Antipsychotic medications are associated with metabolic side effects including weight gain, obesity, insulin resistance, dyslipidemia, and hypertension. Consequently, prescribers of antipsychotic medications must be vigilant in the prevention, identification, and monitoring of metabolic side effects. Recent studies have shown low rates of metabolic screening in patients treated with antipsychotic medication. We hypothesized that this gap was due to a lack of awareness of medication-induced metabolic side effects and screening guidelines.

**OBJECTIVE**

The purpose of this study was threefold:

1. To evaluate prescribing clinicians' knowledge regarding the metabolic side effects associated with antipsychotic medication.
2. To assess prescribing clinicians' knowledge of established metabolic monitoring guidelines and screening parameters.
3. To determine who prescribing clinicians believe should be responsible for measuring metabolic parameters.

Seventy prescribing clinicians completed an online assessment consisting of six brief, open-ended questions about antipsychotic-induced metabolic side effects and monitoring parameters. All free-text responses were transcribed into a Microsoft Excel 2003 spreadsheet and screened for pre-determined search terms. Search terms were selected based on monitoring guidelines set forth by the American Diabetes Association (ADA) and the Mount Sinai Conference on Medical Monitoring.

**RESULTS**

Significant deficiencies were detected in clinicians' awareness of metabolic side effects, long-term health risks and relative risks of antipsychotic medications.

<table>
<thead>
<tr>
<th>Table 1: Awareness of metabolic side effects</th>
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<tbody>
<tr>
<td><strong>List the possible metabolic side effects of atypical antipsychotics:</strong></td>
</tr>
<tr>
<td>Weight Gain</td>
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<tr>
<td>Glucose Dysregulation</td>
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<tr>
<td>Dyslipidemia</td>
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<td>Pancreatitis</td>
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</table>

The metabolic side effects of antipsychotics increase the risk of developing which disease states?

- Diabetes | 85.9%
- Cardiovascular Disease | 76.6%

Which atypical antipsychotics are most likely to contribute to the development of metabolic side effects?

- clozapine | 48.3%
- olanzapine | 34.3%
- perphenazine | 3.5%

Which atypical antipsychotics are least likely to contribute to the development of metabolic side effects?

- ziprasidone | 68.4%
- aripiprazole | 48.3%

Based on the guidelines set forth by the ADA, family history, body mass index (BMI), waist circumference, lipid profile, glucose profile, and blood pressure should be measured at baseline, and at set frequencies over the course of antipsychotic medication therapy. The Mount Sinai Conference on Medical Monitoring focused on BMI, lipid and glucose levels alone. In this study, we used all of the criteria set forth by the ADA guidelines, except family history. Deficiencies were detected in clinician knowledge of these monitoring parameters.

**DISCUSSION**

Gaps exist in prescribing clinicians’ awareness of side effects and risks associated with antipsychotic medications, and in their familiarity with established metabolic monitoring guidelines and screening parameters. Knowledge gaps regarding monitoring guidelines could be due to lack of awareness of guidelines, confusion over which set of monitoring guidelines to follow, or confusion regarding who is responsible for performing these measurements. Further research is necessary to determine the exact cause of these knowledge gaps. This gap analysis will be used to design and evaluate focused educational interventions targeted to remediate these knowledge gaps.

**REFERENCES**

1. Antipsychotic Associated Metabolic Side Effects: Examining Knowledge and Practice Gaps Among Prescribing Clinicians. [Link](#)
5. The Mount Sinai Conference on Medical Monitoring focused on BMI, lipid and glucose levels alone. In this study, we used all of the criteria set forth by the ADA guidelines, except family history. Deficiencies were detected in clinician knowledge of these monitoring parameters.
6. The MGH Psychiatry Academy has been supported through Independent Medical Education (IME) grants from pharmaceutical companies co-supporting programs along with participant tuition.