Cost-Effectiveness of Venlafaxine Extended Release in Major Depressive Disorder: A Canadian Perspective

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Introduction

Major depressive disorder (MDD) is a highly prevalent, often chronic mental disorder largely diagnosed and treated in primary care settings.

MDD is a leading cause of disability and an important risk factor for the development of major medical disorders such as coronary artery disease. The prevalence of MDD in Canada was estimated to be 3.2%-6.0% each year.

MDD has a substantial economic burden on patients, healthcare systems, third-party payers and society. In 1997 the Canadian burden of MDD was estimated to be Cdn$14 billion.

It is estimated that MDD accounts for up to 49% of the lost productivity among those with depression with a majority of the cost resulted from reduced performance while at work.

The single-largest direct cost of MDD medical service utilization. Hospitalization has been estimated to account for 40%-70% of direct costs overshadowing the drug acquisition costs which were estimated at 2%-11%.

Over the past two decades, there has been substantial progress in the pharmacological treatment of MDD with the selective serotonin reuptake inhibitors (SSRIs) and more recently serotonin norepinephrine reuptake inhibitors (SNRIs) now more frequently prescribed in Canada.

Venlafaxine is the first SNRI introduced to Canadian market and is currently indicated as first-line therapy for generalized anxiety disorder, social anxiety disorder, panic disorder and MDD.

The goal of this study was to estimate and compare the incremental cost-effectiveness of venlafaxine compared to SSRIs in the treatment of MDD in Canada. Major depressive disorder was chosen as the index psychiatric disorder.

Methods

A Cost-effectiveness Analysis was conducted on adult (>18 years old) Canadians with a diagnosis of MDD. A pharmacoeconomic model was developed using the MS Excel software.

An expert panel of 2 psychiatrists and 2 general practitioners working in the mental health discipline and one health economist were consulted to verify the decision tree clinical pathways and providing consensus on the probabilities not available in the literature.

The time horizon of the model was 6 months, comprised of 3 potential treatment phases, each considered equal to 8 weeks. The time frames were modeled to replicate a micro-analyis that was used to populate the decision trees.

The Ontario Ministry of Health and Long-term Care perspective was used. Direct medical costs (2005 Canadian $) were from the Ontario Case Costing Initiative (OCCI), Ontario Drug Benefit Formulary (ODB) and Ontario Health Insurance Policy (OHIP).

The time horizon of the model was 6 months, comprised of 3 potential treatment phases, each considered equal to 8 weeks. When a patient is tested after an 8 week treatment, and remission has occurred, these patients are assumed to be symptom-free.

The model assumes that once patients reach remission, they will continue receiving drug until the end of 6 months. When a patient is tested after an 8 week treatment, and remission has occurred, these patients are assumed to be symptom-free.

The cost-effectiveness was Cdn$77.86/SFD for venlafaxine-XR and Cdn$90.36/SFD for SSRIs.

The average six-month expected SFDs were 53.4 and 46.7 days for venlafaxine-XR and SSRIs respectively.

The incremental cost-effectiveness analysis showed a treatment strategy using venlafaxine-XR at first line was dominant.

Summary of Results

Table 2. Economic Analysis

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Venlafaxine XR</th>
<th>SSRIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remission Rate</td>
<td>64%</td>
<td>57%</td>
</tr>
<tr>
<td>Drop Out</td>
<td>9.4%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Average cost per SFD</td>
<td>$77.86</td>
<td>$90.36</td>
</tr>
<tr>
<td>Average cost per Remission</td>
<td>$6,430</td>
<td>$7,475</td>
</tr>
<tr>
<td>ICER</td>
<td>Dominated</td>
<td></td>
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Decision Model

Conclusions

Despite a higher drug acquisition cost, venlafaxine XR may be cost-effective and even cost-saving compared to generic SSRIs in first line treatment of MDD in Canadian practice.

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