

## Antipsychotic Use for Nonpsychotic Disorders Increasing Among Very Young Children

The following is an extract of:

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### Bottom Line:

- This is a study of national trends in antipsychotic use from 1999-2001 (n=400,196) vs. 2007 (n=755,793) in privately insured children aged 2-5 yrs.
- The annualized rate of antipsychotic use per 1000 children nearly doubled, from 0.78 (1999-2001) to 1.59 (2007).
- There were significant increases in antipsychotic treatment overall, as well as among boys, girls, and children ages 3, 4, and 5.
- During this same time period usage rates of antidepressants, anxiolytics and mood stabilizers significantly decreased in this population.
- The rates of antipsychotic use did not increase for schizophrenia or bipolar disorder, but increased markedly for depression (>7 fold) and for other nonpsychotic disorders.
- A minority of antipsychotic-treated very young children received a mental health assessment (40.8%), a psychotherapy visit (41.4%), or a visit with a psychiatrist (42.6%) during a year of antipsychotic use.

This study looked at service and pharmacy claims data from the national MarketScan Research Databases (1999-2007) in order to examine trends in antipsychotic drug treatment among privately insured children aged 2-5 years between 1999-2001 and 2007. The authors looked at temporal trends in the rate of antipsychotic drug use, stratified by patient demographics and clinical characteristics. They found that prescriptions for antipsychotics in this population nearly doubled. Antipsychotic use increased significantly for those with nonpsychotic disorders. This was coupled with the finding that prescriptions for antidepressants, anxiolytics and mood stabilizers declined, suggesting that antipsychotics are replacing other psychotropics in the treatment of nonpsychotic disorders in this population. At the same time, rates of mental health service provision also declined.

### Study Background

Several studies have reported increased rates of antipsychotic use among very young children (ages 2-5). Several issues unique to this population necessitate the cautious use of antipsychotics in very young children. First, there is little support for antipsychotic efficacy in this population. Second, adverse effects, especially metabolic and endocrine, may disproportionately affect very young children. Third, safe and effective dosing is complicated by different rates of absorption and elimination, which vary based on maturational stage. Fourth, inadequate testing for several psychiatric disorders in very young children complicates treatment choice. Finally, laboratory research has raised the question of whether some antipsychotics can adversely affect the developing brain. Given these concerns it is important to understand how practice trends have changed over time for this population.

## Study Details

This study examined service and pharmacy claims from the national MarketScan Research Databases (1999-2007). Cohorts were limited to consumers aged 2-5 years with 12 months of continuous service enrollment in 1999-2001 or 2007. Since later years showed a growth in the number of participating companies in the database, the years 1999-2001 were pooled to provide stable estimates. Antipsychotic drug use was defined as  $\geq 1$  antipsychotic prescription during each study year. Other examined drug classes included: stimulants, antidepressants, mood stabilizers, anxiolytics and  $\alpha 2$ -agonists. Medications such as lithium, clonidine and guanfacine were only considered as psychotropics if they were prescribed in the absence of a medical diagnosis. Main outcomes measured were: annualized rates of antipsychotic use and adjusted rate ratios (ARRs) of year effect on rate of antipsychotic use. The latter were adjusted for age, sex and mental disorder (ranked according to 10 hierarchical diagnostic groups that corresponded to strength of evidence for antipsychotic treatment). The authors also looked at treatment settings and numbers, as well as type of antipsychotics prescribed.

## Results and Limitations

The percentage of very young children who received any psychotropic was basically unchanged between 1999-2001 (1.48%) and 2007 (1.51%). However, the annualized rate of antipsychotic prescriptions approximately doubled, from 0.78 (1999-2001) to 1.59 (2007), while use of antidepressants and mood stabilizers decreased. Significant increases in antipsychotic treatment were found overall (ARR 1.76), for boys (ARR 1.66), girls (ARR 2.26), children aged 3 (ARR 1.61), 4 (ARR 1.97), and 5 years (ARR 1.74). Rates significantly increased for a range of disorders, most markedly for depression/mood disorder NOS (ARR 7.22), followed by ADHD (ARR 1.68), then Persistent Development Disorder/Mental Retardation (ARR 1.56), and lastly Disruptive Behavior Disorder (ARR 1.55). In both periods, children diagnosed with bipolar disorder had the highest rate per 1000 of antipsychotic treatment (1999-2001: 383.7; 2007: 552.6). The majority of antipsychotic prescriptions in both time periods were for second generation antipsychotics (1999-2001: 89.21%, 2007: 99.75%), of which most were for risperidone (1999-2001: 73.32%, 2007: 74.34%). In 2007, a minority of antipsychotic-treated very young children received a mental health assessment (40.8%), a psychotherapy visit (41.4%), or a visit to a psychiatrist (42.6%).

Limitations include: the inability to validate clinical diagnoses and the inability to account for services paid out of pocket or by other insurance plans.

## Clinical Implications

During the study period, the rates of antipsychotic treatment among very young children nearly doubled. Growth in antipsychotic use occurred without a similar increase in other psychotropics. At the same time, use of antidepressants and mood stabilizers significantly decreased, suggesting that antipsychotics may be replacing other psychotropics in the treatment of nonpsychotic conditions among very young children. Antipsychotic usage rates did not increase for those with schizophrenia or bipolar disorder, but did increase for a range of nonpsychotic disorders. Most markedly, there was a more than 7-fold increase among those with depression/mood disorder NOS. Antipsychotics were widely used despite insufficient evidence for their use in very young children and concerns that this population may be more vulnerable to antipsychotic side effects. Despite the increased use of antipsychotic medications among privately insured very young children, only a minority of these children received mental health services. The authors conclude that "there is a critical need to improve the availability of specialized and well integrated mental health care for very young children with serious mental illness."

Dr. Olfson reports receiving research support and working as a consultant for various pharmaceutical companies.