Effect of Dysthymia on Receipt of HAART by Minority HIV-infected Women

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BACKGROUND: Receipt of highly active antiretroviral therapy (HAART) differs by gender and racial/ethnic group and may reflect an effect of mood disorders.

OBJECTIVE: We examined the effects of dysthymia and major depression on HAART use by 6 groups defined by gender and race/ethnicity (white, black, Hispanic).

MAIN OUTCOME MEASURE: Self-reported HAART use in the past 6 months.

DATA SOURCE: Interview data from the HIV Cost and Services Utilization Study (HCSUS). Independent variables measured in or before the first half of 1997, and HAART use measured in the second half of 1997.

ANALYSES: Multivariate logistic regression of depression and dysthymia on HAART use by 6 patient groups.

PARTICIPANTS: One thousand nine hundred and eighty-two HIV-infected adults in HIV care in 1996 and with a CD4 count <500 in 1997.

RESULTS: Highly active antiretroviral therapy receipt was the highest for white men (68.6%) and the lowest for Hispanic women (52.7%) and black women (55.4%). Dysthymia was more prevalent in women (Hispanic, 46%; black, 27%; white, 31%) than men (Hispanic, 23%; black, 18%; white, 15%). The prevalence of major depression was greater in whites (women, 35%; men, 31%) than minorities (women, 26%; men, 21%). Compared with white men without dysthymia, the adjusted odds ratios (AORs) of HAART were significantly lower for black women (0.50 [95% confidence interval [95% CI] 0.29 to 0.87]) and Hispanic women (0.45 [95% CI 0.25, 0.79]). Among patients with depression and no dysthymia, minority women had HAART use (AOR=1.28 [95% CI 0.48 to 3.43]) similar to white men.

LIMITATIONS: Self-report data from the early era of HAART use; causation cannot be proven; mental health diagnoses may not meet full DSM IV criteria.

CONCLUSIONS: Dysthymia is highly prevalent in minority women and associated with a 50% reduction in the odds of receiving HAART. This underrecognized condition may contribute more than depression to the "gender disparity" in HAART use.

KEY WORDS: HIV; AIDS; HAART; dysthymia; disparities; women.

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In the United States, many studies have found that women are less likely than men to receive highly active antiretroviral therapy (HAART).¹⁻⁶ Studies have also documented poorer access to HAART among racial/ethnic minorities.^{6,7} Most HIV-infected women in the United States are black or Hispanic,⁸ and women from minority groups may be especially

disadvantaged with regard to receipt of HAART. Although some studies of HAART disparities consider both gender and race/ethnicity,^{1,3-6} few studies directly examine potential interaction effects.

Few studies have explored the extent to which factors such as mental health disorders contribute to disparities in receipt of HAART. Depression is negatively associated with HAART use among women⁹ and is more prevalent in women,^{10,11} but it is not clear whether it has a disproportionate effect on minority women's use of HAART. Similarly, dysthymia, a chronic and possibly insidious mood disorder, may also serve as a barrier to minority women's use of HAART. Dysthymia is characterized by a depressed mood lasting most of the time for at least 2 years, accompanied by at least 2 of the following symptoms: poor appetite or overeating; insomnia or hypersomnia; low energy or fatigue; low self-esteem; poor concentration or difficulty in making decisions; and feelings of hopelessness.¹² Dysthymia is associated with a lower likelihood of receiving any form of antiretroviral therapy¹³ and is also more prevalent in community samples of women¹⁴⁻¹⁷ and minorities.^{14,15} In particular, the feelings of hopelessness, indecision, and mental inflexibility that occur commonly in persons with dysthymia^{12,18} could prevent a patient from either being offered or accepting HAART.

In this study, we explore associations of depression and/or dysthymia on HAART use in a national sample of HIV-infected persons. We also examine variations in the effects of these mood disorders by gender and race/ethnicity.

METHODS

Sampling Design

The HIV Costs and Service Utilization Study (HCSUS) is a nationally representative probability sample of HIV-infected adults receiving HIV care in the contiguous United States in 1996. The sample was drawn from persons aged 18 years or older with known HIV infection who received HIV care during a "population definition period" from January 5 to February 29, 1996. Persons treated only in military sites, prisons, and emergency departments were excluded. The multistage sampling design used by HCSUS has been reported previously.^{19,20} Of 4,042 eligible subjects sampled, 71% completed long-form baseline interviews ($n=2,864$). Nonresponse weights were derived from short or proxy interview data for ill patients (5% of the sample) and from data provided by providers on nonrespondents (16%).

Computer-assisted personal interviews began in January 1996. First and second follow-up interviews (FU1 and FU2) were conducted January through July, 1997 and August

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1997 through January 1998, with 2,466 and 2,267 patients, respectively. Of 597 patients failing to complete all interviews, 236 (40%) were deceased by FU2. We also excluded 160 persons with a CD4 count over 500 cells/mm³ at FU1 who might not have qualified for HAART use in FU2, 54 patients with missing data, and 71 persons categorized as having "other" race/ethnicity (53 men and 18 women). The final study sample totaled 1,982 patients (87% of FU2 respondents).

Study Variables

Patient Group. Respondents were categorized as white, black nonHispanic, or Hispanic. We created 6 patient groups for analysis: white men ($n=899$), black men ($n=319$), Hispanic men ($n=192$), white women ($n=173$), black women ($n=291$), and Hispanic women ($n=108$).

Antiretroviral Therapy. Self-reported antiretroviral treatment was assessed in the FU2 interview. Subjects were shown names and pictures of medications available at the time¹³ and asked whether they were taking each 1 and the number of days each was taken in the prior 6 months. Highly active antiretroviral therapy was defined as recommended by the International AIDS Society—U.S.A. Panel.²¹ We imputed treatment from reported antiretroviral use on the day of the interview for 48 respondents who lacked some 6-month antiretroviral treatment data.

Mental Health Disorders and Treatment. We used the Short Form of the World Health Organization Composite International Diagnostic Interview (CIDI-SF) to assess 4 mental health disorders in the 12 months before the first follow-up interview: major depression, dysthymia, generalized anxiety disorder (GAD), and panic disorder.²² Severe mental diseases (e.g., schizophrenia, bipolar disorder) were too rare to study in this sample. The formal definition of dysthymia requires that symptoms persist for 2 years¹² but our study used a 1-year time frame. Dysthymia was identified if the person felt sad or depressed most of the time in the prior 12 months; sad or depressed at least half of the day when experiencing these feelings; and had at least 2 of the following symptoms: hopelessness, loss of appetite, lack of energy, and inability to make up one's mind. This definition of dysthymia has been used in other HCSUS analyses.^{13,23,24} A positive score reflects a substantial likelihood of a DSM-III-R diagnosis due to sufficiently intense or prolonged symptoms, but it does not represent a confirmed diagnosis. Because major depression and dysthymia overlap, we also created a 4-category variable for sensitivity analyses: depression alone, dysthymia alone, both conditions, and neither.

To evaluate the impact of professional mental health counseling on HAART use, respondents were asked whether they "visited a mental health provider on an individual or family basis for emotional or personal problems." Respondents were also questioned about use of any drugs for depression, anxiety, or emotional problems. Mental health care was coded dichotomously as any receipt of counseling, psychotropic medication, or both.

Demographic, HIV, Other Clinical, and Medical Care Characteristics. Data were collected on self-reported demographic and socio-economic characteristics (Table 1). Insurance was classified as Medicaid, Medicare (including dual eligibles), private,

or none. Total income in the month before the interview was categorized as: \$0 to 500; 501 to 1,000; 1,001 to 2,500; and 2,501 or higher. Patient clinical status at the first follow-up interview was assessed from self-reported lowest CD4 cell count (i.e., >500, 200 to 500, 50 to 199, <50 cells/mm³) and any AIDS-defining condition. Self-reported CD4 count agreed well ($\kappa=0.74$) with chart review (S. Berry, personal communication, RAND, October 5, 2004). Any outpatient visits in the 6 months between baseline and the FU1 interview assessed engagement in health care. Respondents also reported any clinical trial participation in this interval.

We assessed use of illicit drugs (e.g., cocaine, heroin, marijuana) in the past 12 months and use of other drugs "without a doctor's prescription, in larger amounts than prescribed, or for longer periods than prescribed." Drug dependence was defined as using increasing amounts to obtain the same effect or having any emotional or psychological problem from drug use.²⁵ Severity of illicit drug use was assessed by a measure derived from work by Phin,²⁶ which has been used in previous HCSUS analyses.¹³ This measure assigns a score to each class of drugs taken: 1 for marijuana or analgesic use; 2 for sedative, amphetamine, inhalant, or hallucinogen use; and 3 for cocaine or heroin use; severity is the sum of scores for all classes of drugs taken. We combined the Phin score with information on dependence into 5 levels: (1) no drug use, (2) severity score of 1 (mild), (3) severity score of 2 or 3 but no dependence (moderate), (4) severity score of 2 or 3 and dependence or severity score of 4 or more without dependence (high moderate), and (5) severity score of 4 or more and dependence (severe). Alcohol use in the 4 weeks before the interview was classified as: none or moderate (i.e., always <5 drinks/day) versus heavy (≥ 5 drinks/day for 1 or more days/week), as in prior research.²⁷ Substance abuse treatment was identified in FU1 by reported participation in any 12-step or self-help group such as Alcoholics Anonymous, receiving any professional or residential care, or having any overnight stays for drug or alcohol-related problems.

Analyses

We examined bivariate associations of dysthymia and depression with HAART use separately for each of the 6 patient groups. We then estimated adjusted odds-ratios from multivariate logistic regressions of HAART use controlling for demographic, clinical, and general health care characteristics. In these analyses, we included 11 indicator variables for each combination of patient group and mood disorder (present vs absent), with white men without any mood disorder serving as the reference group. We conducted separate multivariate analyses for dysthymia and depression. We report the key results of these analyses in Figures 1 and 2; full results are available online in Tables A1 and A2.

Analyses incorporated an analytic weight for each respondent adjusting for (1) differential selection probabilities; (2) differential cooperation rates; (3) having multiple opportunities to be sampled; and (4) dropout between baseline and FU2. Analyses adjusted standard errors for the complex survey design, using linearization methods implemented in Stata statistical software.

Sensitivity analyses were also conducted including only patients who had a CD4 count below 350 cells/mm³ who would meet more contemporary guidelines for treatment.²⁸

Table 1. Associations of Gender-Racial/Ethnic Groups with Other Characteristics

Variable	White Men (N=899)	Black Men (N=319)	Hispanic Men (N=192)	White Women (N=173)	Black Women (N=291)	Hispanic Women (N=108)	P value
Dysthymia							<.001
Yes	15.1	17.6	22.8	30.7	26.5	46.2	
Dysthymia symptoms							
Hopelessness	12.9	12.8	20.6	26.7	22.3	42.3	
No appetite	12.6	13.6	18.6	24.5	21.7	44.4	
Tired	15.5	16.6	23.4	30.8	27.7	46.9	
Indecisive	13.1	15.0	21.7	26.9	22.2	41.3	
Major depression							.003
Yes	31.4	17.4	28.5	34.5	23.0	27.6	
Depression/dysthymia							<.001
Neither	64.9	74.4	63.0	56.1	66.3	50.5	
Depression only	20.0	8.1	14.2	13.2	7.3	3.3	
Dysthymia only	3.7	8.2	8.5	9.4	10.8	14.6	
Both	11.4	9.4	14.4	21.3	15.7	31.6	
Psychiatric treatment							<.001
Yes	41.5	26.0	42.8	44.8	30.8	45.4	
Demographic variables							
Age							.001
18 to 25	2.7	2.7	2.1	8.5	0.9	4.5	
26 to 34	27.3	24.1	39.4	33.7	34.5	43.5	
35 to 49	57.7	54.9	51.8	51.5	47.2	48.1	
50 or older	12.3	18.4	6.7	6.4	9.3	4.0	
Education							<.001
Some high school	10.2	30.0	36.1	30.1	47.1	52.5	
High school degree	25.3	32.4	26.1	36.6	27.6	28.0	
Some college	30.8	28.2	25.6	28.0	21.2	15.4	
College degree	33.7	9.5	12.2	5.3	4.2	4.2	
Living with children <17							<.001
Yes	4.7	8.8	11.1	41.6	49.5	57.6	
Has partner							<.001
Yes	41.2	28.4	41.0	43.3	27.5	36.3	
Insurance							<.001
None	13.9	21.2	26.0	17.8	17.8	7.4	
Medicaid	13.7	39.2	23.7	37.4	58.4	67.7	
Private	47.1	14.0	30.3	21.8	9.6	14.5	
Medicare	25.2	25.6	20.0	22.9	14.3	10.4	
Monthly income (\$)							<.001
0 to 500	11.2	28.9	21.9	28.8	35.0	27.0	
501 to 1,000	32.8	47.4	44.9	29.3	49.0	41.4	
1,001 to 2,500	29.8	17.7	24.9	29.3	13.8	28.3	
>2,500	26.2	6.1	8.3	12.6	2.3	3.4	
HIV transmission from IV drug use							<.001
Yes	17.0	33.6	27.4	34.9	24.5	36.8	
Clinical variables							
CD4 count mg/dL							.02
201 to 499	39.3	41.5	37.9	43.3	53.5	48.3	
51 to 200	35.3	35.9	38.5	39.7	26.0	22.7	
50 or under	25.4	22.6	23.6	17.0	20.6	29.1	
AIDS diagnosis							<.001
Yes	49.0	38.6	43.0	42.2	28.5	44.2	
Any outpatient visit in prior 6 mo							.002
Yes	90.3	85.0	78.7	93.7	92.8	86.0	
Clinical trial participant							.09
Yes	8.7	3.9	3.1	8.1	3.9	4.9	
Generalized anxiety disorder							.14
Yes	11.5	5.8	11.7	15.3	11.5	13.0	
Panic disorder							.13
Yes	9.1	6.6	8.8	10.2	9.0	22.2	
Alcohol use							<.001
≥ 5 glasses/d	18.6	15.8	23.6	12.4	6.6	5.5	
Substance abuse							<.001
None	43.0	63.9	52.2	66.1	73.7	72.0	
Minimal	21.4	12.9	16.4	10.2	10.5	4.2	
Mild	17.2	10.6	10.4	8.4	6.1	5.8	
Moderate	13.8	8.1	14.3	9.5	5.5	13.1	
Severe	4.6	4.6	6.7	5.8	4.1	5.0	
Substance abuse treatment							.02
Yes	9.0	18.5	14.5	13.6	16.5	20.7	

Note: N, unweighted sample size. Entries are weighted percentages.

P-value is for χ^2 test of overall association between column variable and patient group.

FIGURE 1 Adjusted odds ratios for highly active antiretroviral therapy (HAART) use by gender-race/ethnicity-dysthymia status.

In addition, to assess the possible confounding effect of comorbidities, we examined common non-HIV-specific conditions in 1,684 patients for whom medical record data were abstracted. We calculated the sum of comorbid conditions (i.e., hypertension, congestive heart failure, symptomatic coronary artery disease, cerebrovascular disease, diabetes, chronic hepatitis, emphysema, and chronic renal insufficiency) and added this variable to the logistic regression model.

To distinguish the effects of dysthymia and depression, additional multivariate analyses compared patients with neither disorder with those with: (1) dysthymia only; (2) major depression only; and (3) both conditions. In these analyses, black and Hispanic patients were combined into a "minority" category because sample sizes were otherwise too small.

RESULTS

Mental Health Disorders and Treatment

Seventy-two percent of study women were from minority groups (52% black and 19% Hispanic), compared with 41%

FIGURE 2 Adjusted odds ratios for highly active antiretroviral therapy (HAART) use by gender-race/ethnicity-depression status.

of men (26% black and 15% Hispanic). The 6 gender-minority status groups differed significantly across all sociodemographic and clinical variables, except for participation in clinical trials, GAD, and panic disorder (Table 1).

The prevalence of dysthymia was substantially higher in women (31% overall) than men (17% overall). Within each race/ethnicity group, women were significantly ($P < .01$) more likely than men to have dysthymia. The prevalence of dysthymia was the highest among Hispanic women. Each of the 4 dysthymia-related symptoms was also more common in women, especially those of Hispanic ethnicity.

The prevalence of major depression also differed significantly across the 4 gender-minority status groups but was the highest in white women (35%) and white men (31%). Within each racial/ethnic group, depression did not differ significantly by gender. Dysthymia without depression was more common in women than men (11% vs 6%, $P = .001$ for gender comparison), while the prevalence of depression without dysthymia was the highest in white men and white women (19% vs 9%, $P < .001$ for white vs nonwhite comparison).

Mental health treatment varied significantly by patient group ($P = .001$) and was least common among black patients. Patients with dysthymia were more likely than those without to receive mental health treatment (62% vs 31%). A similar pattern was observed for persons with depression (63% vs 28%).

Receipt of HAART

Overall, 63% of patients received HAART. Treatment varied significantly by patient group ($P = .008$). White men were the most likely to receive HAART (69%) while Hispanic women were the least likely (53%). Among men, black patients were less likely to receive HAART than white or Hispanic patients. White women were more likely than minority women to receive HAART.

Overall, HAART use did not differ among persons with dysthymia (62%) or without this condition (64%) or among persons with or without depression (65% vs 63%). However, rates of HAART were lower among black and Hispanic women

Table 2. Adjusted Odds Ratios for Effect of Gender, Minority Status, and Dysthymia/Depression Variables from Multivariate Logistic Regressions of HAART Receipt

	Dysthymia Only (n=1,409)	Depression Only (n=1,578)	Dysthymia/Depression (n=1,547)
Group	Adjusted odds ratios		
White men no disorder	a	a	a
White men with disorder	2.00	1.36	0.78
Minority men no disorder	0.99	0.97	1.01
Minority men with disorder	1.87	0.72	0.75
White women no disorder	0.83	0.88	0.84
White women with disorder	0.77	1.81	1.12
Minority women no disorder	0.94	0.98	0.97
Minority women with disorder	0.45*	1.28	0.49**

* P value $< .05$.

** P value $< .01$.

Note: Entries in each column are adjusted odds-ratios from 3 multivariate logistic regressions. The regression models also included all other control variables shown in Table 3. Each analysis included patients without any mood disorder ($n = 1,276$) and patients with the disorder noted in the column heading.

HAART, highly active antiretroviral therapy.

with dysthymia (49.0% and 45.5%, respectively) than black and Hispanic women without dysthymia (57.7% and 58.9%, respectively). Highly active antiretroviral therapy use showed only a small difference in white women with and without dysthymia (61.0% and 67.7%, respectively). Among men, the association with dysthymia was inconsistent; HAART use was the lowest for black men without dysthymia (54.9%) and Hispanic men with dysthymia (58.7%). White men had the highest overall proportion using HAART (68.3% for those without dysthymia, 70.1% for those with dysthymia).

Depression in Hispanic women was associated with less HAART use compared with no depression (44.5% vs 57.1%, respectively). This association was stronger for Hispanic men (51.2% vs 72%). The association was reversed among black women (54.8% vs 57.3%), white women (70.3% vs 59.3%), black men (63.4% vs 55.5%), and white men (72.1% vs 66.9%).

Logistic Regression Analyses of HAART Receipt

Before adjustment for other variables, the set of 11 variables representing combinations of gender, race/ethnicity, and dysthymia was significantly associated with receipt of HAART ($P < .001$, results not shown) but not afterwards ($P = .12$). Both before and after adjustment for all variables, HAART receipt was significantly less likely for black and Hispanic women with dysthymia (adjusted odds ratios [AORs] = 0.50 and 0.45, respectively) compared with white men without dysthymia (Fig. 1).

Both before and after adjustment, the set of 11 variables representing combinations of gender, race/ethnicity, and depression was significantly associated with HAART use ($P < .05$) (Fig. 2). Hispanic women and men with depression were less likely to receive HAART than white men without depression before and after adjustment (AORs = 0.51 and 0.46, respectively).

Sensitivity Analyses. In patients whose lowest CD4 count was less than 350 cells/mm³ at FU1 (i.e., the current cut point for initiation of antiretroviral therapy),²⁸ the results of our multivariate analyses were similar to those reported in Figures 1 and 2. The AORs for receipt of HAART were 0.48 for black women (95% confidence interval [95% CI]: 0.24, 0.97) and 0.50 for Hispanic women (95% CI: 0.28, 0.89). Adjusted odds ratios for other patient groups were not significant.

Among 1,684 patients with medical record data, 63% had none of the 7 comorbidities; 27% had 1. In multivariate analyses, the comorbidity variable was not significant (AOR = 0.92). Controlling for comorbidity had a negligible impact on the other AORs.

Depression and dysthymia frequently cooccurred. Among persons with dysthymia, 66% had depression, and among persons with depression, 48% had dysthymia. Separate analyses of those with dysthymia only, depression only, or both conditions showed that minority women with dysthymia alone or dysthymia with depression were significantly less likely to receive HAART than the reference group, but no difference appeared for minority women with depression alone (Table 2).

DISCUSSION

In this national probability sample of HIV-infected persons representing over 180,000 persons receiving HIV care, black

and Hispanic women with probable dysthymia had approximately 50% lower odds of receiving HAART than white men without this condition. To date, researchers have largely overlooked this more indolent but chronic mood disorder as a contributing factor to low rates of HAART use by minority women.²⁹ Of concern, dysthymia was very prevalent in our sample, especially among women, and nearly half of Hispanic women met our screen for this condition.

The definition of dysthymia used in our study differs from the DSM-IV definition because we asked about the presence of related symptoms over a 1-year period while DSM-IV uses a 2-year time frame. The CIDI-SF instrument used in HCSUS serves as a brief screening instrument and cannot be considered equivalent to a psychiatrist's assessment. At the time of the HCSUS, the dysthymia questions were still being assessed for inclusion in the CIDI-SF.²² The psychometric properties of the full CIDI are better characterized than those of the CIDI-SF.³⁰ Based on HCSUS data, the sensitivity and specificity of the dysthymia module of the CIDI-SF compared with the full CIDI were 0.68 and 0.82, respectively.³¹ In particular, the low sensitivity would result in our failing to identify some persons with dysthymia. The misclassification would likely reduce the effect of dysthymia because persons with this condition would be in the reference group. It is also possible that we identified only those who were more severely affected by this condition.

This study also does not distinguish instances where physicians did not offer HAART from patients' refusal or discontinuation of these drugs. In a qualitative study, the latter was a more common reason for failing to use HAART.³² With regard to a switch from a less effective regimen, an analysis of HIV-infected drug users reported that women were less likely to switch from a non-HAART regimen than men.² Indecisiveness and hopelessness, which characterize persons with dysthymia, may serve as a barrier to HAART use, especially when the individual focuses on negative aspects of therapy, such as adherence difficulties, side effects, ineffectiveness, or stigma. Because subsyndromal mood disorders such as dysthymia are associated with mental and physical disability^{33,34} and randomized trials have shown that treatment can improve these symptoms,^{35,36} patients with dysthymia may benefit from diagnosis and treatment of this condition. If some of the low use of HAART by minority women is due to the effects of dysthymia, treatment for this condition may also help address this disparity.

In contrast to the dearth of research on dysthymia in HIV-infected persons, the impact of major depression on receipt of antiretroviral therapy has been well-described.^{9,11,37,38} This focus makes clinical sense, as depression is a more severe and disabling mood disorder than dysthymia. In our national cohort, the prevalence of major depression did not differ by gender, contrary to the higher prevalence in women than men in community-based samples.¹⁷ Several studies of HIV-infected persons found depression to be more prevalent in women^{11,37} but others did not.³⁹⁻⁴¹ We only observed a negative association between depression and HAART use for Hispanic women and men, contrary to other research.⁹ However, other studies failed to differentiate depression from dysthymia as we did, and our sensitivity analysis suggests that it is primarily dysthymia or dysthymia with depression that is negatively associated with HAART use but not depression alone. It is possible that persons with depression alone are more successfully treated for this disorder.

Our study has several additional caveats. These data come from the early years after HAART was introduced. Yet more recent data from the Adult/Adolescent Spectrum of HIV Disease project still report that women had 32% lower odds of receiving HAART than men after considering potential confounders.³ A study of nearly 11,000 patients in 2001 found that men had 23% higher odds of HAART than women, and black patients had 16% lower odds of HAART than whites.⁶ A third study, based on prospective data from a multisite sample of women between 1996 and 2001, reported a lower likelihood of HAART among black women. Thus, more recent data confirm the pattern of gender and racial disparities in access to HAART.⁴² A second limitation is that the set of terms representing the combinations of gender, race/ethnicity, and dysthymia was not jointly significant in multivariate analyses. However, this is a stringent test as this analysis controlled for many other variables in addition to the 11 variables in this set. Third, minority women also tended to have higher CD4 counts than other groups, so physicians may have been waiting before starting HAART. However, we found a similar result after restricting our sample to persons with lower CD4 counts. Finally, these gender and racial-ethnic groups may represent proxies for more fundamental social, psychological, and clinical factors that affect access to HIV treatment.

Our data point to dysthymia as a potentially important contributing factor to deficient receipt of life-prolonging HIV medication by minority women. We believe that this evidence should prompt clinicians to consider screening for dysthymia, especially in this group. Our data also reinforce the need for ongoing research into causes of inequities in care for the critically important group of minority women.

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Supplementary Material

The following supplementary material is available for this article online at www.blackwell-synergy.com

Appendix Table 1.

Appendix Table 2.

Appendix Table 3.