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SPECIAL SERIES

Using Evidence-Based Cognitive and Behavioral Principles to Improve HIV-Related Psychosocial Interventions

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Introduction

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Behavioral interventions have been, and continue to be, a cornerstone of efforts to prevent new HIV infections, as well as to improve the physical and mental health of people living with the virus. Most existing efficacious behavioral interventions, many based on the principles of cognitive behavior therapy, have been developed and disseminated to focus on reducing unprotected sex, given that the HIV epidemic in the United States is primarily facilitated through sexual contact, and improving adherence to life-saving HIV medications. The new wave of behavioral HIV interventions builds on that strong foundation by integrating cognitive and behavioral techniques to ameliorate mental health symptoms, focusing content to be culturally tailored to unique subpopulations, and implementing novel delivery methods (telephone, family-based, etc.). The articles that appear in this special series report on the details of several novel, evidence-based, cognitive behavioral interventions related to HIV prevention or treatment.

We are more than 30 years into the HIV epidemic in the U.S. Thanks to a cadre of dedicated biomedical and behavioral researchers, an HIV diagnosis has been transformed from a terminal illness to a chronic one—albeit one that is intensely socially stigmatized and, thus, remains misunderstood by many (e.g., Deeks, Lewin, & Havlir, 2013). The lives of many people living with HIV in the present can be thought of as very much the same as those of their HIV-negative counterparts. Through sustained efforts to stem the tide of new infections, we have made significant advances in the study of HIV and HIV-related behaviors.

The HIV epidemic in the U.S. is one that is spread primarily through unprotected sexual contact between infected and uninfected individuals. However, the situation is complicated by the fact that many people living with the virus are unaware of their HIV-positive status and, thus, fail to use barrier protection because they underestimate the risk associated with their sexual behavior (Drabkin et al., 2013; Newcomb & Mustanski, 2013). Early in the epidemic, HIV prevention interventions were focused exclusively on HIV-negative individuals ("primary prevention"), in an effort to maximize their chances of avoiding infection by increasing the use of barrier protection like latex condoms for vaginal or anal sex (Herbst et al., 2007). Later, HIV prevention interventions were expanded to focus on decreasing the sexual risk behavior of HIV-positive individuals, as "secondary prevention" techniques (Johnson, Carey, Chaudoir, & Reid, 2006). In 1996, there was a breakthrough in the development of anti-HIV medicines. Clinical researchers discovered that antiretroviral therapy—drug regimens consisting of multiple medications, each of which fights the virus using a different mechanism of action—was extremely effective at controlling (but not eliminating) the virus. Since then, behavioral scientists have been focused additionally on improving adherence to antiretroviral therapy (Simoni, Pearson, Pantalone, Crepaz, & Marks, 2006). There are many published reports of HIV-related health behavior change interventions that aim to, and do, decrease unprotected sex across populations (e.g., Crepaz et al., 2009; Gelaude, Sovine, Swayzer, & Herbst, 2013; Meader et al., 2013) as well as other interventions that increase medication adherence (e.g., Charania et al., 2013). Many of these interventions have worked well. Indeed, the attention paid to the HIV epidemic has been the catalyst for many changed mores related to sexual behavior—especially sexual minority (gay, bisexual, queer) and other men who have sex with men (who may identify as heterosexual but who nevertheless engage in sexual behavior with other men).

However, for the past 15 years or so, there have been a virtually unchanged 50,000 new HIV infections annually (Centers for Disease Control and Prevention, 2012; Hall et al., 2008), and reports indicate that nearly two-fifths of HIV patients report suboptimal medication adherence

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(e.g., Ortego et al., 2011). This is understandable, since high levels of vigilance and persistence of behavior change are needed and, of course, we know that changing behaviors can be difficult. In the context of unprotected sex, only one episode can result in an HIV infection. Also, high levels of medication adherence are needed over time (certainly 80% but 90% is better) to maintain viral suppression. Thus, while intervention technology has advanced quite far, and many gains have been made—there remains a gap between our currently available interventions and interventions that would meet the needs of the entire population. This dialectic best characterizes the state of the HIV intervention field at the moment. We have come so far and, yet, we need to do better.

One criticism of many existing HIV-related interventions is that some were developed without reference to a theoretical model, and others were developed based on models of behavior change that come from public health. These models, including, for example, the Theory of Reasoned Action (Kalichman, 2007) and the Theory of Planned Behavior (Holtgrave, 2007) early on, and the Information-Motivation-Behavior Model (Fisher, Fisher, & Shuper, 2009) more recently, are very helpful for conceptualizing and intervening for many individuals. However, these models, in their search for parsimony, appear to be most useful for the "best case scenario" client (evocative of the "rational actor" in economics). That is, health behavior change interventions based on these models appear to be aimed at addressing behavior for a client who, with the right information and skills, and sufficient motivation, will initiate and maintain behavior change with relative ease. Also, the traditional HIV-related public health interventions have been too brief (four or fewer sessions) and resource intensive, mostly delivered in a one-on-one counseling format. However, this has meant that not everyone who might benefit from the intervention can receive it, either because of privacy concerns or because of lack of access (i.e., living in a rural area), and that many participants are still struggling with implementing and troubleshooting behavior change plans at the close of the interventions (Meader et al., 2013).

Many of these traditional interventions, the data tell us, are helpful for clients unencumbered by significant psychosocial comorbidities. Individuals burdened with mental health problems are at higher risk for acquiring HIV (Safren, Blashill & O'Cleirigh, 2011; Safren, Reisner, Herrick, Mimiaga & Stall, 2010) and for adhering less well to antiretroviral medications (Nel & Kagee, 2011; Tucker et al., 2004). This holds for some straightforward Axis I disorders as well as individuals struggling with more severe mental health problems (Meade & Sikkema, 2005). Many earlier-developed interventions failed to take this reality into account. Thus, the most innovative of contemporary interventions have been designed to address some of these shortcomings of prior work. If we know that straightforward behavior change interventions work for the majority of people, this is great news and let us further the task to disseminating them. However, if we know that there is some subset of the population who cannot uptake the existing interventions because of interfering mental health or social problems, then interventions should be designed to focus concurrently on (a) decreasing mental health symptoms, (b) addressing real-world social problems, and (c) increasing adaptive health behaviors—in this case, like increasing barrier protection to prevent the spread of HIV, and increasing medication adherence to improve virologic control (Berg, Mimiaga, & Safren, 2004; Daughters, Magidson, Schuster, & Safren, 2010; Safren et al., 2011; Sikkema et al., 2010).

The current generation of HIV-related interventions has done just that. Scientist-practitioner psychologists have been integrally involved in HIV-related intervention development since early in the epidemic and, of course, especially in the more recent years, they have frequently employed evidence-based behavior change techniques based on cognitive and behavioral principles. Indeed, cognitive and behavioral interventions have been shown, time and again, to decrease symptoms of the most common mental health problems interfering with HIV-related health behaviors—including the mood, anxiety, and substance use disorders. Cognitive and behavioral interventions have also been shown to be effective ways of improving health behaviors. They have worked well to increase the use of barrier protection, with a focus on skills training, increasing self-efficacy, and applying problem-solving strategies to novel situations. Also, they have worked well to improve medication adherence, employing habit training skills as well as cognitive strategies to reduce the dysfunctional thinking that can get in the way of pill-taking, and problem solving to make sure that there are doses of medicine on hand. The interventions featured in this special series present novel combinations, and innovative delivery methods, to prevent new HIV infections and to improve the medication adherence—and, thus, to extend the lives—of people currently living with HIV.

Here we present descriptions of several novel HIV-related interventions, based on cognitive and behavioral principles, which have been developed and tested empirically. These interventions represent work on the domestic HIV epidemic from all across the U.S. Four of the interventions are focused on changing the behavior of people who are currently living with the virus, and three are focused on changing the behavior of HIV-negative individuals. Four interventions are focused on increasing the use of barrier protection for sex, and three are focused on increasing adherence to antiretroviral medications. Five of the seven aim to decrease mental health symptoms, in addition to changing health behaviors, as a dual focus. Most