Implementation of Education plus Provider-Specific Prescribing Reports and the Effects on Antipsychotic Polypharmacy in Children and Adolescents with Mental Illness in an Outpatient Behavioral Health Center

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Background
- Psychiatric polypharmacy is on the rise in the child and adolescent population
- Polypharmacy can lead to increased adverse events, increased costs, and decreased compliance
- AACAP released practice parameters emphasizing lack of evidence to support combining medications from particular classes, such as 2 antidepressants or 2 antipsychotics¹,²
- Few studies aimed at reducing psychotropic polypharmacy³,⁴

Methods
- Purpose: evaluate the impact of education and provider specific prescribing reports on antipsychotic polypharmacy in children and adolescents with mental illness in an outpatient behavioral health center
- Design: prospective, single-center, interventional study with historical control group
- Study Timeline:
  - Control data: Sept 15 – Dec 15, 2015
  - Educational seminar: Dec 16, 2015
  - Intervention data: Jan 1 – Mar 31, 2016

Psychiatrists
- Inclusion criteria
  - Practice in the outpatient behavioral health clinic
  - Encounter with qualifying patient during study time frame
- Exclusion criteria
  - None

Patients
- Inclusion criteria
  - Age ≤ 17 years
  - Seen in BHC during study time frame
  - ≥ 1 psychotropic medication listed as active medication w/in 24 hours of encounter discharge
- Exclusion criteria
  - None

Primary Outcome
- % change in patients prescribed ≥ 2 antipsychotics upon encounter discharge

Secondary Outcomes
- % change in patients prescribed ≥ 2 antidepressants upon encounter discharge
- % change in patients prescribed ≥ 3 anti-attention deficit hyperactivity disorder (ADHD) medications upon encounter discharge

Results

Baseline patient characteristics:

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Control Group (n=1,115)</th>
<th>Intervention Group (n=1,190)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender, n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>695 (62.3%)</td>
<td>711 (59.7%)</td>
</tr>
<tr>
<td>Female</td>
<td>420 (37.7%)</td>
<td>479 (40.3%)</td>
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<tr>
<td>Age (years)</td>
<td></td>
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<tr>
<td>All patients, mean ± SD</td>
<td>12.7 ± 3.3</td>
<td>12.8 ± 3.3</td>
</tr>
<tr>
<td>Ages 0 -12, n (%)</td>
<td>532 (47.7%)</td>
<td>562 (47.2%)</td>
</tr>
<tr>
<td>Ages 13 -17, n (%)</td>
<td>583 (52.3%)</td>
<td>628 (52.8%)</td>
</tr>
</tbody>
</table>
**Primary outcome:**

Encounters with Patients on Antipsychotics

![Chart showing comparison between Control and Intervention groups for antipsychotics.]

- **Control:** 14.84% (n=337)
- **Intervention:** 7.97% (n=251)

**Secondary outcomes:**

Encounters with Patients on Antidepressants

![Chart showing comparison between Control and Intervention groups for antidepressants.]

- **Control:** 18.7% (n=738)
- **Intervention:** 10.69% (n=720)

Encounters with Patients on ADHD Medications

![Chart showing comparison between Control and Intervention groups for ADHD medications.]

- **Control:** 42.21% (n=860)
- **Intervention:** 33.73% (n=836)

**Discussion**

- **1st** study to examine impact of education + provider-specific prescribing reports on psychotropic polypharmacy in the outpatient child and adolescent population with mental illness.
- Change in ≥ 2 antipsychotics prevalence → statistically significant difference of \( p = 0.011 \)
  - Absolute % reduction of 6.87% is less than similar studies
  - Proportional % decrease of 46.3%
- Antidepressants and ADHD medications → statistically significant differences b/t control and intervention groups
  - Suggests interventional methods contributing to changes in prescribing practices

**Limitations**

- Small group of providers
- Short time frame
- Department barriers prevented additional education
- Mechanism for dissemination of reports
  - Unable to ascertain physicians actually utilized the prescribing reports

**Conclusions**

- Education + provider-specific prescribing reports may decrease polypharmacy in children and adolescents in an outpatient behavioral health center (BHC)
- Further studies needed to verify results of pilot project

**References**