Objective

To explore all-cause and psychiatric-related hospital readmission rates in patients with bipolar disorder who were treated with different LAIs during their index hospitalization.

Methods

1. Retrospective cohort study using the Premier Perspective Database™
2. Patient identification
   - Hospitalized patients with primary diagnosis for bipolar disorder (ICD-9-CM codes: 296.0x, 296.1x, 296.4x, 296.6x, 296.7x, 296.8x) during the study identification period between 01/01/2013 and 6/30/2015
   - with ≥1 claim for one of the following LAIs during the hospitalizations:
     - Aripiprazole
     - Fluphenazine
     - Haloperidol
     - Paliperidone
     - Risperidone
   - Discharged to home or a home care program
   - Index hospitalization: first admission
   - Index therapy: LAI therapy during index hospitalization
   - Exclusion criteria
     - ≤17 years old during index hospitalization
     - <6 months of follow-up
   - Outcome measure
     - Rates of 30-, 60-, 90-, and 180-day all-cause and psychiatric readmissions
   - Statistical analysis
     - Chi-squared or Fisher’s exact tests performed for dichotomous variables, and independent t-tests or Wilcoxon rank-sum tests for continuous variables.
     - Unadjusted all-cause and psychiatric-related readmission rates were presented.

Results

1. Of the identified 77,605 hospitalized patients with bipolar disorder, 2,414 (3.1%) were treated with LAIs during index hospitalization: aripiprazole (n=76), fluphenazine (n=261), haloperidol (n=839), paliperidone (n=538), or risperidone (n=700) (Figure 1).
2. The mean (SD) age of the population of LAI users was 39.7 (14.9) years old (Table 1).
3. Significant differences existed in race, depression, anxiety, and Charlson Comorbidity Index (CCI) score across different cohorts (Table 1).
4. The aripiprazole cohort had the numerically lowest, unadjusted 60-, 90-, and 180-day all-cause and psychiatric-related readmission rates: all-cause (14.65%), 60-day (17.1%) (90-day), 23.7% (180-day); psychiatric-related: 14.5%, 17.2% (22.4%) (Figure 2).
5. Differences were not statistically significant.

Figure 1. Patient Identification

![Figure 1](image1.png)

13,430,690 patients with a hospital visit in Premier data during the study period 1/1/2013-12/31/2015

N=185,066
N=17,850
N=21,168
N=3,936
N=2,453

13,245,624 without a primary bipolar disorder diagnosis

N=1,367,461 patients with admissions outside of the identification period 1/1/2013-6/30/2015

N=67,118 patients without LAI claim on first inpatient visit

1,351 patients with discharge status other than home or home with assisted health care

39 patients <18 years old

N=8,214
76 aripiprazole LAI users
261 fluphenazine LAI users
839 haloperidol LAI users
538 paliperidone LAI users
700 risperidone LAI users

Figure 2. Unadjusted Hospital Readmission Rates

<table>
<thead>
<tr>
<th>All-cause</th>
<th>Psychiatric-related</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30-day readmission rate</td>
</tr>
<tr>
<td>Aripiprazole</td>
<td>18.76% (18.76%)</td>
</tr>
<tr>
<td>Fluphenazine</td>
<td>17.11% (17.11%)</td>
</tr>
<tr>
<td>Haloperidol</td>
<td>23.66% (23.66%)</td>
</tr>
<tr>
<td>Paliperidone</td>
<td>13.64% (13.64%)</td>
</tr>
<tr>
<td>Risperidone</td>
<td>14.36% (14.36%)</td>
</tr>
</tbody>
</table>

Conclusions

1. To our knowledge, this real-world study is the first to explore 30-, 60-, 90-, and 180-day readmission rates among hospitalized patients with bipolar disorder treated with different LAIs.
2. Compared with those treated with haloperidol, paliperidone, risperidone, and fluphenazine LAIs, patients treated with aripiprazole LAI had numerically lower 60-, 90-, and 180-day hospital readmission rates, although aripiprazole LAI sample size was small and the differences were not statistically significant.
3. Although risperidone LAI is currently the only FDA approved LAI for maintenance treatment of bipolar disorder, our study results support current literature claims that other LAIs are used off-label for the treatment of bipolar disorder.

References