Research Brief

Alcohol Use and HIV Self-management

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Increased life expectancy for people living with HIV (PLWH), made possible by advances in antiretroviral therapy (ART), has presented new clinical challenges pertaining to HIV management across the lifespan (U.S. Department of Health and Human Services, 2013). PLWH are highly susceptible to chronic comorbidities (Smith et al., 2014), highlighting the need for them to engage in health behaviors to prevent health complications and achieve optimal outcomes. Self-management refers to the ability of a person with a chronic disease to manage symptoms and treatments, change lifestyle behaviors, and address the consequences of the condition (Coleman & Newton, 2005). There is a crucial need to identify and potentially modify behaviors and lifestyle factors that interfere with self-management practices in PLWH. One such factor is the use and misuse of alcohol.

PLWH are nearly twice as likely to use alcohol as people who do not have HIV, and an estimated 50% of PLWH have histories of alcohol problems (National Institute on Alcohol Abuse and Alcoholism, 2010). Alcohol use has been linked to increases in cardiovascular disease risk (Freiberg & Kraemer, 2010), increased hospitalizations and emergency room visits (Azar, Springer, Meyer, & Altice, 2010), and decreased medication adherence (Kalichman et al., 2014). Alcohol directly impacts HIV treatment through several mechanisms: (a) altered liver function diminished ART metabolism, (b) immune activation results in accelerated viral replication, (c) acceleration of liver disease in comorbidities such as hepatitis B and C, and (d) behavioral consequences such as decreased ART adherence (Pandrea, Happel, Amedee, Bagby, & Nelson, 2010). Gender also influences the overall impact of alcohol, with women naturally absorbing more alcohol and taking longer to metabolize it than men regardless of quantity (Centers for Disease Control and Prevention, 2014). As such, women with HIV are at a particularly significant risk for alcohol-related health complications.

Samet and colleagues (2007) demonstrated the link between alcohol use and accelerated decline in health in PLWH. Participants who were not on ART (n = 80/180) and continued to drink heavily (>14 drinks/week or ≥ 4 drinks on a single occasion for men < 66 years of age; >7 drinks per week or ≥ 4 drinks on a single occasion for men ≥ 66 years of age and all women) had lower CD4+ T cell counts than participants who were not on ART but abstained from drinking (n = 24/61; $p < .03$). Alcohol use is also directly related to higher viral loads and decreased ability to achieve and sustain viral suppression (Azar et al., 2010).

The potential for alcohol use to interfere with self-management practices indicates a need to better understand the relationship between alcohol use and HIV self-management. The relationship between alcohol consumption and HIV self-management behaviors has not been widely explored. Our purpose is to describe the relationship between alcohol consumption and self-management behaviors in a group of adults living with HIV, and to describe

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differences between men and women with regard to alcohol consumption and self-management behaviors.

Methods

Sample and Recruitment

We used purposive sampling to examine the relationship of alcohol use to self-management behaviors in a group of adults living with HIV. The sample included men (n = 52), women (n = 39), and transgender (n = 2) individuals, ranging from 20 to 66 years of age. Participants were recruited from HIV clinics, HIV service organizations, and a northeast Ohio HIV research registry. Data collection took place from November 2011 to June 2012. Our analysis here is secondary to a primary study by Webel and colleagues (2014), which examined differences in stress and isolation in PLWH. Participants were included in the study if they were 18 years of age or older, had a documented HIV infection, and were on ART; they were excluded if they had been diagnosed with diabetes or had a pacemaker due to confounding effects on cardiac measurements in the primary study (Webel et al., 2014). All participants in the primary study were eligible and included in our analysis.

Procedures

The University Hospitals (Cleveland, OH) Institutional Review Board approved the study. All participants provided written informed consent, signed a consent form allowing us to access their medical records, and completed questionnaires online via REDCap or were read the questionnaires by a research assistant if they were unable to complete the questions on the computer. Participants received a $50.00 cash gift card as compensation for their participation (Webel et al., 2014).

Measures

Demographic data. Demographic data were self-reported. Medical data (year of HIV diagnosis and CD4+ T cell count) were collected via chart extraction.

Alcohol use. Data on alcohol use were collected using the Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, De la Fuente, & Grant, 1993). The AUDIT is a questionnaire that measures alcohol use in the previous 12 months, with 10 items asking about alcohol-related behaviors. Items are scored between 0 (*never*) and 4 (*daily or almost daily*), and are then summed with a total possible score of 40, and scores of at least 8 indicating the presence of an alcohol disorder. The reliability of the AUDIT has been verified in external investigations using test–retest reliability measures (0.95 across 30 days; de Meneses-Gaya, Zuardi, Loureiro, & Crippa, 2009).

HIV self-management. The HIV Self-Management Scale (Webel et al., 2012) is a 20-item scale that measures three specific domains that correspond to the process factors of the Individual and Family Self-Management Theory: (a) Daily Self-Management Health Practices (DSM), (b) Social Support and HIV Self-Management (SS), and (c) Chronic Nature of HIV Self-Management (CN). Items are scored on three levels: *all of the time, some of the time, none of the time*, as well as a *not applicable* option. Development and psychometric evaluation of the scale by Webel and colleagues (2012) demonstrated the scale to be a reliable (α = 0.72-0.86) and stable (α = 0.61-0.85) measure of HIV self-management.

Data Analysis

Data were cleaned, scales were scored according to established scoring procedures, and total scores were checked to ensure they met statistical assumptions. Descriptive statistics, including means, frequency counts, standard deviations, and interquartile ranges were calculated. The relationships between alcohol use, self-management, and gender were assessed with Pearson correlation coefficients. A significance level of 0.10 was used in order to be able to identify clinically meaningful trends in alcohol use and self-management behaviors between the two small groups (Gelman, 2013). All analyses were calculated using Stata v. 11.0 (StataCorp LP, College Station, TX).