Patients who actually initiated PP but had similar characteristics as those who had a higher probability for initiating OAA were assigned higher weights. The same approach was used to ensure that propensity scores for both groups were balanced on baseline characteristics.

**Results**

Lifelong antipsychotic (AP) use is required for disease management and relapse control. However, patients treated with oral antipsychotics often have higher costs due to frequent hospitalizations and non-adherence.

To assess the impact of treatment initiation with paliperidone palmitate (PP) versus oral atypical antipsychotics (OAA) on healthcare resource utilization and costs, a retrospective cohort study was conducted. The observation period started from 90 days after the index date.

**Objective**

To determine the impact of treatment initiation with paliperidone palmitate (PP) versus oral atypical antipsychotics (OAA) on healthcare resource utilization and costs.

**Methods**

The study was conducted by examining medical claims data of patients with schizophrenia. The primary outcome was the comparison of healthcare resource utilization and costs between the PP and OAA groups. The study included patients with schizophrenia who initiated treatment with PP or OAA within 90 days of the index date.

**Inclusion Criteria**

- Patients with schizophrenia (ICD-9 codes 295.80-295.89)
- Age 18 years or older
- Initiated treatment with PP or OAA within 90 days of the index date
- Continuous enrollment for at least 1 year after the index date

**Exclusion Criteria**

- Patients with a history of suicidal ideation or behavior
- Patients with a history of substance abuse or dependence
- Patients with a history of psychiatric hospitalization

**Statistical Analysis**

- Multivariate regression models were used to assess the impact of treatment initiation on healthcare resource utilization and costs.
- Propensity scores were used to balance baseline characteristics between the PP and OAA groups.
- The study accounted for the impact of treatment initiation on healthcare resource utilization and costs.

**Results**

The results showed a significant reduction in healthcare resource utilization and costs in the PP group compared to the OAA group. The difference was statistically significant for all-cause and schizophrenia-related healthcare resource utilization and costs. The reduction in costs was primarily due to lower hospitalization and non-adherence rates.

**Limitations**

- The study was retrospective and therefore subject to selection bias.
- The sample size was limited, which may affect the generalizability of the findings.
- The study did not account for the impact of treatment adherence on healthcare resource utilization and costs.

**Conclusions**

The results of this study support the use of paliperidone palmitate as an effective and cost-saving treatment option for patients with schizophrenia. Further studies are needed to confirm these findings in larger, more diverse populations.

**Acknowledgments**

Supported by Janssen Scientific Affairs, LLC

**References**

6. 25th percentile, median, 75th percentile

**Tables**

Table 1. Demographic and Clinical Characteristics of the Two cohorts (PP vs. OAA)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>PP (N=351)</th>
<th>OAA (N=445)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>38.9 (20.0)</td>
<td>40.4 (20.0)</td>
<td>0.0014</td>
</tr>
<tr>
<td>Gender (male)</td>
<td>0.53</td>
<td>0.47</td>
<td>0.112</td>
</tr>
<tr>
<td>Charlson comorbidity index (CCI)</td>
<td>2.3 (2.0)</td>
<td>4.7 (2.0)</td>
<td>&lt;0.0001*</td>
</tr>
</tbody>
</table>

Table 2. Distribution of Normalized Inverse Probability of Treatment Weights

<table>
<thead>
<tr>
<th>Weight</th>
<th>N (weighted-population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.12</td>
<td>2,436 (20.0)</td>
</tr>
<tr>
<td>0.22</td>
<td>625 (5.1)</td>
</tr>
</tbody>
</table>

Table 3. Association between Monthly Healthcare Costs and Initial Treatment (PP versus OAA) (Table 4)

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>PP vs. OAA</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-cause medical costs</td>
<td>$326 (34.2)</td>
<td>&lt;0.0001*</td>
</tr>
<tr>
<td>Schizophrenia-related pharmacy and medical costs</td>
<td>$326 (34.2)</td>
<td>&lt;0.0001*</td>
</tr>
<tr>
<td>AP pharmacy costs</td>
<td>$326 (34.2)</td>
<td>&lt;0.0001*</td>
</tr>
<tr>
<td>Home care</td>
<td>$326 (34.2)</td>
<td>&lt;0.0001*</td>
</tr>
</tbody>
</table>

Table 4. Association between Healthcare Resource Utilization and Initial Treatment (PP versus OAA) (Table 4)

<table>
<thead>
<tr>
<th>Resource Utilization</th>
<th>PP vs. OAA</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days in hospital</td>
<td>326 (34.2)</td>
<td>&lt;0.0001*</td>
</tr>
<tr>
<td>Days in long-term care</td>
<td>326 (34.2)</td>
<td>&lt;0.0001*</td>
</tr>
<tr>
<td>Days in nursing home</td>
<td>326 (34.2)</td>
<td>&lt;0.0001*</td>
</tr>
<tr>
<td>Days in skilled nursing facility</td>
<td>326 (34.2)</td>
<td>&lt;0.0001*</td>
</tr>
</tbody>
</table>

**Supporting Information**

Supporting information is available online.

**Presented at**

COMPARISON OF HEALTHCARE RESOURCE UTILIZATION AND MEDICAID SPENDING AMONG PATIENTS WITH SCHIZOPHRENIA TREATED WITH ONCE MONTHLY PALIPERIDONE PALMITE OR ORAL ATYPICAL ANTI PSYCHOTICS USING THE INVERSE PROBABILITY OF TREATMENT WEIGHTING APPROACH

Erik Matter, Marie-Hélène Lafaille, Yongbing Xiao, Patrick Lefebvre, Jacqueline Pels, John Fastenau, Mei Sheng Duh

Janssen Scientific Affairs, LLC, Titusville, NJ, USA; Group d’Analyse, Lille, Hôpital Guillet, Canada; Analysis Group Inc., Boston, MA, USA.

OBJECTIVE

To assess the impact of treatment initiation with paliperidone palmitate (PP) versus oral atypical antipsychotics (OAA) on healthcare resource utilization and costs among US schizophrenia patients.

METHODS

Study Design and Patient Selection

Patients who actually initiated PP but had similar characteristics as those who had a higher probability for initiating OAA were assigned higher weights. The same study design was used in a previous study to assess the association between PP versus OAA in patients with bipolar disorder.

Inclusion Criteria

- Patients who actually initiated PP but had similar characteristics as those who had a higher probability for initiating OAA were assigned higher weights.
- The study included patients treated with oral atypical antipsychotics who met the primary end point of at least 24 weeks of continuous treatment and had at least 12 months of continuous enrollment with the study sponsor.

Results

Demographic and Clinical Characteristics (Table 1)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>PP (n=3,091)</th>
<th>OAA (n=3,091)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male: 1,623</td>
<td>Female: 1,468</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Age</td>
<td>Mean: 42.8</td>
<td>Median: 42</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Schizophrenia subtypes</td>
<td>Catatonic type schizophrenia (295.2)</td>
<td>1/PS for the PP group and 1/(1-PS) for the OAA group.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other schizophrenia (295.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Schizoaffective disorder (295.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Schizophrenic disorder, residual type (295.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mood stabilizer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Baseline demographic and clinical characteristics were assessed during the 6 months prior to the index date and included:

- Age
- Gender
- Race
- State
- Region
- Number of medications

Analysis

Statistical Analysis

- Multivariate regression models were used to assess the association between the type of treatment and healthcare resource utilization and costs. Specifically, models were adjusted for a priori specified baseline covariates:
- Race
- State
- Region
- Number of medications
- Non-adherence rates.
- Logistic regression and linear regression were used to assess the association between baseline characteristics and treatment initiation.

RESULTS

Comparison of Healthcare Resource Utilization and Medicaid Spending Among Patients with Schizophrenia Treated with Once Monthly Paliperidone Palmitate or Oral Atypical Antipsychotics Using the Inverse Probability of Treatment Weighting Approach

<table>
<thead>
<tr>
<th>Healthcare Resource Utilization</th>
<th>PP (n=3,091)</th>
<th>OAA (n=3,091)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical costs</td>
<td>Mean: $6,345.15</td>
<td>Median: $4,000</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Pharmacy costs</td>
<td>Mean: $232.88</td>
<td>Median: $210</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Medical visits</td>
<td>Mean: 6.8</td>
<td>Median: 6</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Emergency room visits</td>
<td>Mean: 0.7</td>
<td>Median: 0</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Inpatient visits</td>
<td>Mean: 0.9</td>
<td>Median: 0</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Total healthcare resource</td>
<td>Mean: 13.6</td>
<td>Median: 10</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Association between Healthcare Resource Utilization and Initiation of Treatment (PP versus OAA) (Table 4)

- The total (direct and indirect) annual cost of schizophrenia was estimated at US$62.7 billion in 2002.

REFERENCES


Schizophrenia-related costs were defined as the costs with diagnosis ICD-9 = 295.xx.

Mental health-related costs were defined as the costs with diagnosis ICD-9 codes between 290 and 319 (inclusively).

All-cause pharmacy and medical costs

All-cause medical costs

Mental health-related medical services

Emergency room visits

Inpatient visits

All medical services

Other medical ancillary services

Institute-related visits

Home care

Other medical ancillary services

Medicaid databases contained medical claims (e.g., type of service, service unit, date, International Classification of Diseases, 9th revision [ICD-9] diagnoses, Current Procedural Terminology [CPT] codes), and eligibility information (e.g., age, gender, enrollment start and end dates, and date/year of death, if applicable).

The data were subject to billing inaccuracies and missing data.

Non-adherence is a strong predictor of relapses and re-hospitalizations.

To assess the impact of treatment initiation with paliperidone palmitate (PP) versus oral atypical antipsychotics (OAA) on healthcare resource utilization and costs among US schizophrenia patients.

The outcomes of interest included all-cause, mental health-related, or schizophrenia-related healthcare resource utilization and direct costs, which were evaluated using multivariate regression models adjusted for a priori specified baseline covariates:

- Race
- State
- Region
- Number of medications
- Non-adherence rates.
- Logistic regression and linear regression were used to assess the association between baseline characteristics and treatment initiation.

Association between Monthly Healthcare Costs and Initiation of Treatment (PP versus OAA) (Table 2)

- Patients who initiated PP after a 24-week period of continuous treatment and had at least 12 months of continuous enrollment with the study sponsor were assigned higher weights.

Mean monthly cost difference

6.2 ± 6.6 [4.0]

- The total (direct and indirect) annual cost of schizophrenia was estimated at US$62.7 billion in 2002.

Nearly one-third of this cost was incurred as direct healthcare costs.

The outcomes of interest included all-cause, mental health-related, or schizophrenia-related healthcare resource utilization and direct costs, which were evaluated using multivariate regression models adjusted for a priori specified baseline covariates:

- Race
- State
- Region
- Number of medications
- Non-adherence rates.
- Logistic regression and linear regression were used to assess the association between baseline characteristics and treatment initiation.

Association between Healthcare Resource Utilization and Initiation of Treatment (PP versus OAA) (Table 4)

- The total (direct and indirect) annual cost of schizophrenia was estimated at US$62.7 billion in 2002.
BACKGROUND

To assess the impact of treatment with paliperidone palmitate (PP) versus oral atypical antipsychotics (OAA) on healthcare resource utilization and costs among Medicaid-eligible patients with schizophrenia.

METHODS

Patient Sample

Patients initiating PP was associated with lower all-cause medical cost (with mean monthly cost difference [MMCD] = -$136 (p=0.0001)). Specifically, patients initiating PP had significantly lower utilization of emergency room visits, inpatient visits, institute-related visits, home care, and other medical ancillary services compared with patients initiating OAA.

Treatment Initiation and Costs

Patients initiating PP had significantly lower utilization of all medical services compared with patients initiating OAA. Specifically, patients initiating PP had significantly lower utilization of emergency room visits, inpatient visits, institute-related visits, home care, and other medical ancillary services compared with patients initiating OAA.

CONCLUSIONS

The use of paliperidone palmitate (PP) versus oral atypical antipsychotics (OAA) was associated with lower healthcare costs and resource utilization among Medicaid-eligible patients with schizophrenia.
BACKGROUND

Objective: The objective of this study was to compare healthcare resource utilization and medication spending among patients with schizophrenia treated with once monthly paliperidone palmitate (PP) or oral atypical antipsychotics (OAAs) using the inverse probability of treatment weighting (IPTW) approach.

Methods: A retrospective cohort study was conducted using Medicaid claims data from three states (New Jersey, New York, and California) from January 1, 2013, to December 31, 2015. Patients with schizophrenia were identified using International Classification of Diseases, Ninth Revision (ICD-9) diagnosis codes. The primary outcome measure was healthcare resource utilization and medication spending. The inverse probability of treatment weighting approach was used to adjust for differences in baseline characteristics between PP and OAA treatment groups.

RESULTS

Association between Healthcare Resource Utilization and Initial Treatment (PP versus OAA) (Table 4)

Table 4. Distribution of Normalized Inverse Probability of Treatment Weight (IPTW) between PP and OAA Treatment Groups

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Mean IPTW</th>
<th>95th Percentile IPTW</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PP</td>
<td>0.001</td>
<td>0.001</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>OAA</td>
<td>0.001</td>
<td>0.001</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

Association between Monthly Healthcare Costs and Initial Treatment (PP versus OAA) (Table 2)

Table 2. Distribution of Normalized Inverse Probability of Treatment Weight (IPTW) between PP and OAA Treatment Groups

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Mean IPTW</th>
<th>95th Percentile IPTW</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PP</td>
<td>0.001</td>
<td>0.001</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>OAA</td>
<td>0.001</td>
<td>0.001</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

CONCLUSIONS

The IPTW approach was used to adjust for differences in baseline characteristics between PP and OAA treatment groups. The results indicated that patients initiating PP had lower healthcare resource utilization and medication spending compared to those initiating OAA. The IPTW approach is a valuable tool for reducing selection bias in observational studies.

REFERENCES

RESULTS

Covariates and Clinical Characteristics Evaluated during the 6 Months Baseline Period (Table 1)

Association between Healthcare Resource Utilization and Initial Treatment (PP versus OAA) Estimated Using Poisson IPTW-Weighted Regression (Table 4)

CONCLUSIONS

REFERENCES