LOGISTIC REGRESSION TO IDENTIFY THE FACTORS PREDICTING THE LIKELIHOOD OF LURASIDONE INITIATION IN AN EMPLOYER DATABASE IN THE UNITED STATES

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ABSTRACT

Objective: Understanding the characteristics of patients that initiate a new antipsychotic in the market is important to determine the clinical and market patterns in real-world settings. To predict the demographic, diagnostic, and prior drug utilization factors that may impact the likelihood of subjects initiating lurasidone, an analysis of a US employer data was conducted.

Methods: This study examined health claims data from a large geographically dispersed US employer from 2/1/2011 (lurasidone launch) through 9/30/2012. Several significant univariate differences existed between the Lurasidone cohort and the Control cohort, particularly in terms of age, gender, and comorbid conditions. After adjusting for these factors, logistic regression found subjects with a schizoaffective disorder and those using paliperidone, ziprasidone, or aripiprazole were more likely to initiate lurasidone compared to the general control group. Additionally, younger subjects were more likely to initiate lurasidone than older subjects.

Results: A total of 127 lurasidone subjects and 7754 controls (754 controls were eligible for analysis) were identified. After adjusting for continuous eligibility, 43 lurasidone subjects and 3882 control subjects were eligible for analysis.

Table 1: Univariate Comparisons of Demographic and Other Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Lurasidone Cohort (n=43)</th>
<th>Control Cohort (n=3882)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years, mean (SD)</td>
<td>43.4 (15.0)</td>
<td>50.5 (15.0)</td>
<td>0.0033</td>
</tr>
<tr>
<td>Elixhauser Comorbidity Index score</td>
<td>0.6 (0.9)</td>
<td>3.1 (0.9)</td>
<td>0.0023</td>
</tr>
<tr>
<td>Closest Distance to 5000 or more</td>
<td>0.6 (0.9)</td>
<td>0.4 (0.9)</td>
<td>0.0023</td>
</tr>
<tr>
<td>Living in a large city</td>
<td>0.6 (0.9)</td>
<td>0.3 (0.9)</td>
<td>0.0023</td>
</tr>
</tbody>
</table>

Table 2. Multivariate Logistic Regression Results - Modeling the Probability of Taking Lurasidone in Patients With Bipolar Disorder or Schizophrenia During 2/1/2011 to 9/30/2012

<table>
<thead>
<tr>
<th>Significant Variable</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>P-value</th>
<th>Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistic Regression</td>
<td>-2.734</td>
<td>0.403</td>
<td>0.0001</td>
<td>0.07 (0.02-0.26)</td>
</tr>
</tbody>
</table>

Discussion: The results of the study suggest that patients who initiate lurasidone are likely to be younger, have schizophrenia disorder and have one or more comorbid conditions. The study also found that patients with antipsychotic use in the past year were more likely to be prescribed lurasidone compared to those with no antipsychotic use. This study can be used to guide clinical decision-making and treatment patterns.

Limitations: This study is subject to several limitations. The use of administrative data may be subject to limitations in the accuracy and completeness of the data. Additionally, the study is subject to the limitations of observational studies and cannot establish causality.

Conclusions: This study provides valuable insights about clinical decision-making and treatment patterns in patients with schizophrenia disorder or bipolar disorder and may help guide decision-making in real-world settings.

References:


Figure 1: Percent of Population Using Different Atypical Antipsychotics during 2/1/2011 to 9/30/2012

Figure 2: Table 1: Univariate Comparisons of Demographic and Other Characteristics

Figure 3: Table 2. Multivariate Logistic Regression Results - Modeling the Probability of Taking Lurasidone in Patients With Bipolar Disorder or Schizophrenia During 2/1/2011 to 9/30/2012

Table 4: Logistic Regression - Patients With Bipolar Disorder or Schizophrenia During 2/1/2011 to 9/30/2012

Table 5: Significant Variables

Table 6: Odds Ratio (95% CI)

Table 7: P-value

Table 8: Logistic Regression

Table 9: Significant Variables

Table 10: Odds Ratio (95% CI)

Table 11: P-value

Table 12: Logistic Regression

Table 13: Significant Variables

Table 14: Odds Ratio (95% CI)

Table 15: P-value

Table 16: Logistic Regression

Table 17: Significant Variables

Table 18: Odds Ratio (95% CI)

Table 19: P-value

Table 20: Logistic Regression

Table 21: Significant Variables

Table 22: Odds Ratio (95% CI)

Table 23: P-value

Table 24: Logistic Regression

Table 25: Significant Variables

Table 26: Odds Ratio (95% CI)

Table 27: P-value

Table 28: Logistic Regression

Table 29: Significant Variables

Table 30: Odds Ratio (95% CI)

Table 31: P-value

Table 32: Logistic Regression

Table 33: Significant Variables

Table 34: Odds Ratio (95% CI)

Table 35: P-value

Table 36: Logistic Regression

Table 37: Significant Variables

Table 38: Odds Ratio (95% CI)

Table 39: P-value

Table 40: Logistic Regression

Table 41: Significant Variables

Table 42: Odds Ratio (95% CI)

Table 43: P-value

Table 44: Logistic Regression

Table 45: Significant Variables

Table 46: Odds Ratio (95% CI)

Table 47: P-value

Table 48: Logistic Regression

Table 49: Significant Variables

Table 50: Odds Ratio (95% CI)

Table 51: P-value

Table 52: Logistic Regression

Table 53: Significant Variables

Table 54: Odds Ratio (95% CI)

Table 55: P-value

Table 56: Logistic Regression

Table 57: Significant Variables

Table 58: Odds Ratio (95% CI)

Table 59: P-value

Table 60: Logistic Regression

Table 61: Significant Variables

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Table 63: P-value

Table 64: Logistic Regression

Table 65: Significant Variables

Table 66: Odds Ratio (95% CI)

Table 67: P-value

Table 68: Logistic Regression

Table 69: Significant Variables

Table 70: Odds Ratio (95% CI)

Table 71: P-value

Table 72: Logistic Regression

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Table 74: Odds Ratio (95% CI)

Table 75: P-value

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Table 90: Odds Ratio (95% CI)

Table 91: P-value

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Table 93: Significant Variables

Table 94: Odds Ratio (95% CI)

Table 95: P-value

Table 96: Logistic Regression

Table 97: Significant Variables

Table 98: Odds Ratio (95% CI)

Table 99: P-value

Table 100: Logistic Regression

Table 101: Significant Variables

Table 102: Odds Ratio (95% CI)

Table 103: P-value

Table 104: Logistic Regression

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Table 106: Odds Ratio (95% CI)

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Table 110: Odds Ratio (95% CI)

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Table 114: Odds Ratio (95% CI)

Table 115: P-value

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Table 118: Odds Ratio (95% CI)

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Table 121: Significant Variables

Table 122: Odds Ratio (95% CI)

Table 123: P-value

Table 124: Logistic Regression

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Table 126: Odds Ratio (95% CI)

Table 127: P-value

Table 128: Logistic Regression

Table 129: Significant Variables

Table 130: Odds Ratio (95% CI)

Table 131: P-value

Table 132: Logistic Regression

Table 133: Significant Variables

Table 134: Odds Ratio (95% CI)

Table 135: P-value

Table 136: Logistic Regression

Table 137: Significant Variables

Table 138: Odds Ratio (95% CI)

Table 139: P-value

Table 140: Logistic Regression

Table 141: Significant Variables

Table 142: Odds Ratio (95% CI)

Table 143: P-value

Table 144: Logistic Regression

Table 145: Significant Variables

Table 146: Odds Ratio (95% CI)

Table 147: P-value