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Mental health disorders among homeless, substance-dependent men who have sex with men

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Abstract

Introduction and Aims—Homelessness is associated with increased prevalence of mental health disorders, substance use disorders, and mental health/substance use disorder comorbidity in the United States (US). Gay, bisexual, and other men who have sex with men (MSM) living in the US are at increased risk for homelessness, and have also evidenced elevated mental health and substance use disorder prevalence relative to their non-MSM male counterparts.

Design and Methods—Secondary analysis of data from a randomised controlled trial estimating the diagnostic prevalence of substance use/mental health disorder comorbidity among a sample of homeless, substance-dependent MSM (DSM-IV verified; N = 131).

Results—The most prevalent substance use/mental health disorder comorbidities were stimulant dependence comorbid with at least one depressive disorder (28%), alcohol dependence comorbid with at least one depressive disorder (26%), and stimulant dependence comorbid with antisocial personality disorder (25%).

Discussion and Conclusions—Diagnostic depression and antisocial personality disorder both demonstrated high rates of prevalence among homeless, substance-dependent (particularly stimulant and alcohol dependent) MSM.

Keywords

Men who have sex with men (MSM); comorbidity; dual diagnosis; substance use disorder; mental health disorder

Introduction

Substance Dependence and Mental Health Disorders in the United States

Annually, approximately 3.2% and 5.4% of men in the United States (US) are diagnosed with an anxiety or mood disorder, respectively, and 3.3% develop a drug dependency during their lifetime [1-3]. Among those with a drug dependency, anxiety and mood disorder

prevalence is significantly increased [1]. In 2010, 19% of all clients accessing mental health treatment services in the US had a comorbid substance use disorder [4], and in 2013, the prevalence of substance use disorders among adults diagnosed with a past-year mental health disorder was 2.7 times higher relative to their healthy counterparts [3]. Prevalence of substance dependence has been observed to increase with severity of mental health disorder [3], persons diagnosed with a serious mental illness are significantly more likely to develop a substance use disorder [5], and comorbid substance use and mental health disorders are associated with increased risk for sundry deleterious social outcomes, including loss of employment and homelessness [6,7].

Mental Health Disorder and Homelessness among Men who have Sex with Men

Prejudicial and/or discriminatory attitudes towards gay, bisexual and other men who have sex with men (MSM) in the US are associated with increased reports of stress and social stigma [8], which in turn increase the odds that these men will develop a mental health disorder, a substance dependency, and/or will experience homelessness [8-11]. MSM demonstrate high prevalence and severity of mental health disorders and substance use disorders relative to their heterosexual male counterparts [10,11], and samples of homeless MSM demonstrate greater prevalence of substance use and mental health disorders relative to their unstably housed heterosexual counterparts [12-14].

Lifetime diagnosis with a substance use disorder, the experience of homelessness, and/or minority sexual status have each been independently associated with increased odds of reporting a lifetime mental health disorder among men in the US. Theories of intersectionality and syndemic health disparities suggest that when co-occurring, the effects of each of these factors are not simply additively applied, but rather interact to create unique, often compounded negative health outcomes for individuals inhabiting multiple disadvantaged health statuses (in this case, homeless, substance-dependent MSM) [15,16]. To better specify the outcomes of such intersecting health risks, this study reports the prevalence of substance dependence and mental health comorbidity among a sample of homeless, substance-dependent MSM living in Los Angeles County.

Methods

Participants

Participants were recruited from a low-intensity, community-based health education/risk reduction HIV prevention program serving homeless, substance-using (primarily stimulant-using) MSM in the Hollywood/West Hollywood area of Los Angeles County. Eligibility criteria were active participants in the HIV prevention program, as defined by verified attendance in a minimum of three groups or counselling sessions; at least 18 years of age; substance-dependent verified by the Structured Clinical Interview for DSM-IV v2 (SCID—II);[17] non-treatment seeking; self-reported homeless; and self-reported sex with a man in the previous 12 months. Potential participants were excluded if they did not meet all criteria, were unable to demonstrate competency on a consent quiz, or were determined to have a more serious psychiatric condition that required a more intensive intervention (e.g. active

psychosis). The Friends Research Institute, Inc. Institutional Review Board provided oversight for all study activities.

Procedures

Participants were recruited through the HIV prevention program at the research institute's community site. Enrolment procedures included consent, a baseline assessment that included sociodemographic characteristics, recent and lifetime substance use, and current and lifetime psychiatric conditions. Immediately following enrolment procedures, participants were randomized into either a contingency management or control condition. Study procedures, intervention design and primary outcomes have been described in detail elsewhere [18].

Measures

Sociodemographics: Sociodemographic characteristics (e.g. age, race/ethnicity) were recorded at baseline through self-report.

Mental Health/Psychiatric Diagnoses and Substance Dependence: The SCID-II was administered at screening to determine and mental health/psychiatric diagnoses and substance dependence.

Statistical Analysis

Counts and their corresponding percentages are provided for all substance dependency and mental health disorder diagnoses in Table 1; cell percentages were standardized by column and can be compared with prevalence rates along the right-hand column to assess under- and over-representation of mental health diagnoses by specific substance dependencies. Categories are not mutually exclusive, as participants could be diagnosed with multiple substance dependencies and/or mental health disorders simultaneously. Diagnoses were arrayed in order of decreasing prevalence, and all combinations which demonstrated a statistically significant association were bolded and flagged with an asterisk. Tests of significance for associations between specific MHSUD comorbidities were carried out using Chi-square analyses or Fisher's Exact tests, and significance were flagged at $\alpha = 0.05$ (two-tailed). Missing data due to participant non-response was minor (1.5% missingness); data were not imputed. All statistical analyses were carried out using Stata v13SE.

Results

Most participants identified as non-Hispanic white or African American/black (76%) and nearly a quarter of the participants identified as either Hispanic/Latino (17%) or non-Hispanic multiracial (7%). The median age of the sample was 36.4 years (SD=8.7) and ranged from 20 to 60 years.

Table 1 provides the prevalence of specific substance dependency/mental health disorders comorbidities. The most common current substance dependency was for amphetamine-type stimulants (73% methamphetamine), followed by alcohol (63%), cocaine (57%) and cannabis (42%). The most commonly diagnosed mental health disorders were depressive disorders (39%), antisocial personality disorder (ASPD; 35%), post-traumatic stress disorder

(PTSD; 32%), specific phobias (23%), psychotic disorders (22%) and anxiety disorders (21%). Cannabis dependence revealed significant positive association with ASPD (comorbid prevalence = 46%; overall prevalence of ASPD = 35%). Positive significant association was also observed between alcohol dependence and both obsessive-compulsive disorder (23% vs. 18%) as well as agoraphobia (18% vs. 13%), and positive significant association was also observed between cocaine dependence and social phobia (18% vs. 12%). Lastly, significant negative association was observed between non-opioid sedative dependence and diagnosis with a psychotic disorder (0% vs. 22%). Subsequent exploratory analysis tested the association between: (i) the number of mental health diagnoses observed at baseline (mean = 2.5; SD = 2.1); and (ii) the number of substance dependencies observed at baseline (mean = 3.2; SD = 1.6). No significant association was observed, though the resulting coefficient estimate was positive and trending towards significance (Kendall's tau-b: 0.10; ASE = 0.07).

Discussion

Mental health disorders were common in the sample; current prevalence of several mental health conditions in the sample were significantly higher than lifetime prevalence rates among adult males in the US, including for PTSD (32% vs. 4%), specific phobia (23% vs. 10%), obsessive-compulsive disorder (18% vs. 2%), panic disorder (13% vs. 3%), and agoraphobia (13% vs. 2%). [2] Additionally, seven different combinations of comorbid mental health and substance dependence affected at least 20% of the total sample, including all possible combinations of stimulant or alcohol dependence with depressive disorders, ASPD and PTSD. Compared to meta-analytic data on homeless samples from the US and other Western countries, this sample of homeless, substance-dependent MSM also exhibited significantly higher prevalence of current depression, personality disorder, and/or psychoticism [19].

Several significant pairwise associations were observed between substance dependencies with mental health disorder diagnoses. Though these results are merely associational, and should be interpreted with caution, they largely replicate known correlations, including associations between obsessive-compulsive disorder and alcohol dependence among non-sexual minority men [20], between agoraphobia and alcohol use disorder among MSM [21], between social phobia and cocaine dependence [22], and between ASPD and marijuana dependence [23]. The negative association between non-opioid sedatives and psychosis was unique to this study; however, given the strength of the association further research is suggested to replicate these findings among similar populations.

The elevated rates of MHSUD comorbidity observed in this study suggest intersecting and compounding effects of homelessness, substance dependence, and minority sexual status on the mental health of men in living in Los Angeles County. High rates of stimulant and alcohol dependence evidenced by participants reflect known substance use patterns among MSM and substance dependence patterns among homeless populations in Los Angeles County [24,25]. The high rates of depression, ASPD and PTSD observed in the sample suggest both causes and/or consequences of experiencing homelessness in a major metropolitan area of the US. It is also critical that some of the most prevalent mental health

disorders and substance dependencies observed included combinations known to be particularly damaging to MSM health, most notably the confluence of stimulant dependence and depression (known to significantly increase HIV risk behaviour among MSM) [26]. Additionally, the high prevalence of mental health comorbidity displayed here suggest that additional mental health counselling, psychotherapy and/or pharmacological therapy is necessary in conjunction with housing services and substance use treatment in order to more adequately address the intersecting needs of highly impacted populations.

Conclusions

This study is limited by its use of a non-probability sample of MSM in Los Angeles County; the generalizability of these results may be limited beyond this population. Given the large number of independent hypothesis tests contained in Table 1, there is an increased probability of a Type-I error. Concerns are mitigated, however, given that achieved results were largely replications of prior findings. Comorbid mental health disorders unrelated to substance dependence (e.g. comorbid depression and anxiety) were not explored here and are beyond the scope of this brief report, though interactions between mental health disorders could have important impacts on behaviour and warrant future examination. In spite of such limitations, these analyses provide important insights on the intersecting effects of homelessness, sexual minority status, and substance dependence on mental health status among MSM. The prevalence of mental health disorder in this sample far exceeded expected values even for homeless populations, substance dependent populations, or MSM populations and; therefore, clearly suggests that additional mental health services are necessary when working to intervene with populations that face these intersecting conditions.

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Table 1
Prevalence of substance dependence (bottom row), mental health disorder (far-right column), and substance dependence/mental health disorder comorbidity (centre) for all disorders affecting at least 10% of the total sample

Baseline diagnoses (in descending order of prevalence)	Stimulant dependence	Alcohol dependence	Cocaine dependence	Cannabis Dependence	Opioid dependence	Hallucinogen/PCP dependence	Sedatives (non-opioid) dependence	Total prevalence
Depressive disorders ^a	37 (39%)	34 (42%)	25 (34%)	26 (48%)	10 (36%)	5 (31%)	6 (46%)	51/130 (39%)
ASPD	33 (34%)	30 (37%)	30 (41%)	25 (46%)*	7 (25%)	8 (50%)	5 (39%)	45/130 (35%)
PTSD	29 (30%)	29 (35%)	24 (32%)	14 (26%)	6 (21%)	3 (19%)	3 (23%)	41/130 (32%)
Specific phobia	21 (22%)	18 (22%)	19 (26%)	16 (30%)	4 (15%)	4 (25%)	2 (15%)	29/129 (23%)
Psychotic disorders ^b	24 (25%)	21 (26%)	19 (26%)	13 (24%)	6 (21%)	5 (31%)	0 (0%)*	29/130 (22%)
Anxiety disorders ^c	19 (20%)	17 (21%)	15 (20%)	13 (24%)	2 (7%)	4 (25%)	1 (8%)	27/130 (21%)
OCD	18 (19%)	19 (23%)*	13 (18%)	13 (24%)	4 (14%)	2 (13%)	1 (8%)	23/130 (18%)
Agoraphobia	12 (13%)	15 (18%)*	13 (18%)	10 (19%)	3 (11%)	2 (13%)	1 (8%)	17/130 (13%)
Panic disorder	14 (15%)	10 (12%)	10 (14%)	1 (11%)	3 (11%)	4 (25%)	0 (0%)	17/130 (13%)
Body-related disorders ^d	12 (13%)	11 (13%)	11 (15%)	8 (15%)	6 (21%)	3 (19%)	1 (8%)	17/130 (13%)
Social phobia	10 (11%)	11 (13%)	13 (18%)*	4 (7%)	2 (7%)	3 (19%)	1 (8%)	16/129 (12%)
Schizotypal disorders ^e	12 (13%)	6 (7%)	9 (12%)	3 (6%)	2 (7%)	2 (13%)	2 (15%)	13/130 (10%)
Bipolar I	10 (11%)	8 (10%)	9 (12%)	7 (13%)	3 (11%)	1 (7%)	0 (0%)	13/129 (10%)
<i>Total prevalence</i>	96/131 (73%)	82/130 (63%)	74/130 (57%)	54/130 (42%)	28/130 (22%)	16/129 (12%)	13/129 (10%)	<i>N= 131</i>

^aIncludes: major depressive disorder, non-specific depressive disorder.

^bIncludes: brief psychotic disorder, psychotic disorder due to general medical condition, substance-induced psychotic disorder, non-specific psychotic disorder.

^cIncludes: general anxiety disorder, anxiety disorder due to general medical condition, substance-induced anxiety disorder, non-specific anxiety disorder.

^dIncludes: body dysmorphic disorder, anorexia nervosa, bulimia nervosa.

^eIncludes: schizophrenia, schizopreniform disorder, schizoaffective disorder.

* *P* 0.05

ASPD, antisocial personality disorder; OCD, obsessive-compulsive disorder; PCP, phencyclidine; PTSD, post-traumatic stress disorder.