Weighty Issues with Psychotropic Use in Adolescents and Young Adults

Sheila Botts, PharmD, BCPP, FCCP
Chief, Clinical Pharmacy Research & Academic Affairs

Kristen N. Gardner, PharmD
Clinical Pharmacy Specialist – Behavioral Health

Kaiser Permanente Colorado
mental HEALTH
Table 1. Observed Deaths, Years of Potential Life Lost per Death, Mortality Rates, and Standardized Mortality Ratios of Adult Medicaid Beneficiaries Diagnosed as Having Schizophrenia by Disease Category and Sex (January 1, 2001, to December 31, 2007)^a

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Total</th>
<th>Potential Life Lost per Death, Mean, y</th>
<th>Mortality Rate</th>
<th>SMR (95% CI)</th>
<th>Male</th>
<th>Mortality Rate</th>
<th>SMR (95% CI)</th>
<th>Female</th>
<th>Mortality Rate</th>
<th>SMR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All causes</td>
<td>74,003</td>
<td>28.5</td>
<td>1539.5</td>
<td>3.7 (3.7-3.7)</td>
<td>1576.3</td>
<td>3.3 (3.3-3.3)</td>
<td>1497.0</td>
<td>4.3</td>
<td>4.3 (4.3-4.4)</td>
<td></td>
</tr>
<tr>
<td>Natural death</td>
<td>55,741</td>
<td>27.0</td>
<td>1159.6</td>
<td>3.3 (3.3-3.3)</td>
<td>1152.1</td>
<td>3.0 (3.0-3.0)</td>
<td>1168.2</td>
<td>3.7</td>
<td>3.7 (3.7-3.8)</td>
<td></td>
</tr>
<tr>
<td>Cardiovascular disease</td>
<td>19,381</td>
<td>26.8</td>
<td>403.2</td>
<td>3.6 (3.5-3.6)</td>
<td>416.6</td>
<td>3.1 (3.0-3.1)</td>
<td>387.7</td>
<td>4.6</td>
<td>4.6 (4.5-4.7)</td>
<td></td>
</tr>
<tr>
<td>Ischemic heart</td>
<td>10,096</td>
<td>24.8</td>
<td>279.0</td>
<td>3.7 (3.6-3.8)</td>
<td>288.4</td>
<td>3.1 (3.0-3.2)</td>
<td>188.4</td>
<td>5.2</td>
<td>5.2 (5.0-5.4)</td>
<td></td>
</tr>
</tbody>
</table>

Olfson et al. JAMA Psychiatry. doi:10.1001/jamapsychiatry.2015.1737
What are the Causes of Morbidity and Mortality in People with Serious Mental Illness?

While suicide and injury account for about 30-40% of excess mortality, about 60% of premature deaths in persons with schizophrenia are due to “natural causes”

- Cardiovascular disease
- Diabetes
- Respiratory diseases
- Infectious diseases
## Cardiovascular Disease (CVD) Risk Factors

<table>
<thead>
<tr>
<th>Modifiable Risk Factors</th>
<th>Estimated Prevalence and Relative Risk (RR)</th>
<th>Schizophrenia</th>
<th>Bipolar Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obesity</td>
<td>45–55%, 1.5-2X RR&lt;sup&gt;1&lt;/sup&gt;</td>
<td>50–80%, 2-3X RR&lt;sup&gt;2&lt;/sup&gt;</td>
<td>26%&lt;sup&gt;5&lt;/sup&gt;</td>
</tr>
<tr>
<td>Smoking</td>
<td></td>
<td></td>
<td>55%&lt;sup&gt;6&lt;/sup&gt;</td>
</tr>
<tr>
<td>Diabetes</td>
<td>10–14%, 2X RR&lt;sup&gt;3&lt;/sup&gt;</td>
<td></td>
<td>10%&lt;sup&gt;7&lt;/sup&gt;</td>
</tr>
<tr>
<td>Hypertension</td>
<td>≥18%&lt;sup&gt;4&lt;/sup&gt;</td>
<td></td>
<td>15%&lt;sup&gt;5&lt;/sup&gt;</td>
</tr>
<tr>
<td>Dyslipidemia</td>
<td>Up to 5X RR&lt;sup&gt;8&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Risk Factors & Behaviors for Cardiovascular Disease

- (+) family history for CVD
- Increasing age
- Male sex
- Blood pressure (BP)/hypertension
- Lipids/dyslipidemia
- Diabetes mellitus
- Metabolic syndrome
- Inflammation
- Physical inactivity/sedentary lifestyle
- Diet/food preferences
- Obesity
- Cigarette smoking
Metabolic Syndrome

- Visceral Obesity
- Insulin Resistance
- High Triglycerides
- Low HDL-Cholesterol
- Hypertension
Metabolic Syndrome

- Metabolic Syndrome observed among 42.7% of 689 assessable CATIE participants

- Three of five criteria:
  - Abdominal obesity (waist circ. >40” men, 35” in women (39%)
  - Fasting TG >150 ng/dl (58.3%)
  - HDL <40 men, <50 women (26.5%)
  - BP >130/85 (45.9%)
  - Fasting Glucose >100 mg/dl (26.5%)
Metabolic Syndrome

- Abdominal Obesity
- Multiple Borderline Risk Factors
- Multiple Categorical Risk Factors
- Cardiovascular Disease & Complications
- Type 2 Diabetes
- Diabetic Complications
Body Mass Index and Diabetes Risk

![Graph showing the relationship between BMI and diabetes risk.](image-url)
Atherosclerosis: A Progressive Process

Development of Risk Factors (RF)

Endothelial Dysfunction, Plaque initiation

Plaque progression/extension

Effort Angina or Claudication

Plaque Rupture/Fissure & Thrombosis

Angina, MI, Coronary death, Stroke, Peripheral ischemia

ONGOING RF EXPOSURE

Clinically silent
Birth

10

20

30

Clinical events

40

50

60 +

Increasing age
Childhood Obesity

• ~17% (or 12.7 million) of children and adolescents aged 2—19 years are obese
  • BMI ≥ 95%
  • Among children aged 2 to 5 years decreased significantly from 13.9% in 2003-2004 to 8.4% in 2011-2012.

• Obesity more common among certain racial and ethnic groups (2011-2012)
  • Hispanics (22.4%)
  • Non-Hispanic blacks (20.2%)
  • Non-Hispanic whites (14.1%)
  • Non-Hispanic Asian youth (8.6%)
Antipsychotic Use in Youth

- First line treatment for Schizophrenia Spectrum Disorders
  - Used in conjunction with psychotherapeutic interventions
- Second generation agents generally preferred
  - Risperidone
  - Olanzapine
  - Aripiprazole
  - Quetiapine
  - Paliperidone
- Treatment of Early Onset Schizophrenia Study (TEOSS)
  - Symptom improvement in responders plateau after 8 weeks
  - Few completed 12 months of therapy on original medication

AACAP Practice Parameter Schizophrenia 2013
Shift in Risk Perception of Antipsychotics

Past Areas of Concern
- Tardive Dyskinesia
- Sedation
- Insulin Resistance
- Hyperlipidemia
- CHD
- Weight Gain
- Prolactin

Current Medical Realities
- Diabetes
- Weight Gain
- Prolactin
- Hyperlipidemia
- Insulin Resistance
- Sedation
- Coronary Heart Disease

NAMI National Convention
Denver. July 6-9, 2016
Modifiable Risk Factors Affected by Antipsychotic Medication

- Overweight / Obesity
- Insulin resistance
- Diabetes/hyperglycaemia
- Dyslipidemia
Antipsychotic Associated Weight Gain

![Bar chart illustrating patients with greater than 7% weight gain for different antipsychotics.]

Adapted from Efficacy of Metformin and Topiramate in Prevention and Treatment of Second-Generation Antipsychotic-Induced Weight Gain. The Annals of Pharmacotherapy 2010;44:668-679
# Atypical Antipsychotics: Metabolic Concerns

<table>
<thead>
<tr>
<th>Drug</th>
<th>Weight gain</th>
<th>Hyperglycemia</th>
<th>Dyslipidemia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clozapine</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Risperidone</td>
<td>++</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Paliperidone</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Quetiapine</td>
<td>++</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Iloperidone</td>
<td>++</td>
<td>+/-0</td>
<td>+/-0</td>
</tr>
<tr>
<td>Ziprasidone</td>
<td>+/-0</td>
<td>+/-0</td>
<td>+/-0</td>
</tr>
<tr>
<td>Aripiprazole</td>
<td>+/-0</td>
<td>+/-0</td>
<td>+/-0</td>
</tr>
<tr>
<td>Asenapine</td>
<td>+/-0</td>
<td>+/-0</td>
<td>+/-0</td>
</tr>
<tr>
<td>Lurasidone</td>
<td>+/-0</td>
<td>+/-0</td>
<td>+/-0</td>
</tr>
<tr>
<td>Cariprazine</td>
<td>+/-0</td>
<td>+/-0</td>
<td>+/-0</td>
</tr>
<tr>
<td>Brexipiprazole</td>
<td>+/-0</td>
<td>+/-0</td>
<td>+/-0</td>
</tr>
</tbody>
</table>

**NOTES:** †+++ significant, ++ moderate; + low; +/-0 neutral. Adapted from *Current Psychiatry* 2013;12(9):51-54.
Metabolic Adverse Effects in Youth

• Naturalistic study, youth (4-19 years) naive to antipsychotic therapy. ~3 months of treatment

• Weight Gain (percent gaining >7%)
  • 4.4 kg on aripiprazole (58.4%)
  • 5.3 kg on risperidone, (64.4%)
  • 6.1 kg on quetiapine, (55.6%)
  • 8.5 kg on olanzapine (84.4%)

• Increased fat mass, waist, BMI
  • 36.1% shifted to overweight or obese

• Glucose and lipid changes, except aripiprazole
## EUFEST: First Episode Schizophrenia

### Weight Changes with Treatment

<table>
<thead>
<tr>
<th></th>
<th>Haloperidol</th>
<th>Amisulpride</th>
<th>Olanzapine</th>
<th>Quetiapine</th>
<th>Ziprasidone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overweight</strong></td>
<td>16/43</td>
<td>31/72</td>
<td>45/83</td>
<td>25/55</td>
<td>14/43</td>
</tr>
<tr>
<td>(BMI ≥25 kg/m²)</td>
<td>(37%)</td>
<td>(43%)</td>
<td>(54%)</td>
<td>(45%)</td>
<td>(33%)</td>
</tr>
<tr>
<td><strong>Weight gain</strong></td>
<td>23/43</td>
<td>45/72</td>
<td>71/83</td>
<td>36/55</td>
<td>16/43</td>
</tr>
<tr>
<td>&gt;7% from baseline</td>
<td>(53%)</td>
<td>(63%)</td>
<td>(86%)</td>
<td>(65%)</td>
<td>(37%)</td>
</tr>
<tr>
<td><strong>Weight change</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>from baseline (kg)</td>
<td>7.3 (1.8)</td>
<td>9.7 (1.7)</td>
<td>13.9 (1.7)</td>
<td>10.5 (1.8)</td>
<td>4.8 (1.9)</td>
</tr>
</tbody>
</table>
Weight Gain

- Most common long term adverse effect of atypicals
- 5% weight gain in 1st 3 months or 0.5 increase in BMI concerning
- Dyslipidemia, metabolic syndrome, diabetes mellitus, hypertension, polycystic ovary,
- Social withdrawal, treatment discontinuation, self esteem

Metabolic Syndrome

- Obesity, hypertriglyceridemia, low HDL, hypertension, hyperglycemia
- Precursor = weight gain
- Insulin secretion problems
- Especially clozapine and olanzapine
Traditional Mood Stabilizers: What are examples of these?

- Lamotrigine (Lamictal)
- Lithium (Lithobid)
- Valproic acid derivatives (Depakote, Depakene)
- Carbamazepine (Tegretol)
- Oxcarbamazepine (Trileptal)
Traditional Mood Stabilizers: Why are they prescribed?

- Seizures
- Mood
  - Major depressive disorder
  - Bipolar disorder
  - Schizoaffective disorder
- Pain/neuropathy
- Migraine prevention
- Alcohol detoxification
Traditional Mood Stabilizers: What is their metabolic risk?

- Lamotrigine
- Carbamazepine
- Oxcarbazepine

Lithium

Valproate

Lower risk

Higher risk
Traditional Mood Stabilizers: What is their metabolic risk?

- Poorly understand and variable reports
- Valproate associated weight gain may be related to
  - Increased appetite and carbohydrate craving
  - Increased thirst (may drink high calorie fluids to quench)
  - Increased insulin which can lead to insulin resistance and metabolic syndrome
  - Average weight gain ~10lb; significant weight gain 1 in 5 patients
- Lithium associated weight gain may be related to
  - Decreased thyroid function which slows body’s metabolism
  - Direct appetite stimulation
  - Body holds onto fluids more (fluid retention)
  - Increased thirst
  - Average weight gain ~5-10lb; significant weight gain 3 in 10 patients
Antidepressants: What are examples of these?

### Selective Serotonin Reuptake Inhibitors (SSRIs)
- Citalopram (Celexa)
- Escitalopram (Lexapro)
- Fluoxetine (Prozac)
- Fluvoxamine (Luvox)
- Paroxetine (Paxil)*
- Sertraline (Zoloft)

### Selective Norepinephrine Reuptake Inhibitors (SNRIs)
- Desvenlafaxine (Pristiq)
- Duloxetine (Cymbalta)
- Levomilnacipran (Fetzima)
- Venlafaxine (Effexor)

* = higher metabolic risk within the class
Antidepressants: What are examples of these?

<table>
<thead>
<tr>
<th>Tricyclic Antidepressants (TCAs)</th>
<th>Monoamine Oxidase Inhibitors (MAOIs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Tertiary TCAs*</td>
<td>• Phenelzine (Nardil)*</td>
</tr>
<tr>
<td>• Amitriptyline (Elavil)*</td>
<td>• Selegiline (Eldepryl, Emsam)</td>
</tr>
<tr>
<td>• Imipramine (Tofranil)</td>
<td>• Tranylcypromine (Parnate)</td>
</tr>
<tr>
<td>• Doxepine (Silenor)</td>
<td></td>
</tr>
<tr>
<td>• Secondary TCAs</td>
<td></td>
</tr>
<tr>
<td>• Nortriptyline (Pamelor)</td>
<td></td>
</tr>
<tr>
<td>• Desipramine (Norpramin)</td>
<td></td>
</tr>
</tbody>
</table>

* = higher metabolic risk within the class
### Antidepressants: What are examples of these?

<table>
<thead>
<tr>
<th>Atypical Antidepressants</th>
<th>Newer Antidepressants</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Mirtazapine (Remeron)*</td>
<td>• Vilazodone (Viibryd)</td>
</tr>
<tr>
<td>• Bupropion (Wellbutrin)</td>
<td>• Vortioxetine (Brintellix, Trintellix)</td>
</tr>
<tr>
<td>• Trazodone (Oleptro)</td>
<td></td>
</tr>
<tr>
<td>• Nefazodone (Serzone)</td>
<td></td>
</tr>
</tbody>
</table>

* = higher metabolic risk within the class
Antidepressants: Why are they prescribed?

- Anxiety
- Mood
- Insomnia
- Pain/neuropathy
- Fibromyalgia
- Migraine prevention
- Eating disorders
- Attention Deficit Hyperactivity Disorder
- Irritable bowel syndrome
Antidepressants: What is their metabolic risk?

- Bupropion
- Other Antidepressants
- Paroxetine
- Phenelzine/MAOIs
  - Amitriptyline/TCAs
  - Mirtazapine

Lower risk vs Higher risk
Antidepressants: What is their metabolic risk?

- MAOIs and TCAs are MORE likely to cause weight gain in the short and long-term compared to other antidepressants.
- Mirtazapine likely presents at least similar weight gain risk as TCAs but may also cause lipid (fat) abnormalities.
- SSRIs may be MORE likely to cause weight gain in the long-term (>1 year) vs. short-term; this is controversial.
- Paroxetine may be MORE likely than other SSRIs to cause weight gain.
- Nefazodone and venlafaxine are likely to have no effect on weight vs. SSRIs or TCAs.
- Bupropion is likely to cause weight loss.
<table>
<thead>
<tr>
<th>Medication</th>
<th>Average weight gain (lbs) in short-term (&lt;12 weeks)</th>
<th>Average weight gain (lbs) in long-term (&gt;4 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bupropion</td>
<td>↓ 2.5</td>
<td>↓ 3-4</td>
</tr>
<tr>
<td>Buspirone</td>
<td>None&lt;sup&gt;a&lt;/sup&gt;</td>
<td>None&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Citalopram</td>
<td>↓ 1-2</td>
<td>↑ 3.5</td>
</tr>
<tr>
<td>Desvenlafaxine</td>
<td>↓ 1-2</td>
<td>↓ 1-2</td>
</tr>
<tr>
<td>Duloxetine</td>
<td>↓ 1-2</td>
<td>↑ 1-2</td>
</tr>
<tr>
<td>Escitalopram</td>
<td>↓ &lt; 1</td>
<td>↑ 1-2</td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>↓ 1-2</td>
<td>↓ &lt; 1</td>
</tr>
<tr>
<td>Fluvoxamine</td>
<td>↓ &lt; 1</td>
<td>Limited data&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Mirtazapine</td>
<td>↑ 3.5</td>
<td>↑ 5</td>
</tr>
<tr>
<td>Nefazodone</td>
<td>Minor changes&lt;sup&gt;a&lt;/sup&gt;</td>
<td>None&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>↓ &lt; 1</td>
<td>↑ 5</td>
</tr>
<tr>
<td>Sertraline</td>
<td>↓ 1-2</td>
<td>↓ &lt; 1</td>
</tr>
<tr>
<td>Venlafaxine</td>
<td>↓ &lt; 1</td>
<td>Minor changes&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Vilazodone</td>
<td>Minor changes&lt;sup&gt;a&lt;/sup&gt;</td>
<td>↑ 3&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup>Based on limited data
Minimizing Metabolic Risk

- Achieve illness remission and recovery
- Adopt Lifestyle Changes
- Monitor for risk
- Medication Management
Monitoring for Metabolic Risk: What may we monitor?

- Personal and family history
- Weight/body mass index (BMI)/waist circumference
- Blood pressure
- Hemoglobin A1c
  - Measures average blood sugar over 3 month period
  - May not be accurate measure in patients with renal disease, liver disease, or with conditions that effect hemoglobin
- Lipid panel
  - Measures different fats in the blood
  - Limited use during pregnancy and eating disorders
Monitoring for Metabolic Risk: When do we monitor?

**Table 1.** Recommended monitoring when starting an atypical antipsychotic.

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Baseline</th>
<th>4 weeks</th>
<th>8 weeks</th>
<th>12 weeks</th>
<th>Yearly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical History</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight/BMI/waist&lt;sup&gt;a&lt;/sup&gt;</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>+</td>
<td>+/-</td>
<td>+/-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Lipid Panel</td>
<td>+</td>
<td></td>
<td>+/-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Fasting Plasma Glucose (FPG)/HgbA1c&lt;sup&gt;b&lt;/sup&gt;</td>
<td>+</td>
<td>+/-</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Lifestyle Advice</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

<sup>a</sup> = Patients should self-monitor as well
<sup>b</sup> = Unless patient develops diabetes in which case American Diabetes Association guidelines are recommended

+ = monitor
 +/- = mixed recommendations
Monitoring for Metabolic Risk: When do we monitor?

• “On demand” testing if clinically warranted
  • Symptoms of pancreatitis, heart attack, or stroke
  • Symptoms of high blood glucose (increased thirst and urination, weakness, unintentional weight loss)

• Monitoring for typical antipsychotics often follows monitoring for atypical antipsychotics (see last slide)

• Monitoring for traditional mood stabilizers and antidepressants varies but is mainly limited to weight/BMI and blood pressure
  • Good practice to obtain weight and blood pressure at every office
  • A1c and lipid panel will be obtained as clinical symptoms warrant or guideline recommendations
Monitoring for Metabolic Risk: When should we be concerned?

- Providers look at trends and abnormal values
- Weight gain ≥ 7% body weight or increasing BMI categories
- Waist circumference >35-in (women) or >40-in (men)
- Blood Pressure > 140/90 mmHg
- Abnormal lipids
  - Triglycerides > 500 requires specific intervention
- Development of diabetes mellitus
  - A1c ≥ 6.5%, FPG ≥ 126 mg/dL, random blood glucose ≥ 200 mg/dL WITH symptoms
- Development of prediabetes
  - A1c 5.7 – 6.4% or FPG 120-125 mg/dL

FPG = fasting plasma glucose
Minimizing Metabolic Risk: Positive Lifestyle Habits

<table>
<thead>
<tr>
<th>Positive Habits</th>
<th>Implementation Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Control calorie intake</td>
<td>• Limit soda, sports drinks, and juice</td>
</tr>
<tr>
<td>• Eat a balanced diet</td>
<td>• Gradually decrease portion sizes</td>
</tr>
<tr>
<td>• Increase activity</td>
<td>• Eat smaller but more frequent meals</td>
</tr>
<tr>
<td>• Achieve restful sleep</td>
<td>• Limit “screen time’ to &lt; 2 hours daily</td>
</tr>
<tr>
<td>• Decrease stress</td>
<td>• Use a pedometer/fitbit</td>
</tr>
<tr>
<td>• Minimize alcohol use</td>
<td></td>
</tr>
<tr>
<td>• Stop smoking</td>
<td></td>
</tr>
</tbody>
</table>
## Minimizing Metabolic Risk: Medication Management Overview

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use non-drug interventions</td>
<td>Can continue current meds</td>
<td>General lack of acceptance</td>
</tr>
<tr>
<td></td>
<td>Can avoid adding another med</td>
<td>May not be enough</td>
</tr>
<tr>
<td></td>
<td>General health benefits</td>
<td></td>
</tr>
<tr>
<td>Avoid higher risk meds</td>
<td>Likely beneficial</td>
<td>Limits medication options</td>
</tr>
<tr>
<td>Switch meds to one with lower</td>
<td>Likely beneficial</td>
<td>Possible that illness will worsen or reoccur</td>
</tr>
<tr>
<td>risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add-on therapy</td>
<td>Can continue current meds</td>
<td>May not be beneficial</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Can increase side effect burden</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Can cause drug interactions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Added cost</td>
</tr>
</tbody>
</table>
Minimizing Metabolic Risk: Add on therapy

• If other strategies have failed or pose too many risks, add-on therapy may be considered
• This strategy treats a drug side effect with another drug
• Most studies focus on managing antipsychotic or mood stabilizer associated weight gain using metformin (750-2550 mg/d) or topiramate (100-250 mg/d) for < 3-6 months in ADULT patients
  • Metformin side effects = stomach discomfort, loose stools
  • Topiramate side effects = drowsiness, memory problems, kidney stones, tingling, nearsightedness
  • Weight loss ~5-6 lb
Advocacy

• Do NOT stop taking your medications if you have concerns over metabolic risk
  • Abruptly stopping medications poses serious risk!
• Discuss with your healthcare providers
  • “How are you going to monitor risk associated with starting or continuing my medications?”
  • “I would like to follow and understand my lab results.”
  • “I am concerned my medications may be doing more harm than good.”
  • “I am not following your explanation. Would you please explain it to me another way?”
  • “Would you provide resources so I can learn more about risks and management?”
Resources

• Ask if you have pharmacist as part of your healthcare team to discuss medication concerns
  • If not, speak to pharmacists available in the community about your risk and how to best monitor and manage

• Other community resources
  • www.getoutdoorscolorado.org
  • www.hungerfreecolorado.org
THE RELATIONSHIP BETWEEN INDIVIDUALS WITH MENTAL HEALTH CONDITIONS AND COMMUNITY PHARMACISTS

• 91% of individuals taking mental health medication are very comfortable going to community pharmacies, and 83% report feeling respected by their pharmacist

• 53% of individuals taking mental health medications have a strong professional relationship with their pharmacist, 43% report that they do not have such a relationship

• 75% of individual respondents reported that they did not receive effectiveness or safety monitoring assistance from their pharmacist

• The primary concern from individuals taking mental health medications is a lack of privacy (58%), with no available space for private conversations with their pharmacist being one of the most frequently reported obstacles
Resources

• Mobile Health Applications
  • Lose It
  • Weight watchers mobile
  • Diet Assistant
  • MyFitnessPal
  • Fitocracy
  • Ideal Weight
  • Weight Loss Coach by Fooducate

• Activity Trackers

• Programs:
  • Weight Watchers
  • MOVE (www.move.va.gov)
  • American Diabetes Association: www.diabetes.org/living-with-diabetes

• Medication Information (NAMI Med Sheets)
Select References

Weighty Issues with Psychotropic Use in Adolescents and Young Adults

Sheila Botts, PharmD, BCPP, FCCP
Chief, Clinical Pharmacy Research & Academic Affairs

Kristen N. Gardner, PharmD
Clinical Pharmacy Specialist – Behavioral Health

Kaiser Permanente Colorado