ANTIPSYCHOTIC TREATMENT IN VERMONT YOUTH

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Blogs
http://blog.uvm.edu/drettew
http://www.psychologytoday.com/blog/abcs-child-psychiatry
## Disclosures of Potential Conflicts

<table>
<thead>
<tr>
<th>Source</th>
<th>Research Funding</th>
<th>Advisor/Consultant</th>
<th>Employee</th>
<th>Speakers’ Bureau</th>
<th>Books, Intellectual Property</th>
<th>In-kind Services (example: travel)</th>
<th>Stock or Equity</th>
<th>Honorarium or expenses for this presentation or meeting</th>
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<td>Psychology Today</td>
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Book on temperament by WW Norton
Outline

• Review trends in antipsychotic prescribing to youth both nationally and locally
• Present new data from survey of Vermont prescribers of antipsychotic medications
• Discuss relevance to Community Mental Health Centers
What Are Antipsychotics?

- Also called in the past neuroleptics or major tranquilizers
- Class of medications developed to treat schizophrenia and other psychotic disorders
- First appeared in 1950s
- Second generation or “atypical” medications began to be used in 1990s
  - Thought to be less likely to cause certain side effects related to movement problems

Risperidone
# Antipsychotics

## Older Antipsychotics

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Brand Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorpromazine</td>
<td>Thorazine®</td>
</tr>
<tr>
<td>Haloperidol</td>
<td>Haldol®</td>
</tr>
<tr>
<td>Pimozide</td>
<td>Orap®</td>
</tr>
</tbody>
</table>

## Newer Antipsychotics

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Brand Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aripiprazole</td>
<td>Abilify®</td>
</tr>
<tr>
<td>Asenapine*</td>
<td>Saphris®*</td>
</tr>
<tr>
<td>Clozapine</td>
<td>Clozaril®; FazaClo®</td>
</tr>
<tr>
<td>Iloperidone*</td>
<td>Fanapt®*</td>
</tr>
<tr>
<td>Lurasidone*</td>
<td>Latuda®*</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>Zyprexa®</td>
</tr>
<tr>
<td>Paliperidone</td>
<td>Invega®</td>
</tr>
<tr>
<td>Quetiapine</td>
<td>Seroquel®</td>
</tr>
<tr>
<td>Risperidone</td>
<td>Risperdal®</td>
</tr>
<tr>
<td>Ziprasidone</td>
<td>Geodon®</td>
</tr>
</tbody>
</table>

*These medicines were not studied in this report.*
Soaring Numbers of Children on Powerful Adult Psychiatric Drugs

DEAD WRONG: HOW PSYCHIATRIC DRUGS CAN KILL YOUR CHILD

From the makers of the award-winning documentaries Making a Killing: The Untold Story of Psychotropic Drugging and The Marketing of Madness: Are We All Insane? comes this
Antipsychotic Use Among Medicaid Eligible Youth 1997-2006

Overall
- 1997: 1.2%
- 2006: 3.1%

Zito et al, Psych Services, 2013
Antipsychotic Use Among Medicaid Eligible Youth in Vermont - 2011

Overall 1.9%

From DVHA
Survey and not claims based

Dramatic increase in antipsychotic usage in children and adolescence from mid 1990s to mid 2000s

Disruptive Behavioral Diagnosis most common diagnostic category

Often no diagnosis given

Risperidone most common antipsychotic medication

Olfson et al, Arch Gen Psych, 2012
Factors Related to Increase

- Rise in diagnosis of Bipolar Disorder and Autism Spectrum Disorders
- New FDA indications in youth
- Reduced stigma of mental health disorders
- Influence of pharmaceutical industry
- Insurance and access limitations to psychotherapy
Potential Side Effects

- **Metabolic**: Significant weight gain, diabetes, high cholesterol
- **Behavioral**: Sedation, cognitive dulling, listlessness
- **Cardiovascular**: tachycardia, orthostatic hypotension, QTc prolongation (ziprasidone)
- **Agranulocytosis and neutropenia**: especially clozapine but case reports with others
- **Hepatic Dysfunction**: rare but may be related to rapid weight gain
- **Prolactin Evaluation and gynecomastia**: related to D2 blockade (risperidone)
- **Seizures**: especially clozapine and olanzapine
- **Movement problems and tardive dyskinesia**: less with atypicals but still possible
- **Neuromuscular Malignant Syndrome**
- **Cataracts**: animal literature for quetiapine
## ADA Screening Guidelines for Patients on Second-Generation Antipsychotics

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>4 Weeks</th>
<th>8 Weeks</th>
<th>12 Weeks</th>
<th>Annually</th>
</tr>
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<tbody>
<tr>
<td>Personal family history</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Weight (BMI)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overweight (25.0-29.9)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obese (≥30.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waist circumference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>(&lt;40” in males, &lt;35” in females)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood pressure</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Fasting plasma glucose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>IFG (100-125 mg/dL)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes (≥126 mg/dL)</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Fasting lipid profile</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total cholesterol</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>HDL (≥40)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDL (≤100)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TG (≤150)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Normal values (in parentheses) based on 2007 ADA Guidelines and National Cholesterol Education Program (NCEP) Guidelines. More frequent assessments may be warranted based on patient results and the monitoring recommendations in the package inserts for individual antipsychotic drugs used. LDL=low density lipoprotein.

2. ADA. Diabetes Care. 2007;30(suppl 1):S4-S41.
Lack of Metabolic Screening

- Recommendations for regular monitoring of weight, BMI, lipids, glucose with antipsychotic use
- Studies show lack of regular monitoring, especially laboratory measures

Morrato et al, 2010
Recommendations

- Careful diagnostic assessment and thorough discussion of risks and benefits
- Prescribing follow scientific evidence
- If not FDA approved indication, use other medication and non-medication treatments first
- Avoid in young children
- Use only one
- Monitor with weights and labs
- Attempt to discontinue if possible
Antipsychotic Survey

• Came from Vermont Department of Health Access (VDVA) in collaboration with the Drug Utilization Review (DUR) Board of the DVHA, the Department of Mental Health (DMH) and the Department for Children and Families (DCF) with guidance from the Child and Adolescent Psychiatric Medications Trend Monitoring Group

• Sent to all prescribers of antipsychotics to Vermont children using Medicaid (total 978)

• Completion in two months required as a prior authorization

• Survey per medication not per patient

• Occurred around Fall 2012
Pediatric Antipsychotic Medication Survey

Patient: SMITH, JOHN  DOB: 01/01/1990

1. [ ] This patient will not continue this medication.
2. [ ] This patient is no longer being followed by me.
3. [ ] Is this medication new (first fill) to the patient?
   [ ] Yes  [ ] No
4. This medication was started in the following setting:
   [ ] Outpatient  [ ] Inpatient or residential (specify if known)  [ ] Unknown
5. Your (prescriber) specialty:
   [ ] Pediatrician  [ ] General Psychiatrist  [ ] Psychiatric NP
   [ ] Family medicine physician  [ ] Pediatric NP  [ ] Neurologist
   [ ] Child/adolescent psychiatrist  [ ] Family medicine NP
6. Are you the one who started this medication?
   [ ] Yes  [ ] Yes, after communication with a child psychiatrist  [ ] No
   If NO, what was the specialty of the person who started the medication?
   [ ] Pediatrician  [ ] General Psychiatrist  [ ] Psychiatric NP  [ ] Unknown
   [ ] Family medicine physician  [ ] Pediatric NP  [ ] Neurologist
   [ ] Child/adolescent psychiatrist  [ ] Family medicine NP
7. What is the main target symptom(s) for which the medication is being used (check all that apply)?
   [ ] Aggression  [ ] Mood instability
   [ ] Anxiety  [ ] Obsessions/compulsions
   [ ] Depressed mood  [ ] Psychotic symptoms
   [ ] Grandiosity/euphoria/mania  [ ] Sleep problems/insomnia
   [ ] Impulsivity  [ ] Tics (motor or vocal)
   [ ] Irritability without aggression  [ ] Other (please elaborate)

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8. [ ] What is/are the primary diagnosis for which the medication is being used (check all that apply)?
   [ ] Anxiety Disorder (other than OCD)  [ ] Autistic Disorder
   [ ] Attention Deficit Hyperactivity Disorder  [ ] Bipolar Disorder
   [ ] Developmental delays (not autism)  [ ] Psychotic Disorder (any)
   [ ] Intermittent Explosive Disorder  [ ] Sleep Disorder
   [ ] Mood Disorder NOS  [ ] Tourette’s/Tics
   [ ] Obsessive Compulsive Disorder  [ ] Traumatic Brain Injury (TBI)
   [ ] Oppositional Defiant Disorder  [ ] Other (please elaborate)

9. What medication classes have been tried previously for this target symptom(s) (check all that apply)?
   [ ] Alpha agents (e.g., clozapine, perphenazine, Trazol, thiothixene)
   [ ] Antidepressants (e.g., venlafaxine, bupropion, mirtazapine)
   [ ] Antipsychotics (e.g., risperidone, olanzapine, quetiapine, leucen)
   [ ] Mood stabilizers (e.g., lithium, divalproex, eslicarbazepine)
   [ ] Stimulants (e.g., methylphenidate, atomoxetine, guanfacine)
   [ ] Benzodiazepines (e.g., alprazolam, clonazepam, lorazepam)
   [ ] No other psychiatric medication

10. What medications are being used in addition to the requested antipsychotic drug for any mental health symptom(s) (check all that apply)?
    [ ] Alpha agents (e.g., clozapine, perphenazine, Trazol, thiothixene)
    [ ] Antidepressants (e.g., venlafaxine, bupropion, mirtazapine)
    [ ] Antipsychotics (e.g., risperidone, olanzapine, quetiapine, leucen)
    [ ] Mood stabilizers (e.g., lithium, divalproex, eslicarbazepine)
    [ ] Non-stimulant ADHD agents (e.g., stimulants, atomoxetine)
    [ ] No other psychiatric medication

11. What other interventions have previously been attempted for this target symptom(s) (check all that apply)?
    [ ] Parent Guidance (with a specific counselor or therapist)
    [ ] Psychotherapy – eclectic
    [ ] Parent Guidance (with a primary care clinician)
    [ ] Psychotherapy – cognitive behavioral therapy (CBT)
    [ ] Parental treatment of their own psychiatric condition(s)
    [ ] Psychotherapy – psychodynamic or play/artist based
    [ ] Psychotherapy – type unknown
    [ ] Modification of educational program (e.g., special ed)
    [ ] Unknown

12. What other interventions are being used in addition to the requested antipsychotic drug for this target symptom(s) (check all that apply)?
    [ ] Parent Guidance (with a specific counselor or therapist)
    [ ] Psychotherapy – cognitive behavioral therapy (CBT)
    [ ] Parent Guidance (with a primary care clinician)
    [ ] Psychotherapy – psychodynamic or play/artist based
    [ ] Parental treatment of their own psychiatric condition(s)
    [ ] Modification of educational program (e.g., special ed)
    [ ] Psychotherapy – type unknown
    [ ] Waitlist for treatment (type ________________)
    [ ] Other (please elaborate)

13. What types of metabolic monitoring have you done or plan to do (check all that apply)?
    [ ] Regular weights
    [ ] Regular measurement of waist circumference
    [ ] Series lab work (lipids, glucose)
    [ ] I am not performing metabolic follow-up but can confirm that at least most of these actions are being done by someone else (psychiatrist, endocrinologist, etc.)
    [ ] I am not performing metabolic follow-up and am not certain whether or not someone else is either

Prescriber’s Signature: ____________________________ Date: ________________
Survey Completion

- Return rate 80% (n=778)
- Extensions given to those who had trouble completing them
- Some anger and concern raised about survey and especially using a prior authorization process
- Child sample 71% male, 13.3 years of age (min 3.5)
Prescribers

- Primary care responsible for management of about half of children who take antipsychotic medications
Who started the medication?

• 43% of respondents reported that they were not the ones who started the antipsychotic medication

• Started in inpatient setting in 24% of cases when known
5% of Clinicians Wrote 36% of RXs

Number of Patients per Prescribing Physician

Number of Prescribers vs. Number of Patients
In 79% of cases, Aggression, Mania, Psychosis, Mood Instability, or Tics listed as one of target symptoms.
• In 69% of cases, Psychotic, Bipolar, Tic, Mood NOS, Intermitt Explos, Devel, or Autistic Disorder listed as a target DX
Nonpharmacological Treatment

Most children getting other types of treatment but not evidence-based therapy
Metabolic Monitoring

- Weights common but labs done in only about 55%
Broader Measures

- FDA Indication: 27.3%
- Overall Best Practice Guidelines: 51.9%
  - Psychiatrists: 58.9%
  - Non-psychiatrists: 37.9% (difference significant)
Action Plans

• **What we now know**
  - Metabolic monitoring is relatively low

• **What we might do**
  - Design efforts to improve monitoring (electronic alerts, letters) which may decrease amount of suboptimal use
Action Plans

• What we now know
  ➢ Many clinicians don’t know the treatment history of their patients

• What we might do
  ➢ Improve information flow of medication information across settings
Action Plans

• What we now know
  ➢ Few children taking antipsychotics are also receiving evidence-based therapy

• What we might do
  ➢ Improve access and training to evidence-based therapy
Parent Management Training

• Shown to be highly effective across wide variety of child problems (oppositional behavior, aggression, anxiety)

• Treatment gains often maintained

• Therapists can be trained to learn new techniques
### Effective Treatment for Defiant Youth

**TABLE 1**

Parent Management Training Packages

<table>
<thead>
<tr>
<th>Program</th>
<th>Ages, yr</th>
<th>Parents</th>
<th>Teachers</th>
<th>Children</th>
<th>Mode of Administration</th>
<th>Level of Evidence</th>
<th>References</th>
<th>Contact Information</th>
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</thead>
<tbody>
<tr>
<td>Incredible Years</td>
<td>Up to 8</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Group</td>
<td>RCT</td>
<td>Webster-Stratton et al., 2004; Webster-Stratton and Reid, 2003</td>
<td><a href="http://www.incredibleyears.com">http://www.incredibleyears.com</a></td>
</tr>
<tr>
<td>Triple P-Positive Parenting Program</td>
<td>Up to 13</td>
<td>X</td>
<td></td>
<td></td>
<td>RCT</td>
<td>Sanders et al., 2000; Hoath and Sanders, 2002</td>
<td><a href="http://www1.triplep.net">http://www1.triplep.net</a></td>
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<tr>
<td>Parent-Child Interational Therapy</td>
<td>Up to 8</td>
<td>X</td>
<td></td>
<td>X</td>
<td>Individual family</td>
<td>RCT</td>
<td>Brinkmeyer and Eyberg, 2003; Herschell et al., 2002</td>
<td><a href="http://www.pcit.org">http://www.pcit.org</a></td>
</tr>
<tr>
<td>Helping the Noncompliant Child: Parenting and Family Skills Program</td>
<td>Up to 8</td>
<td>X</td>
<td></td>
<td></td>
<td>Individual family</td>
<td>RCT</td>
<td>McMahon and Forehand, 2003; Hough and Daniel, 2003</td>
<td><a href="mailto:memahon@u.washington.edu">memahon@u.washington.edu</a></td>
</tr>
<tr>
<td>COPE</td>
<td>Up to 12–14</td>
<td>X</td>
<td></td>
<td></td>
<td>Group</td>
<td>RCT</td>
<td>Cunningham, 1998; Cunningham et al., 1995</td>
<td>Charles Cunningham, Ph.D., McMaster University, Hamilton, ON, Canada</td>
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<tr>
<td>Defiant Children</td>
<td>Up to 12</td>
<td>X</td>
<td></td>
<td></td>
<td>Individual family</td>
<td></td>
<td>Barkley, 1997</td>
<td>The Guilford Press</td>
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<tr>
<td>The Adolescent Transitions Program (ATP)</td>
<td>11–13</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Individual family and group</td>
<td>RCT</td>
<td>Dishion et al., 2003; Dishion and Kavanagh, 2002</td>
<td><a href="http://cfc.uoregon.edu/ctp.htm">http://cfc.uoregon.edu/ctp.htm</a></td>
</tr>
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</table>

RCT = Randomized clinical trial.
Trauma Focused Treatment

• Most evidence thus far is for an approach called Trauma-Focused CBT
• Neurosequential Model of Therapeutics (Perry approach) expensive and program has invested efforts in marketing rather than research
• Little evidence that unstructured and supportive sessions with child alone, especially in the context of a chaotic home environment, produce significant improvement
Vermont Family Based Approach

- Clinical model of VCCYF
- Assessments of children using standardized rating scale
- Mental health assessments of parents
- Assessment of domains of family wellness (exercise, sleep, structured activities, nutrition)
- Training of family coaches in evidence-based treatment
Vermont Program for Evidence in Practice

2011-2013
Three trainings with 76 attendees from 6 designated mental health agencies
Biweekly follow up consultation also available

2014
Planned trainings and consultation with Rutland County Mental Health and Washington County Mental Health with goal to study ways of increasing clinician participation in follow up consultation

Training and consultation

Training

Planned training and consultation
Overall Recommendations

• New survey indicates that at least half the Medicaid children who take antipsychotics did not get to that point optimally or are not being monitored according to recommended guidelines

• Improvements at community mental health centers could likely be achieved through
  • Increased metabolic screening and monitoring
  • Better treatment history information to prescribers
  • More training and supervision among therapists in evidence-based psychotherapies
THANK YOU

QUESTIONS?