Overuse of Psychotropic Medication in Children & Adolescents

Lois G. McLean, M.D., D.F.A.A.C.A.P.
Children’s Services Medical Director
Brief Look at the Evolution of the Child Psychiatrist’s Role

- Leader of Multidisciplinary Team
- Providing individual therapy to child/adolescent
- Providing family therapy
- Consultant to schools
- Emerging limited role
  - Psychiatric evaluation and consultation
  - Medication management
  - Consultant to other disciplines who provide therapy?
Influences of the Pharmaceutical Industry

- Extrapolation of conclusions of adult studies into child/adolescent prescribing practice
- Many of the studies supporting medication use are industry sponsored
- The Biederman scandal of 2009
- Direct consumer advertising on television
- The push to declare everything "biological" and infer from that every disorder will respond positively to some kind of chemical intervention
Current Practices

- Diagnostic clarity is not the rule
  - Overuse of NOS diagnoses, especially Mood Disorder, NOS and Bipolar Disorder, NOS
  - Maintenance of rule out diagnoses forever

- Polypharmacy use is increasing

- Medication as the initial treatment intervention for mild to moderate symptomatology and the sequelae of environmental/emotional stressors
Utilization vs Non Utilization of Medications in Child and Adolescent Total Quarterly Enrollment

- total birth through 17 Recipients on medications per quarter
- total # 0 thru 17 y/o not on medications

<table>
<thead>
<tr>
<th>Calendar Quarter</th>
<th>Total # of Enrolled per thousand</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Q 11</td>
<td>13590</td>
</tr>
<tr>
<td></td>
<td>= 56.80%</td>
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<tr>
<td>2 Q 11</td>
<td>13925</td>
</tr>
<tr>
<td></td>
<td>= 57.20%</td>
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<tr>
<td>3 Q 11</td>
<td>13871</td>
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<tr>
<td></td>
<td>= 57.03%</td>
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<tr>
<td>4 Q 11</td>
<td>13713</td>
</tr>
<tr>
<td></td>
<td>= 56.13%</td>
</tr>
<tr>
<td>1 Q 12</td>
<td>13618</td>
</tr>
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<td>= 55.40%</td>
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</tbody>
</table>

- 1 Q 11: 10339 = 43.20%
- 2 Q 11: 10421 = 42.80%
- 3 Q 11: 10453 = 42.97%
- 4 Q 11: 10720 = 43.87%
- 1 Q 12: 10964 = 44.60%
Comparison of the Contributions per quarter by Medication Categories of Monotherapy, 2 Medications, and 3 or more Medications to the Quarterly Percentage of Enrolled Birth through Age 17 Utilizing Pharmacy Benefit
Comparison of the Contributions per Quarter by Medication Categories of Monotherapy, 2 Medications, and 3 or more Medications to the Quarterly Percentage of Enrolled Birth through Age 4 Utilizing Pharmacy Benefit

Calendar Quarters:

1 Q 11 utilizing RX benefit
2 Q 11 utilizing RX benefit
3 Q 11 utilizing RX benefit
4 Q 11 utilizing RX benefit
1 Q 12 utilizing RX benefit

% of enrolled utilizing RX benefit
0.00% 1.00% 2.00% 3.00% 4.00% 5.00% 6.00% 7.00% 8.00%

percentage based on total enrollment of birth through 4
monotherapy
2 meds
3+ Meds

Quarterly Contributions:

1 Q 11:
- Monotherapy: 4.600%
- 2 Meds: 7.25%
- 3+ Meds: 0.36%

2 Q 11:
- Monotherapy: 5.010%
- 2 Meds: 7.37%
- 3+ Meds: 1.83%

3 Q 11:
- Monotherapy: 6.048%
- 2 Meds: 7.56%
- 3+ Meds: 3.860%

4 Q 11:
- Monotherapy: 4.520%
- 2 Meds: 6.71%
- 3+ Meds: 1.62%

1 Q 12:
- Monotherapy: 0.57%
- 2 Meds: 1.03%
- 3+ Meds: 1.62%
Comparison of the Contributions per Quarter by Medication categories of Monotherapy, 2 Medications, and 3 or more Medications to the Quarterly Percentage of Enrolled Ages 5 through 12 Utilizing Pharmacy Benefit

- Percentage based on total enrollment 5 through 12
- Monotherapy
- 2 Meds
- 3+ Meds

Calendar Quarters:
- 1 Q 11
- 2 Q 11
- 3 Q 11
- 4 Q 11
- 1 Q 12

% of enrolled utilizing RX benefit:
- 0.00%
- 5.00%
- 10.00%
- 15.00%
- 20.00%
- 25.00%
- 30.00%
- 35.00%
- 40.00%
- 45.00%
- 50.00%

Values:
- 1 Q 11: 47.02% (Monotherapy), 25.41% (2 Meds), 13.61% (3+ Meds)
- 2 Q 11: 46.59% (Monotherapy), 25.26% (2 Meds), 13.34% (3+ Meds)
- 3 Q 11: 46.69% (Monotherapy), 25.18% (2 Meds), 13.74% (3+ Meds)
- 4 Q 11: 47.59% (Monotherapy), 24.02% (2 Meds), 14.88% (3+ Meds)
- 1 Q 12: 48.04% (Monotherapy), 24.54% (2 Meds), 14.80% (3+ Meds)
Comparison of the Contributions per Quarter by Medication categories of Monotherapy, 2 Medications, and 3 or more Medications to the Quarterly Percentage of Enrolled Ages 13 through 17 Utilizing Pharmacy Benefits

- percentage based on total enrollment 13 through 17
- mono therapy
- 2 meds
- 3+ Meds

Calendar Quarter:
- 1 Q 11
- 2 Q 11
- 3 Q 11
- 4 Q 11
- 1 Q 12

<table>
<thead>
<tr>
<th>Calendar Quarter</th>
<th>Mono Therapy</th>
<th>2 Meds</th>
<th>3+ Meds</th>
</tr>
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<tbody>
<tr>
<td>1 Q 11</td>
<td>19.80%</td>
<td>44.52%</td>
<td>35.68%</td>
</tr>
<tr>
<td>2 Q 11</td>
<td>19.77%</td>
<td>43.93%</td>
<td>36.30%</td>
</tr>
<tr>
<td>3 Q 11</td>
<td>20.55%</td>
<td>44.87%</td>
<td>34.58%</td>
</tr>
<tr>
<td>4 Q 11</td>
<td>20.28%</td>
<td>46.23%</td>
<td>33.59%</td>
</tr>
<tr>
<td>1 Q 12</td>
<td>21.35%</td>
<td>47.81%</td>
<td>30.84%</td>
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Current Practices
Continued

- Off-label use of atypical antipsychotics (2\textsuperscript{nd} generation antipsychotics) is on the rise, frequently as a first line medication
  - Currently only 2 atypical antipsychotics with an indication for children under 10 years of age
  - Use of more than one medication from this class at a time is increasing
  - Combination of atypical antipsychotic and stimulant for aggressive children diagnosed with ADHD
Proportion of Medicated Children Age 5 through 12 on Antipsychotic and Stimulant

Ages 5 through 12 antipsychotic & stimulant

Ages 5 through 12 on medication

Number of Children

1 Q 11
1281 = 20%

2 Q 11
1243 = 20%

3 Q 11
1306 = 21%

4 Q 11
1316 = 20%

1 Q 12
1361 = 21%
Reasons to Be Alarmed About the Generalized Use of Atypical Antipsychotic Medication

- Potential for long-term metabolic and cardiovascular sequelae
- Obesity
  - Weight gain is greater than that seen in adults
- Significant abnormalities in lipid profiles
- Increased prolactin levels
- Insulin resistance
Reasons to Be Alarmed About the Generalized Use of Atypical Antipsychotic Medication Continued

- Still have risk of tardive dyskinesia, withdrawal dyskinesia and neuroleptic malignant syndrome
- Still have risk of extrapyramidal symptoms (EPS)
  - Acute dystonic reactions, akathisia
- Unknown effects on the developing brain
- Cognitive dulling
- Prolongation of the QT interval
Medical Concerns Related to Other Classes of Psychotropics

- Mood stabilizers:
  - Lithium: thyroid dysfunction
  - Valproate: polycystic ovary syndrome; weight gain

- Stimulants: mild reversible growth retardation
Other Implications of Overuse

- Consideration of the child’s/adolescent’s perspective
  - How do they feel about being medicated?
    - Issues of autonomy
    - Issues of identity
    - Unpleasant side effects (e.g., weight gain, groggniness, clouded thinking)
  - How do they think it has shaped their attitudes, their career paths, their futures?
  - Importance of a relationship with a trusted physician and the psychoeducational factor
    - Response to any recurrence, relapse, or emergence of new symptoms
Principles of Sound Prescribing

- Evaluate thoroughly before considering a medication trial
- Insure that the child/adolescent is free of any medical condition that could account for the presenting symptoms, or those that could complicate the prescribing of medication
- Communication between all parties: child, family, medical, behavioral health, and education
Principles of Sound Prescribing
Continued

- Consider biological, psychological, and social etiologies that explain the presenting symptoms; be alert to the possibility of mistaking behavioral and emotional reactions to psychosocial stressors as symptoms of an underlying biological illness.
- Develop alternative treatment strategies should the medical trial fail or be only partly successful.
- Frequency of visits is dependent on the need for dose titration, the timing of the onset of side effects, and the requirement of maintaining the physician/child/family relationship.
Principles of Sound Prescribing
Continued

❖ Explore expectations for medication treatment
❖ Medication use is tailored to target specific symptomatology
❖ Use adequate doses of medication for a sufficient duration to carry out a valid trial
❖ Recognize that fluctuations in behavior or emotional intensity do not require changes in medication or an additional medication
❖ Reassess both working diagnosis and need for continuing medication at regular intervals
❖ Obtain child’s/adolescent’s assent as well as parent’s consent
Psychotherapeutic Interventions

- Interventions involving the parent/child dyad are the most effective with young children
  - This is particularly true when considering recovery from trauma (e.g., treatment of PTSD)
    - AACAP’s Preschool Psychopharmacology Working Group (PPWG) did not recommend the use of psychotropic medication for PTSD in preschoolers
Psychotherapeutic Interventions
Continued

- Parent-Child Interaction Therapy (PCIT)
  - An evidence based treatment for children age 2 to 7 with disruptive behavior disorders
    - Consists of two phases: Child Directed Interaction (CDI) and Parent Directed Interaction (PDI)
    - Recommended by AACAP
    - “designed with the aim of establishing a warm, loving relationship between parent and child in which parents can teach their child desirable prosocial skills and behaviors and decrease inappropriate and maladaptive behaviors”
Psychotherapeutic Interventions

Continued 6,7

- Behavior Therapies for adolescent substance use
  - Techniques include self-monitoring, cravings management, mood regulation (e.g., relaxation training, skills-building (e.g., problem-solving, assertiveness training), relapse prevention, modeling, behavior rehearsal, feedback, and homework

- Motivational Interviewing
  - Collaborative, person-centered form of guiding to elicit and strengthen motivation for change

- Cognitive Behavioral Therapy
  - Derives from the principle that changing thoughts and/or behavior improves symptoms
  - Assists individuals in understanding the meanings they attach to their experiences can lead to positive change
Psychotherapeutic Interventions
Continued

- Multisystemic Therapy
  - Evidence based family and community based treatment intervention developed to treat juvenile offenders
    - Involves family, school, neighborhood
    - Therapy teams go where the adolescent is
    - Reinforce parental strengths
    - Encourage natural supports and interest based activities to turn the adolescent from criminal behavior patterns
    - Effective for adolescents with gang involvement and substance use issues
Psychotherapeutic Interventions
Continued

- Adolescent Community Reinforcement Approach (A-CRA)
  - Aims to replace environmental elements that support alcohol or drug use with recovery promoting prosocial activities and behaviors
    - Teach problem-solving and communication skills
    - Behavioral rehearsal
    - Active participation in prosocial activities; resiliency building
  - Therapists go where the adolescent is
  - Consists of individual, group, and parent/caregiver sessions
  - Emphasize natural supports and community resources
Psychotherapeutic Interventions
Continued

- Adolescent Community Reinforcement Approach (A-CRA) Continued

  - Skills training is specific to an individual’s problem areas, as determined
  - Aim to make abstinence more rewarding than using
  - Evidence based outpatient behavioral intervention for substance use
  - No pre-determined number of sessions
Suggested Future Focus

- Reduced utilization of antipsychotic medication to decrease anger or aggression in children/adolescents with ADHD
- Increase utilization of psychotherapy and behavior modification techniques as first line interventions
- Increase utilization of more innocuous medications for which efficacy has been established in children if medicine is deemed necessary
- Reserve use of most potentially harmful medications for treatment of serious, persistent psychiatric disorders for which they have proven efficacy
REFERENCES