61.8%,  $p=0.03$ ). There was no difference in the frequency in which the medications were prescribed for children with comorbid anxiety disorder or autism spectrum disorder.

**Conclusion:** Younger preschool aged children with ADHD are more likely to be prescribed A2A whereas older children are more likely to be prescribed stimulants. Children with multiple comorbid conditions are more likely to be prescribed medication with sleep disorders increasing the likelihood of being prescribed A2A and disruptive behaviors disorders or developmental delays increasing the likelihood of being prescribed stimulants. Further research is needed to determine if these differences in practice reflect differences in efficacy or side effects of stimulants and A2A in these clinical situations.

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