Brief report

An assessment of patient preference and adherence to treatment with Wellbutrin SR: A web-based survey

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Abstract

Background: Research has shown that lack of treatment adherence is a serious problem, especially among patients with psychiatric disorders. The current study was conducted to assess adherence and patient preference among individuals taking Wellbutrin SR (bupropion) for depression, as well as their interest in a once-daily formulation of bupropion.

Methods: A 20-item web-based survey was administered to 527 individuals (276 men and 251 women) recruited through an online panel. All participants were at least 18 years of age, diagnosed with major depressive disorder, and had been taking Wellbutrin SR for at least 6 weeks. Survey items addressed treatment regimen, adherence, satisfaction with Wellbutrin SR, and interest in a once-daily formulation of bupropion.

Results: The majority of respondents reported taking Wellbutrin SR twice a day (67%). Only 15% of once-daily users were nonadherent compared to 37% of twice-daily users and 65% of thrice-daily users. The most common reason reported for missing a dose of Wellbutrin SR was simply forgetting to take it (49% of twice-daily users and 65% of thrice-daily users). Results indicated that 77% of twice-daily users and 94% of thrice-daily users were interested in a once-daily formula.

Conclusions: A reduction in dosing frequency is favored by Wellbutrin SR users and likely to improve their adherence to treatment. Because greater adherence has been shown to facilitate symptom relief, improvements in quality of life, and reductions in healthcare expenses, the results of this study support the value of the recently released once-daily formulation, Wellbutrin XL.

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1. Introduction

Lack of medication adherence is considered one of the most serious problems facing current medical practice (O’Brien et al., 1992; Cramer, 2002). While adherence rates for prescribed medications are typically reported in the 50% range (Haynes et al., 2002), those for psychiatric treatments tend to be even lower (McDonald et al., 2002).

Primary consequences of medication nonadherence include both poor disease prognosis (Kennedy et al., 2002) and higher healthcare costs (Richter et al., 2003). For example, nonadherence is a common cause of relapse among patients with bipolar disorder (Colom and
Vieta, 2002), schizophrenia (Weiden and Olfson, 1995) and depression (Kennedy et al., 2002; Melﬁ et al., 1998), for which reported relapse rates are as high as 80% (Kupfer, 1991). The cost of medication nonadherence in the United States has been estimated at $100 billion per year (Breen and Thornhill, 1998), due to relapse, hospitalization, additional medical treatments, increased morbidity, and lost work productivity (Iskedjian et al., 1998; Smith, 1985). Nonadherence to antidepressants, in particular, has been shown to result in more emergency room visits and higher medical care costs (White et al., 2003).

Previous research suggests that patients are more likely to comply with once-daily treatments compared to those that require two or more daily doses (Viale, 1998; Eisen et al., 1990). Two recent articles have also linked dose frequency and medication adherence. Specifically, Iskedjian and colleagues (2002) demonstrated that once-daily dosing was associated with better adherence than twice-daily dosing among patients taking antihypertensives. Similarly, Claxton and colleagues (2001) found that adherence rates were significantly higher for those taking medication once a day as opposed to three or four times a day.

Psychiatric patients, in general, also appear to favor once-daily dosing. For example, 51% of patients surveyed at a mental health clinic (34% were diagnosed with major depression) preferred once-daily dosing over more frequent dosing options (Balon et al., 1998). Because patients’ satisfaction with treatment convenience is an important predictor of adherence (Iskedjian et al., 2002), it seems that dosing should be simplified whenever possible.

The present study was conducted both to examine adherence to treatment with Wellbutrin SR (bupropion sustained-release), and to explore patients’ preference for a once-daily formulation of bupropion.

2. Methods

2.1. Survey development

A 20-item survey was developed for web-based administration addressing patients’ adherence to current treatment, satisfaction with Wellbutrin SR, experience with other antidepressants, and interest in a once-daily formulation of Wellbutrin.

2.2. Participants

A total of 527 individuals completed the survey in May 2003. All participants met the following criteria: (1) at least 18 years of age, (2) diagnosed with depression by a physician, and (3) taking Wellbutrin SR for the treatment of depression for at least the previous 6 weeks. Individuals were not ruled ineligible if they were taking additional medications.

2.3. Data collection

Potential participants were identified by a survey research group that maintains a large panel of individuals interested in participating in online surveys, a subset of whom have been diagnosed with chronic or recurring medical conditions. From this subset, individuals diagnosed with depression were randomly selected and sent an e-mail inviting them to be screened for eligibility. After screening, qualiﬁed individuals read and electronically “accepted” an informed consent document prior to receiving and completing the survey.

2.4. Data analysis

Descriptive statistics were computed to summarize the responses to all close-ended survey items. To investigate whether or not key outcomes such as adherence and treatment satisfaction varied by current dosing regimen or certain demographic variables, responses for some items were collapsed into dichotomous categories (e.g., “dissatisﬁed or neutral” versus “somewhat or very satisﬁed”) for analysis. Chi-square tests were then performed to identify patient characteristics signiﬁcantly related to each of these outcomes, and univariate logistic regression models were used to estimate odds ratios further describing these relationships.

To facilitate generalizability of the results, weights provided by the survey research group were utilized in the inferential analyses. This weighting process combines a rim weight to make the demographic characteristics of the online sample more like those of the general population and a propensity score adjustment to correct for bias in the selection of the participants.

3. Results

3.1. Participant characteristics

The survey sample included 276 men and 251 women with an average age of 48 (SD=10.7). Nearly 53% of the survey respondents were employed either full or part time, about 44% had at least a 4-
year college degree, roughly 93% reported having some form of health insurance. Additional details regarding the participants’ demographic characteristics and health care expenditures are summarized in Tables 1 and 2.

3.2. Dosing and frequency

As shown in Table 3, about two-thirds of the survey respondents reported taking Wellbutrin SR twice per day; the vast majority taking 150 mg of Wellbutrin SR twice daily.

Roughly half of the respondents (53%) had switched from another antidepressant to Wellbutrin SR. The three most commonly reported previous antidepressants were in the selective serotonin reuptake inhibitor (SSRI) class: Prozac (32%), Zoloft (27%), and Paxil (27%). Nearly 57% of the sample indicated that they were currently taking an additional antidepressant, most commonly Zoloft (19%), Prozac (17%), or Effexor (14%).

3.3. Patient adherence

Nonadherence to Wellbutrin SR was assessed with the question: “Do you always take your Wellbutrin SR as many times per day as your doctor told you to?” Respondents who answered negatively were considered nonadherent and asked a series of follow-up questions. Survey results suggest that among all once-daily users, only 15% fail to take their Wellbutrin SR every day, while 37% of twice-daily users fail to take this medication as prescribed and 26% miss a dose in any given 24-h period. On average, once-daily users reported missing a dose every 1.5 days compared to every 0.9 days for the twice-daily group. Survey results indicate that three-times-daily users are even less compliant; approximately 65% do not consistently take their Wellbutrin SR as prescribed.

Similarly, relationships between nonadherence and a series of other variables, including demographics, satisfaction with Wellbutrin SR, dosing amount, and current and past use of other antidepressants were analyzed for patients taking Wellbutrin SR twice a day. The results suggest significant associations between nonadherence and gender (p = 0.046), age (p = 0.004), and current use of other antidepressants (p = 0.037). Odds ratios revealed that females were nearly twice as likely as males to be nonadherent, and the likelihood of nonadherence decreased with age. Finally, nonadherence rates were about 50% lower among patients currently taking other antidepressants in addition to Wellbutrin SR.

The most common reason reported by twice-daily users for missing a dose of Wellbutrin SR was simply forgetting to take it (49% of twice-daily respondents). Other reasons included disrupted routine (11.2%); got busy (8%); and by choice, don’t like side effects, or trying to go without (6%).

### Table 2
Participant drug coverage

<table>
<thead>
<tr>
<th>Prescription drug coverage</th>
<th>n=483</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete coverage</td>
<td>46</td>
<td>9.5%</td>
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<tr>
<td>Partial coverage — with a</td>
<td>328</td>
<td>67.4%</td>
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<tr>
<td>fixed co-payment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partial coverage — with a</td>
<td>80</td>
<td>16.4%</td>
</tr>
<tr>
<td>percentage co-payment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No coverage</td>
<td>29</td>
<td>6.0%</td>
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</table>

<table>
<thead>
<tr>
<th>Monthly bupropion co-payment (for previous month) n=345</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (SD.)</td>
<td>$20.40 (15.0)</td>
</tr>
<tr>
<td>Median</td>
<td>$20.00</td>
</tr>
<tr>
<td>Range</td>
<td>$5–$100</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Monthly bupropion cost (if no prescription coverage) n=68</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (SD)</td>
<td>$45.18 (57.4)</td>
</tr>
<tr>
<td>Median</td>
<td>$9.50</td>
</tr>
<tr>
<td>Range</td>
<td>$0–$200</td>
</tr>
</tbody>
</table>

### Table 1
Participant demographics (n=527)

<table>
<thead>
<tr>
<th>Demographics</th>
<th>n (%)</th>
<th>Employment (multiple responses allowed) n (%)</th>
<th>Education n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>276 (52.4%)</td>
<td>Full time 238 (45.2%)</td>
<td>Less than high school 1 (0.1%)</td>
</tr>
<tr>
<td>Female</td>
<td>251 (47.6%)</td>
<td>Part time 39 (7.4%)</td>
<td>Some high school 4 (0.8%)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>Self-employed 47 (8.9%)</td>
<td>High school or equivalent 56 (10.6%)</td>
</tr>
<tr>
<td>Range</td>
<td>20–78</td>
<td>Not employed, but looking for work 29 (5.5%)</td>
<td>Some college, but no degree 184 (34.9%)</td>
</tr>
<tr>
<td>Mean</td>
<td>47.61</td>
<td>Not employed, and not looking for work 50 (9.5%)</td>
<td>Associate’s degree 49 (9.3%)</td>
</tr>
<tr>
<td>SD</td>
<td>10.74</td>
<td>Retired 107 (20.3%)</td>
<td>College degree 97 (18.4%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Student 32 (6.1%)</td>
<td>Some graduate school, but no degree 64 (12.1%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Homemaker 38 (7.2%)</td>
<td>Graduate degree 72 (13.7%)</td>
</tr>
</tbody>
</table>
3.4. Patient interest in once-daily dosing

Interest in a once-daily formulation of bupropion was measured with the following question: “How interested would you be in a new form of Wellbutrin that worked just as well as Wellbutrin SR but that you only had to take once a day?” A binary variable was created where patients were classified as either “somewhat or very interested” or “somewhat or very disinterested or neutral.” Survey results suggest that 77% of twice-daily users and 94% of thrice-daily users would be interested in a once-daily formula. The most common reasons given for interest in a once-daily formulation by those taking Wellbutrin SR twice-daily or thrice-daily were no second pill to remember or fewer missed doses (62%, 64%, respectively), more convenient dosing schedule (18%, 25%), and a desire to take fewer pills (17%, 14%).

A significant association was found between interest in once-daily bupropion and dosing frequency (p < 0.0001). Specifically, when compared to once-daily users, twice-daily users were six times as likely to be interested in a daily formulation, and three-times-daily users were 28 times more likely to be interested.

4. Discussion

The results of this study suggest that a reduction in dosing frequency is favored by Wellbutrin SR users and that this adjustment is likely to improve adherence to treatment. Because better adherence can lead to more significant improvements in symptoms, functional status, and quality of life, as well as reduced healthcare costs among depressed individuals, the results of this study support the value of a once-daily formulation of bupropion. Given that a once-daily formulation of bupropion (Wellbutrin XL) has recently been approved by the FDA, a follow-up study would be valuable to examine patient preference and adherence among patients who switch from Wellbutrin SR to Wellbutrin XL to quantify the expected benefits of this simpler treatment regimen.

Of additional interest, though not the major aim of the present research, are the associations suggested between nonadherence and other variables such as age, gender, and concomitant antidepressant use. While not related to depression, several studies have found significantly lower medication adherence rates among women (Kuyper et al., 2004; Berg et al., 2004). Likewise, older age has been associated with higher medication adherence in several other disease areas (Lee and Taira, 2005; Corda et al., 2000). The concordance between our findings and these previous studies suggests that further research into these associations is also warranted.

Acknowledgements

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References


