Published in final edited form as:

Gen Hosp Psychiatry. 2011 ; 33(2): 94–101. doi:10.1016/j.genhosppsych.2010.12.001.

The Long-term Trajectory of Depression among Latinos in Primary Care and its Relationship to Depression Care Disparities

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Abstract

Objective—Lower use of medication treatment, poorer doctor-patient communication, and depression stigma are key contributors to mental healthcare disparities among Latinos with depression. The current study investigated the relationship between these key variables and the long-term trajectory of depression in primary care among Latinos.

Method—Participants (N=220) were Latinos presenting to primary care who screened positive for depression. A repeated measures design was used to assess participants at baseline, 6, 25, and 30-months. Repeated measures included depression (PHQ-9), self-reported quality of doctor-patient communication, and stigma pertaining to antidepressants. Using growth curve modeling, participants' depressive symptom trajectories were examined for a 30-month period. Self-reported utilization of antidepressants, doctor-patient communication, and antidepressant stigma were examined as predictors of the depressive symptom trajectory. Also, rates of depression improvement/remission and recurrence/relapse were examined.

Results—Improvement/remission was experienced by 69.4% of participants during a 30-month period. Among those who improved/remitted at six or 25 months, 63.4% maintained that improvement/remission by 30-months. The long-term trajectory of depressive symptoms demonstrated a significant positive association with antidepressant stigma and significant negative associations with use of antidepressant treatment and quality doctor-patient communication.

Conclusions—While relapse/recurrence is common, most Latinos in this study experienced improvement in depression over 30 month. For many, there is a considerable time to reach improvement/remission. Also, these findings confirm the significance of antidepressant underutilization, doctor-patient communication, and stigma in the long-term outcome of depression among Latinos in primary care.

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1. Introduction

Latinos in the US, particularly Mexican-Americans, are less likely to receive guideline-concordant depression care (1) and it is critical to examine how this problem, and its determinants, are related to the long-term course of depression among Latinos. The problem of mental health care disparities among US Latinos, as well as other racial/ethnic minority groups, has been given wide attention in the research literature. Visibility to these disparity issues were enhanced by the Surgeon General's report on culture, race, and ethnicity on mental health, (2) as well as the Institute of Medicine's outline of a broad range of healthcare disparities, many of which centered on the lower utilization of mental health care. (3)

The adequate treatment of depression in primary care among Latinos is a key area to address for reducing mental health disparities. Latinos predominantly seek mental health treatment from primary care (4, 5) and a major source of mental health disparities is the markedly low rate of depression treatment, (6) as 36% percent of Latinos with depression receive treatment versus 60% of non-Latino Whites. Latinos are also more likely to prematurely discontinue their antidepressant, relative to non-Latino Whites. (7–10) Also, evidence shows that Latinos initiate antidepressant treatment at much lower rates, despite being equally likely to receive a recommendation for an antidepressant from their primary care provider. (11)

The stigma associated with antidepressant treatment and poorer doctor-patient communication is considered a causal factor in lower treatment engagement among Latinos. (12) Indeed, depression stigma is a particular concern among a range of Latino groups (13–16) and this has been shown to be associated with lower treatment utilization. (17) Thus, efforts that target stigma may complement existing approaches that improve access to guideline-concordant care among racial/ethnic minority patients with depression. (18, 19)

An additional contributor to depression care disparities pertains to doctor-patient communication. There is less doctor-patient discussion of antidepressant medication among Spanish-speaking Latinos, (8) a finding that is consistent with Latinos' overall dissatisfaction with doctor-patient communication. (20) Doctor-patient communication may therefore be another target for reducing treatment disparities, given that good communication is associated with improved outcomes, adherence, and patient satisfaction in many areas of medicine. (21–23)

These issues prompt the question, how do these key disparity factors influence the course of depressive illness among Latinos in primary care? It is likely that antidepressant utilization, depression stigma, and doctor-patient communication interact with one another to influence the trajectory of depression among Latinos. The stigma associated with depression and its treatment may leave patients more reluctant to utilize antidepressant medication. Also, the medical encounter is a critical point in the delivery of care, where skillful communication can engage patients in a way that increases their amenability to antidepressants and ameliorates the stigma associated with these medications.

The objective of this study was to examine the course of depression among Latino primary care patients during a 30-month period. Of particular interest was the role of critical determinants of depression care disparities, such as antidepressant utilization, depression stigma, and doctor-patient communication, in influencing the illness course. The study focuses specifically on antidepressant treatment, as engagement with this type of treatment has been most concerning among Latinos given lower utilization, lower adherence, and lower preference for antidepressants. (6, 7, 24) In addition, national trends in depression care have shown that treatment is increasingly relying on antidepressant treatment and less on

psychotherapy, (25) significantly increasing the need to understand engagement with antidepressant treatment among Latinos. Since our study focuses on the long-term course of depressive symptoms among Latinos in primary care, we employed latent variable curve growth modeling to estimate the trajectory of depressive symptoms, allowing an assessment of the variables that significantly influence that trajectory. We hypothesized that the course of depressive symptoms would be improved by antidepressant utilization and high ratings of doctor-patient communication, while worsened by stigma.

2. Methods

2.1 Participants

The data were collected at two large primary care clinics for underserved populations between January 2006 and June 2008 and have been reported elsewhere. (26) These clinics were run by Los Angeles County and most participants had public forms of insurance, such as MediCal and plans for reduced-cost for outpatient services in public clinics. The recruitment process involved approaching patients in the clinic and explaining the study's purpose. Those who consented to participate were screened for eligibility and enrolled in the study if they met the following criteria: a) screened positive on the Patient Health Questionnaire-2 (PHQ-2) for depression, score ≥ 3 ; (27, 28) b) were 18 years of age or older; and c) spoke English or Spanish. A total of 220 Latinos with probable depression was enrolled based on this process. Given that the current study emphasized a naturalistic design, the PHQ-2 was utilized as the depression criterion, as we sought to describe the course of illness for individuals who are evaluated in primary care in two-step process that is geared for busy primary care settings (i.e., screened with the PHQ-2, more thoroughly assessed with the PHQ-9). (27)

2.2 Procedure

Once enrolled, participants completed a baseline interview (time 1) in their preferred language (English or Spanish). These interviews were conducted again after 6 (time 2), 25 (time 3), and 30 months (time 4) from baseline. Demographic variables were collected during the baseline assessment, while information pertaining to depressive symptoms, antidepressant utilization, and doctor-patient communication were collected during each of the assessments. Stigma related to antidepressants was assessed during the final two assessment points (times 3 & 4). All participants signed an IRB-approved consent form and study procedures were approved by the IRB at UCLA.

2.3 Measures

A demographic form inquired about participants' status on basic demographic variables, such as age, gender, years of education, employment status, marital status, and availability of health insurance. Antidepressant treatment utilization was assessed by asking participants at each timepoint whether they were, "currently taking antidepressants."

2.3.1 Depressive symptoms—The assessment of depression utilized a two-stage procedure, as recommended by Kroenke et al.(27) for busy primary care settings. This assessment strategy relied on first screening patients with the briefer Patient Health Questionnaire-2 (PHQ-2), (27) followed by longer Patient Health Questionnaire-9 (PHQ-9). (29) The PHQ-2 allowed for rapid screening of depression, while the PHQ-9 permitted for lengthier assessment of depression. The PHQ-9 also served as the repeated measure for assessing changes in depressive symptom levels. The PHQ-2 is a two-item measure, with each item scored 0–3, resulting in a core of 0–6. A PHQ-2 score of ≥ 3 has demonstrated a sensitivity of 83% and specificity 92%, in comparison with a clinician structured diagnostic interview. The PHQ-9 is a nine-item measure, with each item scored 0–3, that yields a score

ranging from 0 – 27. Higher scores indicate greater depressive symptoms. The validity of the PHQ-9 has been supported, including criterion-related validity with a clinician diagnostic interview for depression and convergence with other depressive measures. A score ≥ 10 served as the threshold for determining probable depression. (29)

2.3.2 Stigma towards antidepressants—The Latino Scale for Antidepressant Stigma (LSAS) assesses the stigma concerns that Latinos have reported regarding antidepressants. (17) It contains seven items with stigma-related statements pertaining to antidepressants that are scored on a 3-point scale, yielding a score ranging from 0 – 14. Participants indicate the degree to which they feel others may agree with each statement and higher scores indicate greater concerns about how others would view antidepressant use. The LSAS has acceptable internal consistency, a sound factor structure, and is associated with 23% lower utilization of antidepressants. Administration of the LSAS occurred during the final timepoints in the study (times 3 & 4).

2.3.3 Doctor-patient communication (DPC)—Items measuring doctor-patient communication were derived from a previous study. (30) The current measure included six items rated on a five-point Likert scale that inquired about the degree to which the providers explained things, demonstrated respect, listened, asked for preferences, involved patient in decisions, and worked with the patient to develop a plan. Scoring involved dividing the total sum by the maximum possible total score, yielding a score from 0 to 1. Using the current sample, the doctor-patient communication scale produced a Cronbach coefficient of .80, at each timepoint.

2.4 Analysis

In order to utilize complete data, analyses for the current study focused on the 200 participants who completed the 30-month assessment. A number of analyses were conducted to describe the number of participants throughout the different timepoints according to a criterion of probable depression (i.e., PHQ-9 ≥ 9). First, we calculated the frequency and percentage of participants who were probably depressed, separately by timepoint. Next, a calculation was used to describe the frequency and percentage of participants who demonstrated their first improvement/remission, separately by timepoint. We operationalized this with a criterion below the cutoff indicating probable depression (i.e., PHQ-9 < 10). In addition, of those who demonstrated an improvement/remission, we calculated the frequency who maintained a below threshold score throughout the remaining timepoints, as well as the frequency of those who experienced a recurrence/relapse, which was operationalized according to meeting criteria for probable depression (i.e., PHQ-9 ≥ 9).

Subsequent analyses used a latent variable curve growth modeling approach, using Mplus software. (31) Growth modeling allows for an estimate of the growth trajectory by examining the rate of change on the depression outcome variable (PHQ-9) over time. The analysis also permits examining the effect of predictor variables, while also adjusting for covariate variables. Growth modeling requires fewer subjects to detect a small effect size at a power of .80, in comparison to traditional repeated measures analyses such as ANOVA or ANCOVA. (32) With four waves of data over a 30-month period, a linear trajectory shape was hypothesized. Each individual growth trajectory is characterized by an intercept, which represents the initial status or starting point of the outcome, and a slope, which represents the constant change rate over time. The first step in this analysis was to describe the trajectory of depression symptoms. We accomplished this by using measures at four time points (baseline and months 6, 25, and 30) to estimate unconditional growth models for depressive symptomatology. In the next step, we specified the conditional model to determine the effects of the predictor variables (i.e., antidepressant treatment utilization,

doctor-patient communication, stigma), while adjusting for covariates (age, education, gender, having health insurance), on the trajectory of depressive symptoms. Model fit was assessed by the following global fit indices: Chi-square values, CFI (with a cut-off value of .95) and RMSEA (with a cut-off value of .06). (33)

3. Results

3.1 Sample Characteristics

The demographic characteristics of the participants are presented in Table 1. Most Latino participants were female, Spanish-speakers, with less than a high school education. Nearly all participants had access to health insurance. Only a small proportion of participants were fully employed. Table 2 summarizes the repeated measures across the four timepoints to allow the reader to examine specific scores or rates of antidepressant medication use at the particular timepoint. Table 2 shows that at any given time point, a quarter to a third of all participants reported utilizing antidepressant medication. Also, the mean PHQ-9 score at the first two timepoints met the criterion for probable depression and the converse was the case for the final two timepoints.

3.2 PHQ-9 Caseness Across Time

A total of 86% of the sample had a PHQ-9 score indicating probable depression at baseline (PHQ-9 > 9). Table 3 summarizes PHQ-9 outcomes during subsequent timepoints. The first column reports the rate of participants during times 2 (6-months), time 3 (25-months), or time 4 (30-months) that scored above the cutoff for probable depression (PHQ-9 < 10). By 25-months, fewer than half of participants scored in the probably depressed range. In the second column, the percentage of participants who improved/remitted for the first time since baseline was 26.6% by time 2, 31.8% by time 3, and 11% by time 4, resulting in a total of 69.4% who improved/recovered at some point by 30-months. As shown in the third column, of those who improved/recovered at time 2, 63% maintained this status at time 4. Also, 63.6% of those improving/recovering at time 3, maintained their below threshold depression at time 4. Thus, of the 101 who improved/recovered at times 2 or 3, 63.4% maintained a below threshold status at time 4. Conversely, 36.6% had a recurrence/relapse by time 4.

3.3 Trajectory of Depressive Symptoms

The latent trajectory model result showed a good fit (chi-square $p = .41$; CFI = .981; RMSEA = .025). Table 4 summarizes the results of the latent trajectory modeling. The intercept of PHQ-9 scores was significant, indicating that participants had significantly different PHQ-9 scores at baseline. More importantly, the model showed a significant slope or trajectory of PHQ-9 scores, indicating that depression severity significantly decreased across time. Several predictors were independently significant with the 30-month trajectory of PHQ-9 symptoms, adjusting for gender, education, age, health insurance status (none of these covariates were significant in the model). Three antidepressant utilization predictors (time 1, time 2, time 4) showed significant negative associations with the trajectory of PHQ-9 score, where self-reported “taking antidepressants” was associated with a trajectory of decreasing PHQ-9 scores. Doctor-patient communication during time 4 also demonstrated a significant negative association with the trajectory of PHQ-9 scores. Higher ratings of doctor-patient communication were associated with a decreasing trajectory of depression. This measure was not significantly related to the depression trajectory during times 1 and 2. Stigma during time 4 was also significantly associated with the PHQ-9 trajectory in the positive direction, where higher stigma scores were significantly associated with increasing PHQ-9 scores. Stigma during time 3 was not significantly related to depression trajectory. A review of the coefficients in Table 4 shows that stigma scores had the strongest relationship to the trajectory of PHQ-9 scores. This relationship is illustrated in Figure 1, which plots the

course of PHQ-9 symptoms, according to high and low levels of stigma (divided using a median split). This plot shows that the PHQ-9 scores for participants scoring high and low on time 4 stigma (30 months) start to diverge after baseline.

4. Discussion

Overall, depression does likely remit after two and a half years, but it is likely to recur. Our results showed that approximately 55% no longer met criteria for probable depression by 25 months. This indicates that many patients' improve, approximating results reported in a previous non-Latino primary care sample, where approximately 45% no longer met major depression criteria at 24 months. (34) In the current study, relapse/recurrence seems to be concerning, given that 37% of those whose depression improved/recovered experienced a relapse/recurrence of symptoms. This finding is consistent with the attention given to relapse/recurrence in the depression treatment research literature. (35, 36) In addition, it is concerning that only a minority of participants had improved/recovered at 6-months, leaving a considerable number to experience the burden and suffering of depression for substantial period of time. Thus, our data show that efforts should target earlier improvement/remission among Latino primary care patients, as well as reduce rates of relapse/recurrence. Our overall findings pertaining to relapse/recurrence, in combination with high rates of underutilization of treatment, are consistent with recent findings showing that minority groups are more likely to experience recurrent types of major depression compared to non-Latino whites. (37)

Our study suggests that improving key mental health disparity determinants hold promise for achieving earlier treatment benefit and maintenance of gains, as our predictors were shown to influence the course of depressive symptoms. Of note was the important role of stigma as a barrier to depressive symptom remission among Latino primary care patients with depression. Specifically, the results of this study showed that the presence of stigma was associated with an increased likelihood of depressive symptom persistence. This effect was observed to be independent of antidepressant use. Such a finding adds to the accruing literature documenting the treatment complicating effect of stigma on mental health outcomes. (38–40) Stigma is a frequently discussed barrier to mental healthcare among Latinos and the current study bolsters the significance of this issue by documenting the deleterious effect of stigma on long-term depression outcomes among Latinos in primary care.

The results of the study also showed low rates of antidepressant utilization. Our rates of self-reported antidepressant utilization, ranging from 28 – 33%, are consistent with rates of antidepressant utilization previously reported among Latinos with depression in primary care. (11) Moreover, our findings directly link antidepressant utilization with long-term outcomes, showing that non-utilization worsened the trajectory of depressive symptoms. It also seems likely that these low rates of antidepressant utilization contributed to the low number of participants achieving depression symptom improvement/remission by six-months. While a consideration is whether participants accessed other treatments in specialty care settings, our data indicate that very small numbers attended specialty care (i.e., between 3–5 participants at each timepoint). Thus, the study's results confirm that improving the utilization of antidepressants in primary care among Latinos remains a priority.

We further hypothesized that doctor-patient communication that was perceived to be favorable would enhance depression outcomes, a finding that was partially supported by the growth modeling. This finding adds to the accumulating literature that links important health outcomes to doctor-patient communication. (21–23) The current results support the examination of communication ingredients that may be particularly effective for Spanish-

speaking Latinos. These findings also support the use of interventions targeting the communication of Latino patients (41) or physicians, (42) particularly those that are patient-centered.

The results of the current study provide support for a number of clinical services and practice strategies. Strategies to increase engagement with antidepressant treatment will likely yield improved outcomes. Currently, there are a number of interventions available that hold promise improving engagement among Latinos. (41, 43) These interventions also have the potential to address depression stigma by either increasing patient treatment empowerment or by helping patients view antidepressant treatment in ways that are more consonant with models of coping within their community (e.g., struggling against problems instead of taking medications). Engagement strategies can also include awareness efforts that utilize culturally-focused educational approaches such as *fotonovelas*. (44) Finally, while doctor-patient communication can be improved by adopting key components of patient-centered communication (e.g., eliciting patient treatment preference, collaborative treatment planning), it should also include communicating an understanding of the stigma issues associated with antidepressant use among Latinos. (14) Such communication can also help patients find ways in which antidepressant treatment can be viewed compatibly with their own models of coping with depression. (43)

The current study has a number of limitations. First, our results linking depression trajectory and stigma are correlative and cannot differentiate between a number of interpretations. For example, it may be that worsened course of symptoms leads to greater stigma, as self-esteem and social functioning may be negatively affected by the persistence of depressive symptoms. Another interpretation is that the perception of stigma towards depression complicated remission. Accordingly, baseline stigma has been shown to prospectively predict self-esteem at six and 24 months follow-up. (38) Consistent with this interpretation, our findings showed that the harmful effects of antidepressant stigma can be seen as early as six months. While another interpretation to consider is that stigma negatively influences depression remission via reduced treatment engagement, our findings show that stigma's effect on depression is independent of antidepressant utilization. An addition interpretation would be that depression severity and stigma interrelate in multiple ways, having reciprocal effects, including an interplay with treatment engagement. While we cannot differentiate between these interpretations, our results highlight the importance of stigma in the long-term course of depressive illness among Latinos in primary care.

Second, although the PHQ-9 has good agreement with a clinician interview for major depression, (29) it is not a structured psychiatric research interview for assessing major depression. Therefore, care should be taken when comparing rates of depression recurrence with those of previous primary care studies, (34, 35) as these studies employed a structured diagnostic interview. The current results should therefore be interpreted as a preliminary estimate of the course of depression among Latinos in primary care.

Third, a measure of stigma was included in our research protocol during the later timepoints of the study, which provided an incomplete picture of how stigma affects care at all data points. While our results establish the key influence of antidepressant stigma during late follow-up periods, they do not help us understand the role of stigma when patients initiate treatment.

Fourth, some caution is warranted in interpreting the results given that the majority of this Latino sample had access to health insurance. This may raise some questions pertaining to generalizability given that low rates of health insurance funding are observed among Latinos. (45) Despite this limitation, however, this study adds to existing evidence showing

that disparities in care continue to be observed, even among Latinos who have access to health insurance. (11, 46)

In conclusion, our results illustrate the long-term course of depressive symptoms among Latinos in primary care and that it is characterized by slow improvement and relapse/recurrence in a significant proportion of cases. Issues frequently discussed as relevant to Latino depression care disparities play a key role in the long-term course of depressive illness in primary care.

Acknowledgments

This project was supported by grants 62454 and 62609 from the Robert Wood Johnson Foundation (Dr. Vega, principal investigator). Dr. Interian was also funded by grant K23-MH074860 from the National Institute of Mental Health. This project was also supported by the Robert Wood Johnson Foundation's Finding Answers: Disparities Research for Change National Program (RWJF ID 59748).

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Figure 1. PHQ-9 Depression Scores across Time for Patients with high and low Stigma
Note. Lines represent stigma as measured by the LSAS and were dichotomized using a median split.

Table 1

Sociodemographic characteristics of the sample (N=200)

Variable	N	%
Age		
18–29	7	3.5
30–49	85	42.5
50–64	87	43.5
65 and older	21	10.5
Female	165	82.5
Spanish-language interview	190	95
Education		
Less than high school	121	60.5
Some high school	26	13
High school graduate	31	15.5
Some college	10	5
College graduate or additional higher education	12	6
Employment		
Full-time or part-time	68	34
Retired	12	6
Disabled	24	12
Homemaker	38	19
Unemployed	54	27
Full-time or part-time students	4	2
Marital status		
Single or never married	54	27
Married or living with partner	92	46
Separated or divorced	40	20
Widowed	14	7
Insured	179	89.5

Table 2

Depression severity, antidepressant utilization, stigma, and doctor-patient communication across the four timepoints. (N=200)

Variable	Mean	SD
PHQ-9 ^a		
Baseline (time 1)	13.84	5.60
6-months (time 2)	11.91	6.00
25-months (time 3)	8.90	6.70
30-months (time 4)	9.00	6.70
LSAS ^b		
25-months (time 3)	7.60	1.90
30-months (time 4)	7.30	1.90
DPC ^c		
6-months (time 2)	0.08	0.25
25-months (time 3)	0.48	0.26
30-months (time 4)	0.51	0.29
	N	%
Depression care utilization		
Currently taking antidepressants (time 1)	45	22.5
Currently taking antidepressants (time 2)	52	26.0
Currently taking antidepressants (time 3)	65.00	33.0
Currently taking antidepressants (time 4)	59.00	30.0

^a Patient Health Questionnaire–9.

^b Latino Scale for Antidepressant Stigma.

^c Doctor-Patient Communication

Table 3

Depression outcome rates across a 30-month period

Time Period	Probable Depression (PHQ-9 > 9) (N=200)		Improved/Remission (PHQ-9 < 10) (N=173) ^a		Maintained Improvement/Remission (N=120) ^b		Relapse/Recurrence (PHQ-9 > 9) (N=90) ^c	
	N	%	N	%	N	%	N	%
Baseline (time 1)	173	86.5						
6-months (time 2)	127	63.5	46	26.6	29	63.0	17	37.0
25-months (time 3)	88	44.0	55	31.8	35	63.6	20	36.4
30-months (time 4)	89	44.5	19	11.0	-	-	-	-

^a Figures represent the frequency of participants scoring below probable depression for the first time since baseline, across time periods. The subsample includes the 173 participants with a probable depression at baseline (PHQ-9 > 9).

^b Figures represent frequency of participants who were who, after demonstrating improvement/remission, maintained a subthreshold depression score at 30-months, separately by time period. Percentages were calculated based on the number showing improvement/remission during each corresponding time period.

^c Figures represent frequency of participants who, after demonstrating improvement/remission, experienced relapse/recurrence during one of the subsequent timeperiods. Percentages were calculated based on the number showing improvement/remission during each corresponding time period.

Table 4

Latent trajectory model of PHQ-9 (Depression) trajectory over 30-months

Variables	Coefficient	SE
Intercept (Baseline)	13.89	2.01 *
Slope (PHQ-9 Trajectory)	-0.35	0.1 *
Antidepressant utilization		
Time 1	-0.06	0.03 *
Time 2	-0.07	0.03 *
Time 3	0	0.08
Time 4	-0.02	0.01 *
Doctor-patient communication		
Time 2	-0.11	0.58
Time 3	-0.01	0.06
Time 4	-0.06	0.03 *
Antidepressant stigma		
Time 3	0	0.01
Time 4	0.35	0.13 *
Demographic Variables (Covariates)		
Age	-0.02	0.02
Gender	-0.32	0.64
High School Graduate	-0.54	0.55
Health Insurance Status	0.72	0.51

*
p < .05