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Prevalence of Psychiatric and Substance Abuse Symptomatology among HIV-Infected Gay and Bisexual Men in HIV Primary Care

Conall O'Cleirigh[1,2,3], **Jessica F. Magidson**[1,2], **Margie Skeer**[3], **Kenneth H. Mayer**[1,3,5], and **Steven A. Safren**[1,2,3]

[1]Fenway Community Health

[2]Massachusetts General Hospital

[3]Harvard Medical School

[4]Tufts University

[5]Beth Israel Deaconess Medical Center

Abstract

Background—The presence of psychiatric symptoms in gay/bisexual men managing HIV are under-identified and under-treated and can interfere with optimal HIV disease management. There is a paucity of prevalence reports of these symptoms in this group, identified in the primary HIV care setting. Few studies have compared prevalence rates based on empirically supported screening tools in relation to diagnoses made in primary care.

Objective—The purpose of this study was to identify the prevalence of psychiatric symptoms and substance abuse in HIV-infected gay/bisexual men and to estimate the proportion of those who had been diagnosed within their primary medical care setting.

Method—Participants (n =503) were HIV-infected gay/bisexual men screened for participation in a HIV prevention trial and completed psychosocial assessment. Data were also extracted from patients' electronic medical record.

Results—Over 47% met diagnostic screen-in criteria for any anxiety disorder of whom approximately one-third were identified in primary care. More than 22% screened in for a depressive mood disorder approximately 50% of whom had been identified. One quarter of the sample had elevated substance abuse symptoms, 19.4% of whom were identified in primary care. Of those with symptoms of alcohol abuse (19.9%) 9.0% of those were identified.

Conclusion—These results provide some evidence suggesting that mood, anxiety and substance abuse symptomatology are prevalent among HIV-infected gay/bisexual men and are under-identified in primary care Increased mental health and substance use screening integrated into HIV primary care treatment settings may help to identify more gay/bisexual men in need of treatment.

INTRODUCTION

HIV continues to disproportionately affect gay/bisexual men accounting for 62% of all new HIV/AIDS cases in 2011with male-to-male sexual contact as the leading transmission mode[1]. Accordingly, gay/bisexual men make up approximately half of HIV cases in the U.S. The success of antiretroviral therapy at containing HIV viremia and slowing clinical progression of HIV naturally contributes to longer survival. As a result the population of gay/bisexual men living with HIV is growing, as incidence continues at a steady rate per year prevalence grows. At the same time, living with HIV and managing self-care behaviors, including adherence to medications and maintaining safer sexual practices, can be a difficult, stressful, and complex process. Mental health and substance use issues can interfere with the practice of health behaviors and can increase risk for health risk behaviors and there by compromise appropriate disease management and increase risks of HIV transmission risk behavior. Mental health and substance abuse problems among people living with HIV have been reported at higher rates than in the general population and at higher rates than individuals suffering from other chronic diseases[2–8]

In primary care settings in general and HIV primary care settings in particular[3], symptoms of psychiatric disorders are commonly under-identified or under-treated.[9,10] In terms of optimizing health, this is a problem because symptoms of depression, substance abuse, and PTSD may be connected to HIV risk behavior in gay/bisexual men[11,12], and among gay/bisexual men diagnosed with HIV, are associated with worse quality of life[13], poorer medication adherence and other self-care behaviors.[14,15] In addition, depressive symptoms, anxiety-related stress and substance use in people living with HIV have been repeatedly associated with poorer health outcomes, accelerated disease course including more rapid clinical progression of the disease and poorer survival.[13,16–19] Although some estimates of substance use prevalence among HIV infected gay and bisexual men are available[20, 21], current estimates of the prevalence of symptoms of other psychiatric comorbidities for HIV-infected gay/bisexual men are not readily available. Although several contemporary studies have reported on the prevalence of psychiatric disorders and symptoms in HIV primary care settings[2,10,22, 23, 24, 25], analyses specific to risk group, such as gay and bisexual men, were not provided. This lack of current estimates is of particular concern as earlier estimates suggest that gay and bisexual men with HIV have very high rates of comorbid psychiatric diagnoses and symptomatology.[28–30]

The purpose of the present study was to examine the proportion of HIV-infected gay/bisexual men in primary care who meet screen-in diagnostic criteria for psychiatric, substance and alcohol use disorders and to identify the proportion of those meeting screen-in diagnostic criteria who were indicated to have been either diagnosed or treated for these disorders in their primary care setting according to their medical records.

METHODS

Sample

The sample consisted of 503 HIV-infected gay/bisexual men receiving primary health care at Fenway Health. Fenway Health is the largest community health center with a specific mission to serve the LGBT community and also serves its local and neighboring community providing full range of medical, mental health, pharmacy, dentistry, and other services. In the past year Fenway Health recorded over 100,000 patient visits and provides medical and other care to 1,750 patients living with HIV.

The men completed a baseline screening assessment to determine their eligibility for participation in secondary HIV prevention interventions. Responses from all of the men were included regardless of their participation in the intervention studies. Inclusion criteria for the screening assessment visit were men over the age of 18, self-identified as gay or bisexual, infected with HIV for three or more years, and received primary HIV care at Fenway Community Health. All study and related procedures were approved by the Fenway Health/Fenway Institute IRB.

Measures

Two methods of data collection were utilized to estimate the rates of psychiatric symptoms in the sample, including symptoms of mood, anxiety, and substance abuse. The first derived the rates from the self-reported screening measures included in the baseline assessment at study entry, and the second extracted the information from the participants' electronic medical records.

Written informed consent was obtained from all participants. Psychosocial assessment batteries were completed using-computer-assisted self-interviewing (ACASI).

Depression—Depressive symptoms in the self-assessment was defined as meeting screen-in criteria for either major depressive syndrome (MDS) or other depressive syndrome (ODS) (clinically significant symptoms within the past two weeks). MDS and ODS are mutually exclusive categories and were assessed through the 9-item Depression Severity Scale of the Patient Health Questionnaire (PHQ)[31], a self-report instrument designed to detect common mental health disorders in primary care settings through diagnostic and symptom severity assessments. Participants who met screen-in criteria for either MDS or ODS were classified as having elevated depressive symptoms.

Anxiety—Participants were identified as meeting screen-in criteria for *any anxiety disorder* who met screen-in criteria for any or any combination of the following disorders: panic disorder, generalized anxiety disorder, social anxiety, and posttraumatic stress disorder (PTSD). Panic disorder symptoms were assessed through the Panic Disorder Severity Scale of the PHQ, and symptoms of generalized anxiety disorder were measured through its sub-scale of the PHQ. Symptoms of social anxiety disorder were measured by the MINI-SPIN, a three item screening assessment that was derived from the Social Phobia Inventory (SPIN) and is used as a screening measure to help identify individuals at increased risk for having social phobia.[32,33] Finally, the PTSD screening measure was the four-item SPAN,[34] an

acronym for the four symptoms that best distinguish a sample of PTSD patients (startle, physically upset by reminders, anger, and numbness). The SPAN has been found to have a diagnostic accuracy of 88%,[34] with respondents asked to rate items on a 5-point scale (ranging from "not at all" to "extremely") to indicate how distressing each of the symptoms had been during the past week.

Alcohol abuse—The baseline assessment asked participants to identify their frequency of alcohol consumption (wine, beer, or liquor) in the past 3 months. Men who self-reported ever drinking were then asked how often they drank 5 or more drinks in a single day (i.e., binge drinking) within the last 3 months. Participants who reported binge drinking at least once per week were identified as meeting screen-in criteria for alcohol abuse.

Substance abuse—The baseline assessment included a variety of measures to identify substance use and abuse among participants who reported any drug use (crack, cocaine, heroin, methamphetamine, opiates, and/or tranquilizers) by any route of administration (swallowing, smoking, snorting, sniffing, or intravenous use) in the past 3 months. Elevated substance abuse was defined as meeting one of the following four criteria from the PHQ more than once within the past 6 months: (1) you used drugs even though a doctor suggested that you stop using them; (2) you used drugs, were high from drugs, or hung over while you were working, going to school, or taking care of children or other responsibilities; (3) you missed or were late for work, school, or other activities because you were taking drugs or hung over; (4) you had a problem getting along with other people while you were taking drugs or hung over from drugs; or (5) you drove a car after taking drugs. Medications taken as prescribed were excluded from these definitions.

Medical Record Extraction—The electronic medical record EMR is an electronic database where members of the patients' primary care team, including physicians, nurses, and licensed mental health counselors, record the patients' diagnoses on a problem list. In addition, they assign the diagnosis an International Classification of Diseases (ICD) code, a set of codes published by the World Health Organization designed to classify physical and mental health problems among patients. The EMR also contains a medication list for each patient, which is updated by the provider who prescribes the medication.

For the present study, ICD codes for mood, anxiety, and substance use disorders were extracted from the participants' EMR as an indicator of these diagnoses. ICD codes that indicated diagnoses of depression (under a variety of codes) were grouped into diagnoses of major depression or dysthymia. ICD codes that indicated generalized anxiety disorder, other anxiety disorder, panic disorder, social phobia, or posttraumatic stress disorder, were included in the diagnosis of an anxiety disorder. Finally, alcohol abuse was indiciated by the ICD code for an alcohol use disorder, and drug abuse was indicated by the ICD codes for disordered use of amphetamines, cannabis, cocaine, sedatives, or opiates, or codes for poly substance dependence, or a substance use disorder that was not otherwise specified.

The list of medications that participants were prescribed for these psychiatric diagnoses also came from the EMR as an additional indicator of diagnoses. Medications used to treat depression, including Tricyclics, Selective Serotonin Reuptake Inhibitors (SSRIs),

Seratonin-Norepinephine Reuptake Inhibitors (SNRIs), Monoamine Oxidase Inhibitors (MAOIs), as well as others were grouped into an antidepressant category, and medications used to treat anxiety, including anti-panic agents, anti-obsessive agents, and other anxiolytics were grouped into a category of anti-anxiety medications.

Study participants were considered to be identified in the primary care setting with depression, anxiety, alcohol abuse, and/or drug abuse if they had a corresponding ICD code in their EMR that suggests the presence of these disorders. Similarly, participants were considered to be treated for depression or anxiety in primary care if their medication list included one of the classes of medications that would indicate treatment for the associated psychiatric diagnosis. Medications used to treat substance use disorders were not found in the EMR and therefore were not used as an indicator of whether participants had been treated for alcohol or drug-related disorders. Participants who were indicated to have depression, anxiety, alcohol abuse, and/or drug abuse by diagnosis (i.e., through ICD code) or depression and/or anxiety by pharmacological treatment (i.e., through the medication list) were considered to have their mental health problem detected in the primary care setting.

Data Analysis

Descriptive statistics were conducted for all demographic variables. We ran frequencies for each of the separate mental health problems, and then for the combined categories of depression, anxiety, alcohol abuse, and drug abuse. Sensitivity of diagnosis in primary care was defined as the probability of identifying patients with a particular psychiatric diagnosis in primary care, who had also met screen-in criteria through self-assessment at study entry. The sensitivity of primary care diagnoses was operationalized as the proportion of participants who were identified in primary care with indicators of psychiatric diagnoses who also met screen-in criteria at study entry.

RESULTS

The demographic profile of the sample is presented in Table 1. The majority of the sample was Caucasian (75.1%), college educated (51.7%), and had an annual income of less than $40,000 a year (57.3%). The average age of the sample was 41.9 (SD: 8.3).

Mood and Anxiety Symptoms

Table 2 presents the frequency of specific psychiatric symptoms identified through the self-report assessment at study entry. In the sample, 110 (21.9%) men met screen-in criteria for depressive disorder [63 for major depressive syndrome (MDS) and 47 for other depressive syndrome (ODS); these syndromes are mutually exclusive]. Additionally, the breakdown of individuals meeting screen-in criteria for anxiety disorders in the sample is as follows: panic disorder: 9.5%; social phobia: 22.3%; posttraumatic stress disorder: 27.0%; and generalized anxiety disorder: 7.8%; (Table 2).

Among those in the sample who screened in for depression at study entry (n=110), 53 (48.2%) were identified as such in their primary care medical record (i.e., the sensitivity of identifying depression in primary care was 0.482). Similarly, among those who met screen-

in criteria for an anxiety disorder (n=219), 75 (34.2%) were identified with an anxiety disorder in primary care (sensitivity: 0.342) (Table 3).

Substance Use

Alcohol—82.1% of the sample (n=413) reported drinking alcohol at least once within the past 3 months (Table 2). Of those, 100 participants (24.2%) screened positive in the survey for alcohol abuse, of which 9 (9.0%) men were identified as having alcohol abuse in primary care (sensitivity: 0.090) (Table 3).

Substance Use—The following represents the percentage of men in the sample who reported substance use by drug type (Table 2): marijuana: 33.8%; Crystal Methamphetamine: 20.3%; Crack or Cocaine: 20.7%; heroin: 0.6%; opiates: 6.8%; tranquilizers 9.1%; Ketamine: 6.6%; hallucinogens: 8.2%; and inhalants: 26.6%.

Of those in the sample who reported any substance use in the past 3 months (n=267), 124 (46.4%) screened in for substance abuse at study entry, of which, 24 (19.4%) were identified as having substance use disorder in primary care (sensitivity: 0.194).

DISCUSSION

The results of this study provide estimates of rates of comorbid psychiatric conditions among a cohort of gay and bisexual HIV-infected men receiving primary medical care in an urban community health center. These estimates suggest that more than 1 in 5 currently have clinically significant depressive symptoms and that 12.5% have symptom severity consistent with major depressive disorder. These estimates are very consistent with past month prevalence rates reported by Gaynes et al (2008) based upon DSM-based diagnostic interviews conducted at a medical center in the Southeast.[2] However, our estimates are considerably lower than those reported by Israelski et al (2007) who assessed depression, in the past week, in 38% of their sample using the BDI although, it is unclear what diagnostic indicator was used.[10] A liberal cutoff may account for their high estimate and the prevalence disparity between the samples.

Approximately 47 percent of our sample met current screen in criteria for any anxiety disorder, which is well above the rate (17%) reported by Gaynes et al (2008).[2] The most prevalent anxiety symptoms in our sample were in line with PTSD, with 27% meeting screen-in criteria. This finding is broadly consistent with recent reports of PTSD prevalence in HIV-infected patients in primary care settings.[10] Using the Posttraumatic Stress Checklist-Civilian they identified 33.8% of 350 primary care patients meeting the diagnostic cutoff for PTSD.[35] Posttraumatic stress disorder was also the most common anxiety disorder in the Gaynes et al (2008) sample but was diagnosed in only 6% of 152 primary care patients.[2] One contributory factor to the large discrepancy between these findings and those reported in our sample and by Israelski et al (2007) is that Gaynes and colleagues assessed PTSD using the Structured Clinical Interview for DSM-IV (SCID) a conservative measure requiring patients to meet all criteria for PTSD.[2,10,36] In contrast, our findings and those reported by Israelski et al., (2007) used questionnaire measures with cut off scores to identify those meeting screen in criteria only.[10] This is an important distinction, as self-

report measures have greater sensitivity and lower specificity and would suggest higher rates of psychopathology, as compared to a clinical interview that would provide more strict, conservative estimates of rates of psychiatric disorders. However, it is notable that among other diverse samples of HIV-infected patients receiving services in primary care the reported rates of PTSD are consistent with the estimates reported here.[37,38] There is also evidence to suggest that HIV is disproportionally present in people presenting for psychiatric treatment with PTSD.[39]

The second most common anxiety symptoms were in line with social anxiety with 22.3% of the sample meeting screen in criteria. This is considerably higher than past month prevalence rates reported for diverse HIV-infected samples but generally consistent with rates reported in samples of HIV-infected and HIV-uninfected gay and bisexual men.[2,40,41] Higher rates of social phobia among gay and bisexual men are expected,[42,43] and it has been suggested that gay men may have a developmental vulnerability for social anxiety.[44–46] Rates of screen in criteria for current panic disorder (9.5%) and generalized anxiety (7.8%) are also higher than those reported in diverse samples of HIV infected patients assessed with more conservative diagnostic measures.[2]

Just over half the sample reported any substance use in the past 3 month with 24.7% meeting screen-in criteria for abuse and 19.9% meeting screen in criteria for alcohol abuse. The most commonly used substances were marijuana, cocaine, and methamphetamine. These rates are in the range of recently reported rates of substance and alcohol abuse in HIV-infected samples.[2,10] However, patterns of substance use in samples of HIV-infected gay and bisexual men have a particular profile that suggest higher rates of methamphetamines, inhalants and alcohol use.[20,47–49]

Close to half of those who met screen-in criteria for depression were identified in the primary care setting as either having a problem with depression or were currently being treated. This is consistent with the Asch et al (2003) who reported that among those who met diagnostic criteria for major depressive disorder in a large national probability sample of HIV-infected patients 45% had not been identified with depression in their primary care setting.[9] Approximately one third of patients who met screen-in criteria for any anxiety disorder were identified in primary care. Of those meeting screen-in criteria for substance or alcohol abuse and only 20% and 10% respectively were identified in primary care with abuse related issues.

These results suggest that symptoms of mood and anxiety disorders and substance abuse issues occur at very high rates in gay/bisexual men managing HIV. As these mental health issues can compromise adaptive management of HIV primary care practices that treat HIV may well benefit from screening procedures for these disorders, particularly mood disorders, PTSD and substance use disorders. Screening for mental and substance use issues in HIV primary care can also support secondary HIV prevention efforts. The recommendation for secondary HIV prevention to be integrated in to HIV primary care complements this proposal as the psychosocial issues that compromise optimal disease management can also present risks for HIV sexual transmission risk.[47,50,51]

This study has some important limitations. First, although data was extracted from the EMR in the primary care setting relating to psychiatric diagnoses and their treatment (i.e., ICD codes and medication lists), it is possible that these diagnoses may have been documented elsewhere in the patient chart which may underestimate the extent to which these diagnoses have been identified. In particular, classes of psychotropic medications are used in this study as imperfect indicators of a mood or anxiety disorder being identified and treated in primary care. These indicators likely provide biased estimates of actual occurrence and treatment of the disorder, for example, prescription of SSRIs and TCAs is taken here as an indicator of treatment of depressive disorders, which does not account for the fact that this class of medication is regularly prescribed to treat anxiety disorders. It is plausible therefore that the estimates provided here for depression identification and treatment in primary care are over-estimates and the identification and treatment of anxiety and other disorders in primary care are underestimates. This is an important limitation in the present study. Second, although the screening tools used to assess psychiatric diagnoses in the baseline questionnaire (i.e., the PHQ, SPAN and MINI-SPIN) are well-validated measures, they are not clinician assessed diagnostic interviews and represent screen-in criteria only. Because screen-in criteria are broader than diagnostic criteria, the rates of psychiatric symptoms in our sample identified via self-report may be overestimates compared to rates identified by clinician assessed diagnostic interviews.

Mental health issues, substance and alcohol abuse issues occur at high rates among gay and bisexual men living with HIV. The rates at which these problems are identified or treated in primary care settings may well be improving although significant proportions of gay and bisexual men continue to be under-diagnosed. Men who are coping with the multiple challenges of HIV and anxiety, substance or alcohol abuse disorders may be a particular risk. The integration of comprehensive mental health and substance use screening into HIV primary medical care is recommended. It is anticipated that the identification and successful treatment of mental health and substance use issues among HIV-infected gay/bisexual men will support both adaptive management of HIV and secondary HIV prevention efforts in this group.

Acknowledgments

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Table 1

Demographic characteristic of the sample (n=503).

Characteristic	Mean (SD) or Number (%)
Age (years)	41.9 (8.3)
Race/Ethnicity	
Caucasian	378 (75.1%)
Black/African American	57 (11.3%)
Hispanic/Latino	45 (8.9)
Other	23 (4.7%)
Education	
Less than high school	15 (3.0%)
High school degree/GED	61 (12.1%)
Some college	167 (33.2%)
College degree	174 (34.6%)
Graduate degree	86 (17.1%)
Annual income	
Less than $20,000	176 (35.5%)
$20,001 – $40,000	108 (21.8%)
$40,001 – $60,000	83 (16.7%)
Greater than $60,000	129 (26.0%)

Table 2

Frequency of meeting psychiatric screen-in criteria identified via self-report through the baseline questionnaire (n=503).[1]

Disorder	Number (%)
Mood Disorders	
Major Depressive Disorder	63 (12.5)
Other Depressive Disorder	47 (9.3)
Anxiety Disorders	
Posttraumatic Stress Disorder	136 (27.0)
Social Phobia	112 (22.3)
Panic Disorder	48 (9.5)
Generalized Anxiety	39 (7.8)
Attention Deficit Hyperactivity Disorder	50 (9.9)
Alcohol	
Use	413 (82.1)
Abuse	100 (19.9)
Drug Use	
Any use	267 (53.1)
Marijuana	170 (33.8)
Crack or Cocaine	104 (20.7)
Crystal Methamphetamine	102 (20.3)
Heroin	3 (0.6)
Opiates	34 (6.8)
Tranquilizers	46 (9.1)
Vitamin K (Ketamine)	33 (6.6)
Hallucinogens	41 (8.2)
Inhalants	134 (26.6)
Drug Abuse	124 (24.7)

[1] Please note when interpreting percentages that participants could have screened in for >1 anxiety disorder and use of > 1 drug.

Table 3

The number/proportion of participants who (a) met screen-in criteria for psychiatric disorders at study entry and (b) the proportion identified in primary care

	Depressive Symptoms	Anxiety Disorder Symptoms	Substance Abuse	Alcohol Abuse
Number (%) who met screen in-criteria at study entry	110 (21.9%)	219 (47.7%)[2]	124 (24.7%)	100 (19.9%)
Proportion (%) identified in Primary Care	53/110 (48.2%)	75/219 (34.2%)	24/124 (19.4%)	9/100 (9.0%)

[2] This percentage was calculated as a percentage of 8.7% missingness (47.7% was calculated as a percentage of $n = 459$).