Association Between Symptom Severity and Medication Adherence in Poorly Adherent Patients with Bipolar Disorder

Sajatovic, M.1,2, Levin, JB.1,2, Sams, J1,2, Cassidy, KA1, Akagi, KK1, Ramirez, LF1, Safren, SA,3,4, Tatsuoka, C2

1Case Western Reserve University School of Medicine, Department of Psychiatry, Cleveland, Ohio
2University Hospitals Case Medical Center, Neurological and Behavioral Health Center, Cleveland, Ohio
3Harvard Medical School, Department of Psychiatry, Boston, Massachusetts
4Massachusetts General Hospital, Boston, Massachusetts

Abstract

Objective: Poor medication adherence is common in individuals with bipolar disorder (BD) and is associated with illness relapse, rehospitalization and suicide. Previous studies have assessed specific symptom expression in well-characterized non-adherent BD samples. Case registry studies can identify poor adherence but do not provide data on symptom manifestation, while many clinical trials only include adherent patients. This analysis of baseline data from an ongoing randomized controlled trial (RCT) examined the relationship between BD symptoms and medication adherence in a well-characterized, poorly adherent sample.

Methods: Adherence was measured with the self-reported Tablets Routine Questionnaire (TRQ) and with an electronic pill cap, the Medication Event Monitoring System (MEMS). Symptoms were measured with the Montgomery Asberg Depression Rating Scale (MADRS), the Young Mania Rating Scale (YMRS), and the Brief Psychiatric Rating Scale (BPRS). This analysis used screening (TRQ) and baseline (TRQ, MEMS, demographic and clinical information) data from the first 104 consecutive RCT enrollees.

Results: Poor adherence was defined as 46.0 years (SD=9.41), with 72% (N=75) women, 71% (N=74) African-American, 3% (N=3) Hispanic. The majority (66%, N=69) had Type I BD and a mean lifetime history of 5.3 (SD=5.00) psychiatric hospitalizations. Mean proportion of missed prescribed BD medications at screening was 61.34% (SD=24.86) and 48.61% (SD=30.55) at baseline. The mean proportion of missed medication using MEMS at baseline was 66.43% (SD=30.40). Correlation between TRQ and MEMS was 0.47. MADRS, YMRS, and BPRS scores were generally positively correlated with TRQ (worse adherence corresponding to more severe symptoms), but in most instances was only at a trend level (p>.05). TRQ adherence scores on MADRS and BPRS, which were positive (r=0.20, r=0.21 ≤0.05 for both).

Conclusions: In this well-characterized sample of poorly adherent BD patients, the proportion of missed medication varied substantially. Adherence monitoring increased adherence by approximately 15% within 2 weeks, and MEMS identified higher rates of missed medications than self-report. Worse adherence was generally associated with worse BD symptoms. Greater BD symptom severity, especially depression, may be a clinical indicator to assess for adherence problems.

Methods

Overall study description: The NIMH-funded RCT from which these analyses are derived is a 6-month prospective study assessing a novel customized adherence enhancement (CAE) intervention intended to promote BD medication adherence versus an educational control (EDU) in poorly adherent individuals with BD (R01MH093321 PI: Sajatovic). Only the baseline data from the RCT is used for this analysis.

Basic Inclusion criteria:
- Type I or type II Bipolar Disorder (BD) as confirmed by the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID); BD for at least two years duration; and treatment with at least one evidence-based medication to stabilize mood for at least six months
- ≥ 20% non-adherent with prescribed BD medication treatment (i.e. lithium, anticonvulsant, or antipsychotic mood stabilizer)

Measures

MADRS = Montgomery Asberg Depression Rating Scale
YMRS = Young Mania Rating Scale
BPRS = Brief Psychiatric Rating Scale
MEMS = Medication Event Monitoring System
TRQ = Tablets Routine Questionnaire

Results

Table 1: Demographic and clinical characteristics of poorly adherent BD patients enrolled in an adherence intervention RCT

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (SD)</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>46.31 (9.41)</td>
<td>75 (72%)</td>
</tr>
<tr>
<td>Sex</td>
<td>29 (28%)</td>
<td>76 (72%)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>74 (71%)</td>
<td>28 (27%)</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>1 (1%)</td>
<td>23 (22%)</td>
</tr>
<tr>
<td>Trichrome</td>
<td>3 (3%)</td>
<td>69 (66%)</td>
</tr>
</tbody>
</table>

Study participants were grouped according to non-adherence levels (most, medium and least adherent) and symptom measures were compared across these groups using Mann-Whitney U tests.

Conclusions

- In this well-characterized sample of poorly adherent BD patients, rates of missed drug varied substantially, from 20%-100%.
- Medication adherence increased by approximately 15% within the first 2 weeks of adherence monitoring.
- Electronic monitoring appears to identify more missed drug/non-adherent behavior than self-report.

Acknowledgments

Research reported in this poster was supported by the National Institute of Mental Health (NIMH)-funded randomized controlled trial (RCT) testing a novel behavioral intervention to promote medication adherence, examined the relationship between BD symptom severity and adherence.

Introduction

Approximately one in two individuals with BD is non-adherent with medication for BD; nine out of every 10 individuals with BD has seriously considered medication withdrawal, and at least a third of individuals fail to take more than 70% of their prescribed medication. Clinicians may not readily recognize those who do not take prescribed medications, particularly when adherence is partial rather than complete.

There have been few studies that have assessed specific types of symptom expression in well-characterized non-adherent BD samples. Case registry studies that include pharmacy data may readily identify poor adherence but typically do not provide clinical information on symptom manifestation, while traditional clinical trials often only recruit patients who are known to be reliable and adherent.

This analysis, derived from baseline data collected from an ongoing National Institute of Mental Health (NIMH)-funded randomized controlled trial (RCT) testing a novel behavioral intervention to promote medication adherence, examined the relationship between BD symptom severity and adherence.