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## Discontinuation of Antidepressant Medication Among Latinos in the US

Dominic Hodgkin, Ph.D.<sup>a</sup>, Joanna Volpe-Vartanian, Ph.D., LICSW<sup>a</sup>, and Margarita Alegría, Ph.D.<sup>b</sup>

<sup>a</sup> *Schneider Institute for Behavioral Health, Heller School of Social Policy and Management, Brandeis University.*

<sup>b</sup> *Center for Multicultural Mental Health Research, Cambridge Health Alliance, 120 Beacon Street, 4<sup>th</sup> Floor, Somerville, Massachusetts 02143.*

### Abstract

Despite recent growth in the variety of antidepressant medications available, many patients discontinue medication prematurely, for reasons such as nonresponse, side effects, stigma and miscommunication. Some analysts have suggested that Latinos may have higher antidepressant discontinuation rates than other US residents. This paper examines Latino antidepressant discontinuation, using data from a national probability survey of Latinos in the US. In this sample, 8% of Latinos had taken an antidepressant in the preceding 12 months. Among those users, 33.3% had discontinued taking antidepressants at the time of interview, and 18.9% had done so without prior input from their physician. Even controlling for clinical and other variables, patients who reported good or excellent English proficiency were less likely to stop at all. Patients were also less likely to stop if they were older, married, had public or private insurance, or had made eight or more visits to a nonmedical therapist.

### Keywords

Medication Adherence; Antidepressant Drugs; Latinos; Psychotropic medication use; depressed patients.

### INTRODUCTION

Depression is one of the most prevalent and burdensome disorders worldwide,<sup>1</sup> and is associated with substantial limitations in well-being and functioning.<sup>2</sup> Guideline-concordant treatment with a growing range of newer, better tolerated antidepressant medications, such as selective serotonin reuptake inhibitors (SSRIs), can not only relieve symptoms but also reduce the probability of relapse<sup>3,4</sup> and restore functional status if taken for the optimum length of time. However, despite the improvements in medication options and treatment effectiveness, there continues to be a pervasive problem of patients' lack of adherence to psychotropic medications. Poor medication adherence accounts for a high proportion of unfavorable clinical outcomes for patients suffering from depressive disorders.<sup>5,6</sup> Given that adherence is a critical

Dominic Hodgkin, Ph.D. Associate Professor Schneider Institute for Health Policy, Heller School of Social Policy and Management, Brandeis University. Phone: (781) 736–8551. Fax: (781) 736–3928. Email: hodgkin@brandeis.edu.

Joanna Volpe-Vartanian, Ph.D., LICSW Heller School of Social Policy and Management, Brandeis University. Phone: (781) 736–3909. Fax: (781) 736–3864. Email: vartanian@brandeis.edu.

Margarita Alegría, Ph.D. Director Center for Multicultural Mental Health Research, Cambridge Health Alliance, 120 Beacon Street, 4<sup>th</sup> Floor, Somerville, Massachusetts 02143. Phone: (617) 503–8447. Fax: (617) 503–8430. Email: malegría@charesearch.org.

determinant of subsequent clinical and functional outcomes,<sup>7</sup> understanding what drives it is a first step toward improving adherence rates.

Numerous studies have documented high rates of discontinuation of antidepressants,<sup>3, 8-15</sup> with one review reporting that between 45 and 60% of patients stop taking prescribed antidepressants within 3 months of beginning treatment.<sup>14</sup> A minimum of six to nine months of pharmacotherapy is recommended for depression treatment after symptoms resolve,<sup>16,17</sup> but given the chronic and recurring nature of most other indications for antidepressants (e.g. generalized anxiety disorder, dysthymia, panic disorder, anorexia nervosa, etc.), some have theorized that six months (after symptom resolution) also represents a minimum for these conditions.<sup>18</sup> Multiple factors have been hypothesized to be predictors of antidepressant medication adherence, including demographics, side effects, patient education, patient's problem recognition, type of antidepressant (SSRI vs. tricyclics), quality of the patient-provider alliance, concomitant psychotherapy, attitudes toward medication, language, gender and ethnic minority status.

Some authors have suggested that antidepressant discontinuation rates are elevated among Latinos,<sup>19-23</sup> the most rapidly growing ethnic group in the US.<sup>24</sup> While Latinos and non-Latino whites have comparable rates of psychiatric morbidity,<sup>25</sup> a recent study on the lifetime risk and persistence of psychiatric disorders across ethnic groups in the US showed higher odds of persistence of mood disorders among Latinos, compared to non-Latino whites,<sup>26</sup> highlighting the need to understand factors associated with antidepressant discontinuation. Compared to non-Latino whites, Latinos tend to underutilize health and mental health services.<sup>27,28</sup> Findings from the Los Angeles Epidemiologic Catchment Area study showed that Mexican Americans with a recently diagnosed mental disorder were only half as likely as non-Hispanic whites (11% vs. 22%, respectively) to have made a mental health visit.<sup>28</sup> A study of a national privately insured population also reported underutilization of specialty mental health services for Latinos with psychiatric need,<sup>29</sup> while another, using National Comorbidity Survey data, found that poor Latinos had lower access to specialty care than poor non-Latino whites.<sup>25</sup>

When Latinos seek care for mental health problems, they tend to turn to the general medical sector first.<sup>21,24</sup> Reportedly twice as likely to seek help in primary care settings rather than specialty mental health care,<sup>30</sup> Latinos often frame their distress in terms which emphasize physical symptoms.<sup>21,22</sup> In general, mental health treatment in the medical sector has been associated with a decreased likelihood of receiving even minimally adequate care.<sup>31</sup> A recent study using a nationally representative probability sample found that less than half of primary care patients with behavioral health problems were screened,<sup>32</sup> consistent with earlier studies documenting low detection rates in medical settings.<sup>33,34</sup>

Unfortunately, Latinos are at even higher risk of having their mental health problems go undetected by general medical providers.<sup>35</sup> Most antidepressant regimens are initiated and followed in general practice,<sup>12</sup> where antidepressants are viewed as a first-line treatment.<sup>16</sup> In light of Latinos' greater tendency to use medical settings for mental health needs, it is imperative to better understand whether there are distinctive factors limiting retention in the antidepressant treatment of those Latinos whose mental health problems are identified. Pharmacotherapy approaches from the provider side, for example, are modifiable and may be adapted to better respond to Latinos' needs in order to achieve the optimal duration of care.

This study uses data from the National Latino and Asian American Study (NLAAS),<sup>36</sup> described more fully below. Prior analyses of the NLAAS Latino sample indicate that 8.9% of respondents met criteria for past-year depressive disorders and 9.6% met criteria for past-

year anxiety disorders.<sup>37</sup> Using data from the Latino portion only of the NLAAS, this paper focuses on antidepressant discontinuation among Latinos and addresses these questions:

1. What is the rate of antidepressant medication discontinuation for Latinos?
2. What are the demographic, economic, sociocultural and clinical characteristics of Latino patients which predict discontinuation of treatment?
3. What are the prescriber (psychiatrist vs. general practitioner) and medication (tricyclics vs. SSRI), characteristics which predict discontinuation amongst Latinos?

## BACKGROUND

A growing number of studies examine the extent and reasons for premature antidepressant medication discontinuation,<sup>7, 11-15</sup> but few studies focus on Latinos. One recent study found no ethnic differences in the rates at which primary care providers recommended depression treatments, but that Latinos were much less likely than non-Latino whites to take antidepressant medications. In that study, Latinos who followed a primary care recommendation to obtain specialty mental health care were less likely to be taking antidepressants than non-Latino whites.<sup>38</sup> Another study examined ethnic differences in response to antidepressant treatment among depressed HIV-positive patients, and found that attrition was greater among Latinos than either Blacks or non-Latino whites.<sup>23</sup> A study on the effects of ethnicity on adherence to psychotropics found that monolingual Latinos and African-Americans had lower adherence rates than non-Latino whites.<sup>39</sup> In one open-label study of two SSRIs, the attrition rates of depressed Latinas and non-Latina white women were comparable.<sup>40</sup>

Physicians' attitudes, and other characteristics, may also influence the duration of antidepressant medication treatment. One study found that physicians were not as responsive to Latino patients' discussion of adherence problems as they were to direct complaints about pharmacotherapy.<sup>41</sup> The authors speculate that this lack of responsiveness may relate to previous failures to change the medication regimen or to educate the patient about the value of persevering with the full treatment course in order to alleviate suffering.

Effective communication between patients and providers throughout the stages of treatment may enhance adherence. A study of compliance with pharmacotherapy in primary care found that the likelihood of patients' informing their providers about discontinuing antidepressants varied according to the patients' reasons for stopping and their perceptions of the quality of the treatment relationship.<sup>13</sup> Certainly those Latino patients who experience their physicians as inadequately responsive to their adherence concerns may well perceive the quality of the patient-provider relationship to be lacking. In addition, discrepancies commonly exist between what providers recall communicating to patients and what patients report being told.<sup>15</sup> This discrepancy may be heightened for those Latinos experiencing a language barrier. A study on language barriers and health care comprehension reported that survey respondents with limited English proficiency were more likely than their English-proficient counterparts to describe problems understanding medical situations and adverse medication reactions due to problems understanding the instructions.<sup>42</sup>

## CONCEPTUAL FRAMEWORK AND RESEARCH HYPOTHESES

A variety of frameworks have been proposed for examining adherence to medication treatment both for depression and for medical care in general. These include the theories of planned behavior, health beliefs, stages of change, sense of uniqueness, and others.<sup>43-48</sup> Such theories are not fully testable in the present study, as they focus on patient attitudes and beliefs about medications which are not observable in the dataset to hand. In an analysis of antidepressant treatment compliance, Tai-Seale et al<sup>7</sup> drew on McGuire's earlier model of the determinants

of demand for psychotherapy treatment,<sup>49</sup> that has greater applicability to this study. The present study also builds on McGuire's model, using four of the proposed domains: (1) personal and socioeconomic characteristics, (2) health and mental health status, (3) mental health service provider characteristics, and (4) price or insurance. This study takes advantage of the availability in NLAAS of data on self-reported experiences with psychiatric treatment, to add a different fifth domain: experience with care.

Applying this adapted framework, the analyses here include multiple personal and socioeconomic characteristics, such as age, sex, and marital status. Language proficiency is the sociocultural variable selected for further analysis. One hypothesis would see the patient's English language proficiency as predictive of greater compliance with treatment, on the premise that non-compliance results from provider-patient miscommunication that might diminish with the patient's acculturation. This hypothesis assumes the physician does not speak or understand Spanish. However, one could also posit that patients' language proficiency results in greater self-confidence in dealing with medical providers, which could lead to increased rates of discontinuation. Language concordance has been found to negatively impact the likelihood of patient-physician agreement about medication regimens, which may relate to physicians potentially spending more time explaining their recommendations and writing them down when their patients speak a different language.<sup>50</sup>

Health and mental health status variables include indicators of role functioning, problem recognition and number of depressive symptoms. These variables are expected to influence medication adherence, in most models. For example, Horne's 'medication representations' model would predict more discontinuation among individuals who perceive their problems to be less serious.<sup>51</sup> This implies a positive effect of problem recognition on medication adherence. However, its implications for the impact of more objective mental health measures are less clear. Individuals who meet diagnostic criteria may be more likely to continue medication treatment if those criteria align well with their own perceptions of their problems and symptoms.

Mental health service provider characteristics are operationalized as provider type (psychiatrist vs. non-psychiatrist physician). Among provider characteristics, one could hypothesize that seeing a psychiatrist might result in greater compliance than seeing another provider. This would follow if psychiatrists are better at selecting antidepressants that match each patient's idiosyncratic needs, for example due to greater familiarity with the choice among medications.

The fourth category is price or insurance status. Here one could expect more discontinuation the more that patients have to pay, either because they lack insurance, or because their insurance leaves substantial out-of-pocket costs. In the current US health system the overall 'list' price of a drug correlates poorly with patients' out-of-pocket costs, as health plans differ in how much they pay for the same drug, and how much of its cost they pass on to patients. However, one could certainly expect that insured patients, as a group, will pay less than uninsured patients and therefore be less likely to discontinue.

Finally, the fifth category, experience with care, is operationalized with four variables: 1) whether the medication was in the SSRI class, 2) perceived barriers to quality of care, 3) side effects/problems with the medication, and 4) saw a non-medical therapist. One could expect receipt of a medication in the SSRI class to be associated with less discontinuation based on the greater overall tolerability and convenience of these agents. On the other hand, sexual side effects are common with this medication class and may be viewed as bothersome enough to lead to increased discontinuation rates. Perceiving barriers to care and experiencing medication side effects would both be expected to increase discontinuation rates. One could hypothesize that seeing a non-medical therapist would increase medication adherence through supporting

patients' persistence with antidepressants. Also, patients who consult non-medical therapists may be more receptive to and comfortable with psychiatric care generally. However, there could be a substitution effect whereby patients are more likely to discontinue medication if they have a psychotherapeutic relationship. In addition, patients who engage in psychotherapy may be more likely to prefer that modality.

## METHOD

### Data

Data for this paper come from the Latino portion of the National Latino and Asian American Study (NLAAS). This study is based on interviews in 2002 and 2003 with a national sample of Latinos and Asian Americans (and a non-Latino white control group). Based on respondents' self-reported ethnicity, the final Latino sample comprised four ethnic subgroups: Puerto Rican, Cuban, Mexican, and all other Latinos.<sup>52</sup> Classification among these subgroups was determined by respondents' self-reported ethnicity using the same question as the U.S. Census. The data include questions both on utilization of prescription drugs (including antidepressants) and on a variety of economic and sociocultural variables relevant to the study hypotheses.

The survey is based on a stratified area probability sample design. The sample consists of persons 18 years of age and older in the non-institutionalized population of the 50 states and Washington DC. A four step probability sampling process was used: 1) primary stage sampling of US Metropolitan Statistical Areas (MSAs) and counties, 2) second stage sampling of area segments, 3) third stage sampling of housing units within the selected area segments, and 4) random selection of respondents within sampled housing units. The sampling strategy is designed to be both nationally representative and to provide a robust sample of Latinos and Asians. As a result, the NLAAS core sample is supplemented with over-samplings of geographic areas with a moderate to high density of targeted Latino and Asian American households. Additional details about the sampling design and data collection procedures are available in Alegria *et al.*<sup>36</sup>

The present paper focuses on respondents who reported having taken at least one antidepressant medication during the last 12 months. Respondents were asked whether during the last 12 months they had taken any prescription medicines from five classes: sedatives, antidepressants, tranquilizers, amphetamines/stimulants or antipsychotic medications. Whether or not they said yes, respondents were then provided with a list of 215 names of such drugs and asked which ones they had taken, and in what dosage and the number of days taken. In addition, for up to 3 of those medications, respondents were asked a series of questions including: for what problem they took the drug, whether it was effective, whether they had problems with it, and what type of provider was supervising their utilization of it. (If a respondent reported more using than three prescription drugs, three were selected randomly for these additional questions). The discontinuation questions asked whether the respondent was still taking the drug, and if not, whether they had been told to stop by the provider supervising their utilization, or whether that provider had agreed after the fact with their stopping. These responses were used to construct analytic variables described below.

### Measures

**Antidepressant utilization**—From the 215 medication names, 58 were identified which are primarily used to treat depression; primarily drugs from the classes of tricyclics, SSRIs, and MAOIs. (Since brand and generic names were listed separately, the 58 figure includes some molecular entities twice). Respondents who reported using at least one of these medications in the past 12 months are defined as 'antidepressant users', and constitute the study sample for this paper.

**Antidepressant discontinuation**—Those who reported having used a single antidepressant and were no longer taking it when interviewed were defined as having discontinued. A respondent who reported having used more than one antidepressant was only classified as ‘discontinued’ if s/he also reported having stopped each of those antidepressants. This approach is taken because if a respondent had stopped one antidepressant but started another, this could represent a switch rather than discontinuing all medication, depending which drug came first.

Among those who discontinued, a further distinction is whether they received medical input before discontinuing. Those who say they were told to stop by the health professional who supervised the use of their medication are defined as having stopped ‘with prior medical input’. Other users who stopped ‘without prior medical input’ include those who said that they decided and the health professional agreed; or that the professional agreed with their decision to stop; those who never went back to the health professional; and those who refused or responded ‘don’t know’.

**Sociocultural variables**—Age was coded using three categories (18–34 years; 35–54 years; 55 years or more) and gender was coded using a dummy variable (1=female, 0=male). An indicator variable flags respondents as either married or not (single, widowed, separated, divorced). Education was recoded as an indicator for whether or not the respondent had more than 12 years of education. English proficiency was coded as a dichotomous variable (1= good/excellent, 0=poor/fair).

Respondents were asked about their health insurance, with six response options, and based on their responses dummy variables were created for three broader categories: public insurance, private insurance and none.

**Clinical indicators**—Respondents’ clinical status is measured using three distinct variables. First, an indicator whether the respondent was experiencing difficulties in role functioning which were classified as ‘moderate’, ‘severe’ or ‘very severe’ (as opposed to mild or none). Second, an indicator for ‘problem recognition’ flags respondents who either reported having thought in the past year that they had a nervous, emotional, drug or alcohol problem, or reported that another person had thought they had such a problem. Third, a variable was included that counts the number of symptoms of major depression endorsed by the respondent.

**Patient’s experience**—Based on responses to the pharmacy questions, indicator variables were created for whether any of the respondent’s antidepressants were in the SSRI class, and whether any of his/her prescriptions were supervised by a psychiatrist (as opposed to all other types of provider). An additional indicator tracks whether the respondent reported problems with any of the antidepressants s/he was taking. An indicator was also constructed for whether the respondent had experienced barriers to the quality of care. This was set to one for respondents who reported any of these experiences: a) providers had spent limited time with them, b) they had waited over one hour in the waiting room or c) there had been a lack of continuity of care. Finally, an indicator was constructed for whether in the past year the respondent had any visits with a non-medical provider, defined as a psychologist, social worker or counselor.

## Statistics

Bivariate tests were used to compare the antidepressant users who stopped their medication with those who did not stop. For continuous variables, differences in means between the two groups were tested using t-tests. For discrete variables, chi-square tests were used.

Multivariate regression was used to isolate the independent effect of each explanatory variable while controlling for the others. One model seeks to explain which respondents stop, while the other seeks to explain who stops without prior medical input. Since in both cases the dependent variable (stopping medication) is binary, logistic regression was used. Goodness of fit is reported using the pseudo-R-squared statistic, which gives the percent change in log-likelihood for the full model compared to a model with intercepts only. Two observations were excluded from regressions due to incomplete data.

Both bivariate and multivariate analyses were conducted using Stata software, in order to correct standard errors for the complex multistage survey design.

## RESULTS

Of the 2,554 Latinos who responded to the NLAAS survey, there were 180 who used any antidepressants (7.0%). They reported using a total of 221 distinct medications, giving a mean of 1.23 per user.

### Characteristics of the sample

Nearly three-quarters of the sample for this paper is female, reflecting a typical pattern of gender difference in the use of antidepressants (Table 1, column 2). The antidepressant users appear to have lower than average socioeconomic position, as reflected by only 37.3% having private health insurance.

Only 43.5% of these antidepressant users recognize having a nervous, mental, drug or alcohol problem (Table 2). A minority (38.8%) had their medication prescribed by a psychiatrist (versus other physician types), but almost two-thirds received at least one SSRI prescription, reflecting the comfort that non-psychiatrist physicians now feel prescribing SSRIs. One in four users (26.7%) reported having a problem with an antidepressant medication.

### Discontinuation

. Of the 180 users, 60 (33.3%) had discontinued using antidepressants at the time of interview. However, among those 60, only 34 users (18.9% of all users) reported that they had discontinued without being directed to do so by the physician. This latter definition is closer to the type of discontinuation typically seen as problematic.

### Correlates of discontinuation

Bivariate analyses indicate that age was significantly associated with discontinuing antidepressant use, with users in the 18–34 age group being more likely to discontinue than older users (Table 1, column 3). Discontinuation was negatively associated with having public health insurance, and with the number of symptoms of major depression. In addition, users who had at least 8 visits to a nonmedical provider in the past year were less likely to discontinue.

Somewhat different results are obtained when one focuses on the subset among discontinuers who stopped without prior medical input (column 4). This type of stopping is more likely among women, respondents not currently married, and those who report experiencing barriers to the quality of care. It is significantly less likely among respondents over age 55, and those who had at least 8 visits to a nonmedical provider. The more symptoms of major depression a respondent had, the less likely to stop without prior medical input.

### Multivariate analyses

Logistic regression analyses confirmed some bivariate results and changed others (Table 3). Persons aged 35–54 and those 55 or older are less likely to discontinue their antidepressants

than younger adults. In addition, being married is protective against stopping on either measure. Having either public or private insurance reduces the likelihood of both stopping and stopping without prior medical input. Patients who reported good or excellent English proficiency were less likely to stop at all.

Among the patients' clinical characteristics, a greater number of symptoms of major depression makes stopping less likely (both measures). Patients who took an SSRI were less likely to discontinue. Respondents who reported experiencing problems with a drug, or barriers to the quality of care, were more likely to stop (both measures). Stopping without prior medical input was less likely among those who had at least eight visits to a non-medical provider.

## DISCUSSION

This study's findings have some interesting implications, particularly when placed in the context of prior work on Latino mental health. This section notes a few implications and discusses the study's limitations.

One third of those who used antidepressants within the past year had discontinued all antidepressants at the time of interview. This rate is outside the range of discontinuation rates reported in Lingam and Scott's review,<sup>14</sup> which concluded that between 45 and 60% of patients stop taking prescribed antidepressants within 3 months of starting. However, the rate in this study is not strictly comparable to their rates, as respondents were not followed from the time of starting medication, as in a cohort study. Some NLAAS respondents may have only just started antidepressant use at the time of interview (biasing the discontinuation rate downward), while others who report having stopped may have taken antidepressants for six months or more (an upward bias). The net effect of these biases is not clear.

The finding that 18.9% of respondents who discontinued did so without prior medical input is a rate similar to results from another survey-based study examining compliance. That study reported that 24% of patients did not inform their physician about stopping the antidepressant medication, and found that the likelihood of patients' informing their providers varied according to the patients' perceptions of the treatment relationship and to their reasons for discontinuing.<sup>26</sup> This study's relatively high rate of respondents who discontinued with prior medical input is particularly concerning given the clinical risks associated with discontinuing antidepressants abruptly.<sup>53,54</sup> A recent consensus panel recommended that management strategies include gradual tapering of doses, with clinical monitoring and patient education.<sup>55</sup>

It is noteworthy how much more likely uninsured individuals are to discontinue treatment, compared to those with some form of health insurance. This could relate to the price of the drugs themselves, which is high for an individual paying out-of-pocket, particularly for newer drugs. But it is worth pointing out that the uninsured people in this sample did report having used at least one antidepressant, so price was not a consistently insurmountable barrier. It is also possible that their lack of insurance led to prescription of less expensive medications which proved harder to tolerate, or that it made them unable or unwilling to receive concurrent therapy or medical visits that might otherwise have discouraged discontinuation. Latinos are known to be considerably more likely to be uninsured than other ethnic groups,<sup>56</sup> and more than twice as likely to be uninsured as non-Latino whites (19.4% vs. 41.6%).<sup>57</sup>

The results supported the study hypotheses regarding the potential importance of sociocultural factors, in particular English proficiency. Differences commonly exist between what providers recall communicating to patients and what patients report being told,<sup>15</sup> and this discrepancy may be greater for Latinos experiencing a language barrier. Enhanced English proficiency presumably aids both patients' ability to communicate their adherence concerns and physicians' ability to be adequately responsive. Further, given that Latinos tend to prefer non-



pharmacologic treatment modalities<sup>58</sup> and to be significantly less likely than non-Latino whites to find antidepressant medications acceptable,<sup>59</sup> there may be an even greater need for prescribing physicians not only to discuss attitudes, beliefs and fears (e.g. of addiction) with their Latino patients but also to strengthen these patients' understanding of how persistence with a medication regimen is likely to ease suffering substantially without risk of addiction.

It is striking that two of the three clinical variables included did not attain statistical significance. The variables for problem recognition and role functioning were expected to relate more closely to the patient's own experience than diagnostic measures, and therefore be correlated with discontinuation. However, the only clinical variable that predicted discontinuation was the number of symptoms of major depression, with more symptoms making discontinuation less likely.

The finding that having at least eight visits with a nonmedical therapist is significantly associated with patients being less likely to stop taking their medications without prior medical input is consistent with expectations. The treatment relationship with a nonmedical therapist may include adherence-related discussions that support communication with the prescribing physician. However, what can be concluded is limited. It may be that those patients receiving combined treatment, counseling and medication, are more comfortable with negotiating their psychiatric care, and/or more motivated to persevere. They may also be more severely depressed, but this would only bias results if depression severity was not captured by the symptom count variable.

The finding that receiving antidepressant medication from a psychiatrist was not associated with lower rates of discontinuation was surprising given the assumption that compared to primary care physicians, these specialist providers may be more likely to be experienced in psychopharmacology, and in optimizing dosing levels and tailoring medication regimens. The finding that respondents were less likely to discontinue if their medications were in the SSRI (vs. tricyclic) class is expected given the greater degree of tolerability coupled with greater convenience associated with these antidepressants.

## Limitations

In conclusion, it is worth noting some limitations to this study's findings. First, it is not known how much of the discontinuation observed was premature, since the data do not reveal how long each respondent was taking antidepressants before discontinuing. The simple extent of discontinuation may nonetheless be of interest. Second, for respondents who took more than one medication, we do not know whether these were concurrent, or if not, in what sequence they were taken. However, in practice 80% of the sample only took one medication, 16% took 2 and 3% took 3 or more, so the proportion affected is relatively small.

Third, this study relies on respondents' reporting on whether they discontinued antidepressants with or without prior medical input. In some cases, providers may disagree with the respondent's report regarding their input. There may be respondents who feel uncomfortable admitting to discontinuing their medications without physician input or knowledge, or even against the physician's recommendation, which could make the actual 'without prior medical input' category higher. There may also be cases where patients discontinued their antidepressants independent of the physician, did not communicate with the prescribing provider – particularly in the case of primary care – for several months, then informed the provider of the earlier discontinuation only at a later point, when the patient was experiencing recovery. At such time, the provider may well offer agreement with the earlier decision to discontinue, particularly if the patient had decided to substitute psychotherapy or another therapeutic modality instead, one which proved beneficial. After-the-fact agreement is of course distinct from that given at the time of discontinuation, but respondents in the above

scenario might feel comfortable responding affirmatively to the question of whether their physician agreed with their decision. Again, the actual ‘without prior medical input’ category would expand if one were able to distinguish such cases.

A third limitation is the relatively small sample size for this particular question, since the study is limited to antidepressant users. This reduces the study's ability to detect moderate sized effects, and also impedes analysis of subgroups such as the different Latino ethnicities. The results may nonetheless be helpful in the design of further research.

## IMPLICATIONS FOR BEHAVIORAL HEALTH SERVICES

The findings of this paper provide information for future research on antidepressant discontinuation. First, a substantial number of Latino antidepressant users discontinue treatment without this being recommended by their physician. Second, having eight or more visits with a nonmedical therapist is associated with less discontinuation without medical advice. In light of literature reporting that Latinos are often uncomfortable with psychotropics (e.g. due to fears of addiction, or a heightened sense of stigma) and prefer nonmedical treatment modalities, it may be that combining antidepressant treatment with psychotherapy or counseling particularly supports their adherence. Third, a sociocultural variable (English language proficiency) affects treatment adherence, even after controlling for various demographic and clinical variables. These results may help guide future studies to carefully measure relevant sociocultural variables and treatment preferences in addition to the standard clinical and demographic predictors of adherence. These findings may also aid program development efforts in behavioral health.

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**Table 1**

Sociodemographic characteristics of study sample

	All users	Users who stopped	Users who stopped without prior medical input
N	180	60	34
Age:			
18-34	27.5%	41.0% *	41.5%
35-54	53.4%	45.2%	53.6%
55+	19.1%	13.7%	4.9% ***
Education			
12 years or less	55.7%	54.2%	54.5%
More than 12 years	44.3%	45.8%	45.5%
Sex:			
Female	70.8%	77.6%	84.3% *
Male	29.2%	22.4%	15.7%
Marital status			
Married	38.3%	34.2%	24.9% **
Not married	61.7%	65.8%	75.1%
English language proficiency			
Poor/fair	39.6%	44.4%	35.7%
Good/excellent	60.4%	55.6%	64.3%
Health insurance:			
Private	37.3%	45.6%	42.9%
Public	51.5%	40.7% *	37.6%
None	11.2%	13.6%	19.5%

Note:

The 34 users who stopped without medical input are a subset of the 60 who stopped.

\*\*\* denotes a difference significant at  $p < .01$

\*\* denotes  $p < .05$

\* denotes  $p < .10$ .

Table 2

Clinical characteristics of the study sample

	All users	Users who stopped	Users who stopped without prior medical input
N	180	60	34
<i>Clinical condition</i>			
Recognizes problem			
Yes	43.5%	37.8%	33.7%
No	56.5%	62.2%	66.3%
Role functioning problem			
Yes	22.0%	27.6%	16.2%
No	78.0%	72.4%	83.8%
Symptoms of major depression (number)	15.2	11.8	11.74
		***	***
<i>Experience with care</i>			
Patient took any SSRI			
Yes	65.8%	66.2%	72.2%
No	34.2%	33.8%	27.8%
Medication prescribed by psychiatrist			
Yes	38.8%	31.7%	35.3%
No	61.2%	68.3%	64.7%
Problems with a drug			
Yes	26.7%	34.2%	39.1%
No	73.3%	65.8%	60.9%
Barriers to quality of care			
Yes	51.0%	57.8%	65.7%
No	49.0%	42.2%	34.3%
8+ visits to a nonmedical provider			
Yes	14.2%	8.2%	4.5%
No	85.8%	91.8%	95.5%
		**	***

Note:

\* denotes  $p < .10$ .

The 34 users who stopped without medical input are a subset of the 60 who stopped.

\*\*\* denotes a difference significant at  $p < .01$

\*\* denotes  $p < .05$



Table 3

**Predictors of stopping all antidepressant use**

Estimation method: Logistic regression

	Model 1: Pr(stopping)		Model 2: Pr(Stopping without prior medical input)	
	Odds ratio	95% confidence interval	Odds ratio	95% confidence interval
<i>Sociodemographic variables</i>				
Age group (ref=under 35)				
Age 35–54	0.26	0.10	0.33	0.08
Aged 55 or older	0.13	0.01	0.02	0.00
Education: more than 12 years (1=yes)	0.66	0.23	0.60	0.18
Female (1=yes)	2.63	0.45	4.71	0.45
Married (1=yes)	0.24	0.10	0.08	0.03
English proficiency (1= Good/excellent)	0.37	0.13	0.45	0.13
<i>Economic variables</i>				
Health insurance (ref: none)				
Private	0.36	0.12	0.06	0.01
Public	0.12	0.03	0.02	0.00
<i>Clinical characteristics</i>				
Role functioning problem (1=yes)	0.56	0.18	0.93	0.32
Recognizes problem (1=yes)	1.75	0.38	1.23	0.28
Number of symptoms of major depression	0.92	0.88	0.90	0.86
<i>Experience with care</i>				
Patient took any SSRI (1=yes)	0.35	0.11	0.55	0.18
Medication prescribed by psychiatrist (1=yes)	0.65	0.18	1.38	0.47
Problems with a drug (1=yes)	2.61	0.93	2.92	0.93
Barriers to quality of care (1=yes)	2.69	1.03	8.67	1.45
8+ visits to nonmedical provider (1=yes)	0.37	0.09	0.06	0.00
N	178		178	
Pseudo R-squared	0.2472		0.4036	

Note: \*\*\* denotes a coefficient significant at p<.01, \*\* denotes p<.05, \* denotes p<.10.

The users who stopped without medical input are a subset of those who stopped.