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Borderline Personality Disorder and Regularly Drinking Alcohol before Sex

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Abstract

Introduction and Aims—Drinking alcohol before sex increases the likelihood of engaging in unprotected intercourse, having multiple sexual partners and becoming infected with sexually transmitted infections. Borderline personality disorder (BPD), a complex psychiatric disorder characterised by pervasive instability in emotional regulation, self-image, interpersonal relationships and impulse control, is associated with substance use disorders and sexual risk behaviours. However, no study has examined the relationship between BPD and drinking alcohol before sex in the USA. This study examined the association between BPD and regularly drinking before sex in a nationally representative adult sample.

Design and Methods—Participants were 17,491 sexually active drinkers from Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions. Logistic regression models estimated effects of BPD diagnosis, specific borderline diagnostic criteria, and BPD criterion count on the likelihood of regularly (mostly or always) drinking alcohol before sex, adjusted for controls.

Results—BPD diagnosis doubled the odds of regularly drinking before sex (adjusted odds ratio [AOR]=2.26; confidence interval [CI]=1.63, 3.14). Of nine diagnostic criteria, impulsivity in areas that are self-damaging remained a significant predictor of regularly drinking before sex (AOR=1.82; CI=1.42, 2.35). The odds of regularly drinking before sex increased by 20% for each endorsed criterion (AOR=1.20; CI=1.14, 1.27).

Discussion and Conclusions—This is the first study to examine the relationship between BPD and regularly drinking alcohol before sex in the USA. Substance misuse treatment should assess regularly drinking before sex, particularly among patients with BPD, and BPD treatment should assess risk at the intersection of impulsivity, sexual behaviour and substance use.

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Keywords

borderline personality disorder; drinking alcohol before sex; sexual risk behaviours; NESARC

Introduction

An estimated 4.3 million American adults regularly drink alcohol before having sex [1]. Drinking before sex is associated with behaviours consistently linked to transmission of HIV and other sexually transmitted infections [2–5], including unprotected sex [6, 7] and sex with new, casual and multiple partners [8, 9]. Thus, regularly drinking alcohol before sex constitutes a behaviour with substantial public health importance, highlighting the need for a better understanding of its risk factors at the national level [10].

Borderline personality disorder (BPD) is a complex psychiatric disorder, characterised by pervasive instability in regulation of emotion, self-image, interpersonal relationships and impulse control [11–14], for which 1–6% of adults meet Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) diagnostic criteria [15–17]. BPD is the most common personality disorder among psychiatric patients, with prevalence ranging from 10% in outpatients to 15–25% in inpatients [18]. BPD is associated with substantial mental and physical disability [16]. Further, BPD shows high and heterogeneous patterns of comorbidity with other psychiatric and substance use disorders [19] that themselves are identified as strong and significant predictors of regularly drinking before sex [10, 20]. However, no study has examined the relationship between BPD and regularly drinking alcohol before sex in the US general population (nor, to our knowledge, in any country). Better understanding this relationship is important for developing public health efforts to reduce regularity of drinking before sex and prevent HIV infection, particularly among those with BPD.

Accordingly, we examined whether BPD was associated with increased odds of regularly drinking alcohol before sex in a nationally representative adult sample. Specifically, data from sexually active drinkers were analysed to answer the following research questions: (i) Does meeting diagnostic criteria for a BPD diagnosis increase the odds of regularly drinking alcohol before sex?; (ii) Which specific BPD diagnostic criteria account for any increased odds of regularly drinking alcohol before sex?; and (iii) Do the odds of regularly drinking alcohol before sex increase relative to the increase in BPD diagnostic criterion count?

Methods

Sample

The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) is a US national survey [21] that sampled residents in households and group quarters (i.e. college residence halls, residential treatment centres, skilled nursing facilities, group homes, military barracks, correctional facilities, workers' dormitories and facilities for people experiencing homelessness) aged 18+ years. Black and Hispanic individuals and young adults (18–24 years) were oversampled, with data adjusted for oversampling and nonresponse. Wave 1 in-person interviews were conducted in 2001–2002 with 43,093 respondents (response rate

81%). Wave 2 re-interviews were conducted in 2004–2005 with 34,653 participants (response rate 86.7%), producing a cumulative Wave 2 response rate of 70.2% [22]. Field methods are described elsewhere [21]. For this report, Wave 2 data were analysed because this was the wave in which drinking alcohol before sex and BPD were assessed. The analytic sample (N=17,491) consisted of participants who were sexually active in the past year and drank at least 1 alcoholic drink in past year, congruent with previous studies [10, 20]. The research protocol, including informed consent, received full ethical review and approval from the Census Bureau and Office of Management and Budget.

Measures

The NESARC interview was the National Institute on Alcohol Abuse and Alcoholism Alcohol Use Disorder and Associated Disabilities Interview Schedule, DSM-IV Version (AUDADIS-IV; [23–25]). This fully structured instrument was designed for experienced lay interviewers. AUDADIS modules cover detailed information on drinking and associated behaviours, as well as DSM-IV diagnoses of psychiatric and substance use disorders. AUDADIS-IV diagnostic reliabilities are generally good for psychiatric disorders ($kappas=0.42–0.64$; [23, 24]). The AUDADIS-IV has notable advantages over some other interviews, such as assessment of clinically significant impairment and distress.

Regularly Drinking Alcohol before Sex—An AUDADIS item covered past-year frequency of drinking alcohol before sex: “During the past year, how often did you drink alcohol before having sex?”. Possible responses were: never, rarely, sometimes, most of the time and always. As this study focused on drinking alcohol on a regular basis before sex (i.e. a persistent risk behaviour), responses were dichotomised as: regular drinking alcohol before sex (most of the time or always; N=615) versus others (N=16,876). This dichotomization is supported by previous analyses [10, 20].

Borderline Personality Disorder—AUDADIS items were used to operationalise DSM-IV BPD criteria: (i) frantic efforts to avoid abandonment; (ii) pattern of unstable/intense relationships; (iii) identity disturbance/unstable self-image; (iv) impulsivity in areas that are self-damaging; (v) recurrent suicidal behaviour; (vi) affective instability/marked reactivity of mood; (vii) chronic feelings of emptiness; (viii) inappropriate/intense anger; and (ix) transient stress-related paranoia/dissociation. To receive a diagnosis of BPD, participants had to endorse 5 or more of 9 DSM-IV diagnostic criteria, with at least 1 causing social or occupational dysfunction. A dimensional BPD variable was created by summing the count of the 9 criteria (range, 0–9). The test-retest reliability of this measure, as indicated by the intraclass correlation coefficient, is 0.71 [25].

Covariates—Covariates were selected because of their associations with regularly drinking before sex in prior studies [10, 20]. *Demographics.* Age, race/ethnicity, gender, and education were included. *Drinking frequency.* Past-year frequency of drinking alcohol was assessed on a 10-point Likert-type scale with values indicating: (i) 1–2 times; (ii) 3–6 times; (iii) 7–11 times; (iv) monthly; (v) 2–3 times monthly; (vi) weekly; (vii) 2 times weekly; (viii) 3–4 times weekly; (ix) nearly every day; and (x) every day [20]. *Relationship status.* The AUDADIS assessed whether participants were single or partnered with the following

item: “For the past year, were you married, dating, or involved in a romantic relationship?”. All participants who responded affirmatively were classified as partnered, and others as single [10]. *Any Axis I psychiatric disorder*. Participants who met diagnostic criteria for any DSM-IV mood, anxiety, or psychotic disorder were designated as having any Axis I psychiatric disorder [10, 20]. *Antisocial personality disorder (ASPD)*. ASPD diagnosis represented a combination of Waves 1 and 2 ASPD assessments, yielding a single lifetime diagnostic variable in keeping with DSM definitions of personality disorder as stable and longstanding [10, 16, 20].

Data Analysis

Analyses were conducted with SUDAAN Version-11.0.1, which uses Taylor series linearization to account for the design effects of the NESARC. BPD diagnosis, individual diagnostic criteria, and criterion count, as well as covariates, were summarised descriptively (proportions, weighted 95% confidence intervals [CI]) for those who did and did not regularly drink alcohol before sex. Bivariate associations were estimated between predictors and regularly drinking alcohol before sex using odds ratios (OR), obtained from separate logistic regressions. Three separate multivariate logistic regression models were used to obtain adjusted odds ratios (AOR), representing the relationships of BPD diagnosis, specific diagnostic criteria, and criterion count with regularly drinking alcohol before sex, adjusted for demographics, drinking frequency, relationship status, any Axis I mood, anxiety or psychotic disorder, and ASPD.

Results

Of those who did not regularly drink alcohol before sex (N=16,876), 6.2% met criteria for BPD diagnosis, in contrast to 16.9% among those who regularly drank alcohol before sex (N=615; Table 1). Adjusted for demographics, drinking frequency, relationship status, any Axis I mood, anxiety or psychotic disorder, and ASPD (Table 2), a diagnosis of BPD more than doubled the odds of regularly drinking before sex (AOR=2.26; CI=1.63,3.14).

All BPD diagnostic criteria were significantly associated with higher odds of regularly drinking before sex at the bivariate level ($P<0.001$; Table 2). After adjustment for all criteria and covariates, impulsivity in areas that are self-damaging (AOR=1.82; CI=1.42, 2.35) remained the only criteria to significantly predict regularly drinking before sex.

The average BPD criterion count for those who did not regularly drink alcohol before sex was 1.23 (SD=1.78), while the average for those who did was 2.19 (SD=2.33). After adjustment for covariates (Table 2), odds of regularly drinking before sex increased by 20% for each additionally endorsed diagnostic criterion (AOR=1.20; CI=1.14,1.27).

Discussion

This study examined whether BPD diagnosis, specific diagnostic criteria and criterion count were associated with increased odds of regularly drinking alcohol before sex in a nationally representative adult sample. Among sexually active drinkers, diagnosis of BPD was associated with significantly increased odds of regularly drinking before sex, even after

adjustment for many salient covariates. Of nine BPD diagnostic criteria, impulsivity in areas that are self-damaging remained the sole significant predictor of regularly drinking alcohol before sex. Although most criteria were non-significant in the adjusted models when considered individually, overall criterion count was associated with significantly increased odds of regularly drinking before sex when treated as a dimensional BPD symptom count.

Findings suggest that substance misuse and psychiatric treatment providers should identify clients with BPD (or BPD symptoms, particularly impulsivity), assess their regularity of drinking alcohol before sex, conduct functional analysis of this behaviour (e.g. reduction of sex-related anxiety), and counter possible misperceptions about the sexual benefits of alcohol consumption (i.e. alcohol expectancies). Prior research suggests a complex set of multidirectional associations among alcohol expectancies, alcohol use, and sexual behaviours. Both acute intoxication and alcohol expectancies contribute to risky sexual intentions and attitudes, which increase the likelihood of engaging in sex when drinking [26, 27]. Research is needed on the role that alcohol expectancies play in regularly drinking alcohol before sex among clients with BPD.

Dialectical Behavior Therapy (DBT) is the most utilised and best validated psychiatric treatment for BPD. In brief, DBT is a manualised psychotherapy that includes individual and group therapy that focuses on achieving a synthetic (dialectical) balance in client functioning and regulation of feelings and behaviours, with the provider acting as a coach [11]. DBT has been shown to enhance treatment retention and reduce psychiatric hospitalisation [28] for clients with BPD. Additionally, research indicates that DBT can be adapted to reduce severe dysfunctional behaviours that have been targeted for intervention, such as comorbid substance use disorders [29, 30] and impulsive sexual behaviour [31]. As such, and given study findings, the development and implementation of DBT modules focusing on the intersection of substance use and impulsive sexual behaviours appears particularly worthwhile, as well as feasible.

Study limitations include the fact that NESARC data are based on respondent self-reports that can be affected by recall bias and social desirability. However, the NESARC interview is carefully structured interview comprised of reliable measures [23–25,32,33]. Also, the study was cross-sectional and therefore, causality could not be determined. Prospective studies are needed to support the causal inferences drawn regarding predictors and the outcomes. Strengths of the study include the use of strong diagnostic measures, a wide variety of salient covariates, and a large, nationally representative sample of sexually active alcohol drinkers.

This is the first study to identify a link between BPD (diagnosis, criteria and criterion count) and regularly drinking alcohol before sex in a nationally representative adult sample. Substance misuse treatment should assess regularly drinking before sex, particularly among patients with BPD, and BPD treatment should assess risk at the intersection of impulsivity, sexual behaviour and substance use.

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Table 1

Characteristics of sample (sexually active drinkers) by status of regularly drinking alcohol prior to sexual activity (N=17,491)

Variable	Do not regularly drink alcohol prior to sexual activity (N=16,876) % or Mean (SD)	Regularly drink alcohol prior to sexual activity (N=615) % or Mean (SD)
Main predictors		
BPD diagnosis	6.15	16.93
BPD diagnostic criteria		
Frantic efforts to avoid abandonment	13.06	22.91
Pattern of unstable/intense relationships	16.98	26.88
Identity disturbance/unstable self-image	16.86	28.11
Impulsivity in areas that are self-damaging	31.04	54.75
Recurrent suicidal behaviour	4.21	9.73
Affective instability/marked reactivity of mood	6.68	12.00
Chronic feelings of emptiness	8.40	18.10
Inappropriate/intense anger	16.94	30.50
Transient stress-related paranoia/dissociation	9.12	15.76
BPD criterion count (range: 0–9)	1.23 (1.78)	2.19 (2.33)
Covariates		
Age		
18–29 years	20.73	18.67
30–39 years	24.23	17.52
40–49 years	25.23	25.39
50+ years	29.81	38.42
Race		
Non-Hispanic White	73.74	71.61
Non-Hispanic Black	9.44	13.51
Native American	2.05	2.96
Asian/Pacific Islander	3.38	2.77
Hispanic	11.39	9.15
Gender		
Male	54.01	69.81
Female	45.99	30.19
Education		
Less than HS	8.72	12.27
HS graduate	24.45	27.44
At least some college	66.83	60.29

Variable	Do not regularly drink alcohol prior to sexual activity (N=16,876) % or Mean (SD)	Regularly drink alcohol prior to sexual activity (N=615) % or Mean (SD)
Drinking frequency (range: 1–10)	5.20 (2.55)	8.53 (1.58)
Relationship status		
Single	5.29	17.73
Partnered	94.71	82.27
Any Axis 1 Psychiatric Disorder	21.27	30.13
Antisocial Personality Disorder	4.65	10.33

BPD, borderline personality disorder.

Table 2

Associations between regularly drinking alcohol prior to sexual activity and borderline personality disorder diagnosis, individual diagnostic criterion, and diagnostic criterion count among sexually active drinkers (N=17,491)

Variable	Unadjusted OR (95% CI)	Adjusted ^a OR (95% CI)
BPD diagnosis	3.11 (2.42–4.00) ***	2.26 (1.63–3.14) ***
BPD criteria		
Frantic efforts to avoid abandonment	1.98 (1.56–2.52) ***	1.12 (0.80–1.55)
Pattern of unstable/intense relationships	1.80 (1.48–2.19) ***	0.95 (0.71–1.28)
Identity disturbance/unstable self-image	1.93 (1.56–2.39) ***	1.29 (0.95–1.76)
Impulsivity in areas that are self-damaging	2.69 (2.19–3.30) ***	1.82 (1.42–2.35) ***
Recurrent suicidal behaviour	2.45 (1.72–3.49) ***	1.44 (0.91–2.27)
Affective instability/marked reactivity of mood	1.91 (1.45–2.51) ***	0.88 (0.63–1.25)
Chronic feelings of emptiness	2.41 (1.92–3.02) ***	1.26 (0.92–1.72)
Inappropriate/intense anger	2.15 (1.77–2.62) ***	1.27 (0.98–1.64)
Transient stress-related paranoia/dissociation	1.86 (1.43–2.43) ***	0.94 (0.66–1.35)
BPD criterion count	1.24 (1.19–1.28) ***	1.20 (1.14–1.27) ***

^aBPD diagnosis, BPD criteria and BPD criterion count were examined individually and in separate logistic regression models. Each model controlled for respective predictor, race, age, gender, education, drinking frequency, relationship status, any Axis I mood, anxiety or psychotic disorder, and antisocial personality disorder.

* $P < 0.05$,

** $P < 0.01$,

*** $P < 0.001$.

BPD, borderline personality disorder; CI, confidence interval; OR, odds ratio.