Men Living With HIV and Experiencing Sexual Dysfunction: An Analysis of Treatment Options

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Men living with HIV (MLWH), especially younger MLWH, may experience sexual dysfunction in greater numbers than men without HIV infection. This manuscript describes the prevalence of two major causative factors of sexual dysfunction in MLWH: hypogonadism and erectile dysfunction. A description of assessment and evaluation is presented. Additionally, the evidence for use of pharmacological and herbal therapies is presented with recommendations for treatment. MLWH who exhibit hypogonadism and/or erectile dysfunction should receive similar care to those without HIV infection. There is evidence to support the use of testosterone replacement therapy and phosphodiesterase 5 inhibitors in this population, and there is limited evidence for the use of certain herbs such as yohimbine. The ethics of treating sexual dysfunction for MLWH are discussed. A case study follows as an example of the application of evidence-based treatments recommended for practice.

(Journal of the Association of Nurses in AIDS Care, 24, *S135-S145*)

Key words: *erectile dysfunction (ED), HIV infection, hypogonadism, phosphodiesterase 5 inhibitors (PDE5), testosterone replacement*

Before the prevalent use of antiretroviral therapy (ART), men living with HIV (MLWH) who experienced sexual dysfunction were thought to have impairment related to progression of HIV disease affecting the testes, side effects related to opportunistic infections, and debilitation from progression of the disease (Collazos, Martinez, Mayo, & Ibarra, 2002). With the advent of ART, some researchers have tried to explain sexual dysfunction as a side effect of ART caused by ART-induced hypogonadism, but linking the use of a particular agent to sexual dysfunction is difficult given that ART is most often a multiple-agent regimen (Asboe et al., 2007; Collazos et al., 2002; Koole, Noestlinger, & Colebunders, 2007). Sexual dysfunction among MLWH is multifactorial in nature and requires assessment and treatment to promote sexual health and overall well-being (Asboe et al., 2007; Crum, Furtek, Olson, Amling, & Wallace, 2005; Koole et al., 2007; Scanavino, 2011; Trotta et al., 2008).

Definition of Concepts Related to Sexual Dysfunction

Sexual dysfunction is defined as difficulty with any stage of the sex act, including reduced libido, loss or maintenance of arousal (erection), and ejaculatory alterations (Scanavino, 2011). Sexual dysfunction for MLWH is likely multifactorial in causation and has been related to hypogonadism, advanced HIV disease, and treatment with protease inhibitors (Asboe et al., 2007). In the United States, MLWH have higher rates of hypogonadism as compared to men without HIV infection (20%–25% vs. 6%;

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JOURNAL OF THE ASSOCIATION OF NURSES IN AIDS CARE, Vol. 24, No. 1S, January/February 2013, S135-S145
http://dx.doi.org/10.1016/j.jana.2012.08.010

Bhasin et al., 2010; Collazos et al., 2002; Crum-Cianflone et al., 2007; Kalyani, Gavini, & Dobs, 2007). Clinical symptoms associated with hypogonadism include decreased libido, depression, poor concentration, anemia, decreased muscle mass, weight loss, erectile dysfunction (ED), fatigue, decreased sperm production, and decreased ejaculate volume (Crum et al., 2005; Mikhail, 2006).

ED is defined as a persistent inability to achieve or maintain an erection sufficient for completed sexual intercourse (Crum-Cianflone et al., 2007; Mikhail, 2006). The cause of ED has been linked to many factors such as age, HIV disease, opportunistic infection, decreased serum testosterone, immune factors, and ART (Ende, Re, DiNubile, & Mounzer, 2006; Koole et al., 2007; Scanavino, 2011; Trotta et al., 2008).

Hypogonadism is defined as an endocrine disorder in which insufficient levels of physiologic testosterone are produced. Hypogonadism may be primary (testicular failure) or secondary (problems with the hypothalamus or pituitary gland; Bhasin et al., 2010). For the diagnosis of hypogonadism, the serum testosterone must be lower than 300 ng/dL or lower than 10.4 mmol/L (Kalyani et al., 2007; Rabkin, Wagner, & Rabkin, 2000; Scanavino, 2011).

Epidemiology of Hypogonadism and Erectile Dysfunction

The prevalence of sexual dysfunction varied in MLWH prior to the availability of ART and was often considered a problem of advanced HIV disease, depression, physical debilitation, and hypogonadism (Asboe et al., 2007; Collazos, 2007). Rates of hypogonadism pre-ART were reported at 30%–50% in MLWH (Trotta et al., 2008). In the post-ART era, prevalence of sexual dysfunction, specifically ED, has been reported as low as 5.8% and as high as 74% (Asboe et al., 2007; Collazos, 2007; Crum et al., 2005; Ende et al., 2006; Scanavino, 2011; Shindel, Horberg, Smith, & Breyer, 2011; Trotta et al., 2008; United States Department of Veterans Affairs [USDVA], 2011). There is evidence that the principal causes of ED for MLWH are hypogonadism, advanced HIV disease, and treatment with protease inhibitors (Collazos, 2007; Scanavino, 2011; Shindel et al., 2011). Although the prevalence of hypogonadism is reduced with adherence to ART, rates remain at 20%–25%; hypogonadism is still the most common endocrine disorder affecting MLWH (Crum et al., 2005; Rabkin et al., 2000; Scanavino, 2011; USDVA, 2011). The diagnosis of hypogonadism by testosterone deficiency (commonly used in non-HIV infected men) in relatively young MLWH is complicated. Younger MLWH have higher levels of testosterone (as compared to older men) and younger men could have a significant reduction in testosterone at symptom onset, while their values can still be within a normal range (Crum et al., 2005; Crum-Cianflone et al., 2007; Mikhail, 2006; Trotta et al., 2008).

In the general U.S. population, age is the strongest predictor of ED, with reports increasing as men age; however, with HIV infection, the rates are higher despite most MLWH being of a younger age (6% in aging men vs. 20%–25% in MLWH; Bhasin et al., 2010; Collazos et al., 2002; Crum-Cianflone et al., 2007; Scanavino, 2011; Trotta et al., 2008). The seriousness of ED for MLWH was illustrated in a recent study by Trotta and colleagues (2008), in which concerns about ED were expressed by one out of five research participants (n = 612), and those with sexual dissatisfaction were less likely to adhere to ART regimens. Furthermore, those with ED may have taken medication therapy such as sildenafil citrate without their providers' knowledge and risked interaction with ART (Trotta et al., 2008).

Shindel and associates (2011) investigated the relationship between HIV infection and ED among men who have sex with men (n = 1,769). The authors found that in MLWH with a diagnosis of AIDS, rates of ED were significantly higher than for men not infected with HIV and men without advanced disease in the presence of HIV infection. MLWH suffering from comorbidities such as diabetes, depression, and advancing age had higher rates of ED (Shindel et al., 2011).

Underlying physiological causes of ED, such as psychological illness, neurologic or vascular disease, and medications, must be ruled out in addition to determining endocrine (hypogonadism) causes of ED (Bhasin et al., 2010; Crum et al., 2005). This article presents the evidence regarding testosterone assessment and replacement, the use of