At Risk Drinking Is Common Among HIV-infected Department of Defense Beneficiaries but was not Associated with Prevalent GC/CT Infections

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Abstract

Background: At-risk drinking and sexually transmitted infections (STIs) are both common among HIV-infected patients. Nearly 50% of subjects in the US Military Natural History Study (NHS), a cohort of HIV infected DoD beneficiaries, report alcohol misuse. Nonetheless, few studies have examined whether at-risk drinking, a modifiable risk factor, is associated with STIs in this population. We examined relationships between alcohol use and prevalent Gonorrhea (GC) and Chlamydia (CT) infections.

Methods: Consented NHS subjects underwent genitourinary (GU) and extragenital Nucleic Acid Amplification Testing (NAAT) for GC/CT infections and responded to a behavioral survey to describe substance use and sexual risk. At-risk drinking was defined as consumption of ≥4 drinks/14 drink guidelines. Logistic regression was used to examine the association of at-risk drinking and GC/CT infections.

Results: A total of 472 men were included with a median age of 41 years (IQR 31, 51); 54% were African American, 11% were Hispanic, 10% were Asian, and 6% were Other. Among participants, 36% reported any alcohol consumption, 20% reported hazardous drinking, and 7% reported AUDIT-C > 3. GC and CT infection were diagnosed in 36% and 34% of participants, respectively. In univariate analysis, younger age, multiple male sexual partners, having sex while drunk, and concurrent partnerships were associated with GC/CT infections. In multiple logistic regression models, only AUDIT-C score ≥4 was associated with GC/CT infection. GC was diagnosed in 26% of participants, and 11% of these cases were anorectal infections (GC=4%; CT=7%). CT was diagnosed in 11% of participants, and 5.3% of these cases were anorectal infections (GC=3%; CT=2%).

Conclusion: At-risk drinking remains common in the NHS, however, it was not associated with GC/CT infections. Distribution of GC/CT by Anatomical Site

Background

Alcohol use is associated with, disinhibition, decreased risk perception, and impaired sexual decision making

Among People Living with HIV/AIDS (PLWHA) any alcohol consumption, problematic drinking, and alcohol use with sexual intercourse were all associated with sexual risk taking and dangerous unintended sexual events

Further alcohol use is associated with diminished adherence to antiretroviral therapy (ART), treatment interruptions, thereby increasing the risk of transmitting HIV

The risk of STI is high in the military, in-fact rates of chlamydia are higher than the general US population, as is at-risk drinking

Given the prior observations, we examined whether or not alcohol use was associated with Gonorrhea (GC) and/or Chlamydia (CT) infections among HIV-infected Department of Defense Beneficiaries enrolled in a cross-sectional study designed to examine prevalence of GC/CT infections and risk behaviors associated with these infections.

Methodology

Study Population

HIV-infected DoD beneficiaries receiving care at one of four military treatment facilities were eligible for a prospective cross-sectional study designed to examine the prevalence and risk factors associated with prevalent GC/CT infections. Consented subjects underwent three anatomic site testing (Anorectal, Pharyngeal, and Urine) for evaluation of GC and CT and undertook a self-administered questionnaire that collects data on sexual risk behavior and self-reported alcohol use.

Definition

The Alcohol Use Disorders Identification Test (AUDIT-C) is a 3 item screening tool that helps identify individuals who are hazardous drinkers or have an alcohol use disorder. This questionnaire asks three questions about alcohol use during the past year, how often a person has a drink containing alcohol, the usual quantity of drinks consumed, and the frequency of drinking drinks at one time (AUDIT-C scores for alcohol consumption were used to estimate risk site screening for STIs). In an adjusted analysis, hazardous drinking was not associated with GC/CT infection. With respect to anatomic site, 11% had anorectal infections (GC=4%; CT=7%), 5.3% had pharyngeal infections (GC=3%; CT=2%), and 2.6% had genital infections (GC=6%; CT=1%).

Statistica

Descriptive statistics are presented as median with interquartile ranges (IQR) for continuous variables and counts with proportions for categorical variables. For group comparisons, Kruskal-Wallis test and Chi-squared/Fisher’s exact test were used to calculate two-sided p-values for continuous and categorical variables, respectively. Adjusted logistic regression models were utilized to assess the association between at-risk drinking and GC/CT infections.

Results

Table 1: Distribution of baseline characteristics by alcohol drinking status

Table 2: Distribution of baseline characteristics by GC/CT status

Table 3: Distribution of alcohol drinking by site of STI

Table 4: Distribution of substance use and sexual risk

Conclusion

The overall prevalence of GC/CT infection in this patient population was 15% and these rates similar to previously reported rates.

Nearly 1 in 5 subjects enrolled in this study met criteria for hazardous alcohol use. Rates of hazardous drinking are similar to the rates reported in a prior study of HIV infected patients, but lower than the rates reported previously in a DoD study of PLWHA, however, different definitions were used to categorize alcohol use in the two studies

Alcohol hazardous use was more prevalent among younger service members. Strategies that focus on reducing alcohol use among younger HIV infected men are needed.

In an adjusted analysis, hazardous drinking was not associated with GC/CT infections.

As anticipated younger age, concurrent sexual partners, and greater number of male sexual partners was associated with STI. Of note, previously observed association with race were not observed.

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