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Overcoming Barriers to HIV Treatment Adherence: A Brief Cognitive Behavioral Intervention for HIV-Positive Adults on Antiretroviral Treatment

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Maximizing HIV treatment adherence is critical in efforts to optimize health outcomes and to prevent further HIV transmission. The Balance Project intervention uses cognitive behavioral approaches to improve antiretroviral medication adherence through promoting adaptive coping with medication side effect and distress related to HIV. This 5-session intervention has been documented to prevent nonadherence among persons living with HIV who experience high levels of distress associated with their antiretroviral medication side effects. We describe the theoretical underpinnings of the intervention, provide details of the training and session protocols with a case example, and discuss implications for future applications of the intervention in both research and clinical settings.

Many of the foundations of cognitive behavioral therapy—identifying and changing negative thoughts, improving adaptive coping skills, and problem solving—are a good fit when addressing challenges to medication adherence and improving health outcomes. Changing one's beliefs about a chronic health condition and its treatment can help increase motivation to actively engage in care, and providing specific skills can facilitate greater success in adherence to treatment regimens (Johnson, Dilworth, Taylor, & Neilands, 2011; Johnson, Gamarel, & Dawson-Rose, 2006). In this paper, we describe an intervention that employs cognitive behavioral approaches to improving medication adherence among persons living with HIV who report high levels of side-effect-associated distress.

There is a critical need to maximize HIV treatment adherence in efforts to optimize HIV primary and secondary prevention. Timely initiation of pharmacologic treatment and high levels of adherence to antiretroviral therapy (ART) can substantially reduce viral load on both an individual and a community level (Volberding et al., 2012). For primary prevention (i.e., averting new infections), a reduction in both individual and community viral load can reduce the likelihood of HIV transmission following exposure (Cohen et al., 2011). From a secondary prevention standpoint (i.e., mitigating the negative outcomes for those who have been diagnosed with a condition or disease), reducing viral load early in the course of HIV disease has been documented to have a positive impact on reducing morbidity and mortality over time among HIV-infected persons (AIDSinfo, 2012; Volberding & Deeks, 2010). For antiretroviral medications to be most effective at achieving these goals, they must be taken consistently, as poor adherence is linked to lower survival, higher morbidity, viral resistance, greater health care costs, and diminished quality of life (Gardner, McLees, Steiner, Del Rio, & Burman, 2011; McNeil, 2011; Volberding & Deeks, 2010; Volberding et al., 2012). However, adherence to ART is difficult due to factors such as the complexity of the regimens, side effects, HIV-related stigma, and competing priorities (Johnson et al., 2003; Malta, Strathdee, Magnanini, & Bastos, 2008; Reisner et al., 2009; Simoni, Amico, Pearson, & Malow, 2008).

The past two decades have resulted in a rich literature on the predictors and correlates of HIV treatment adherence (Fogarty et al., 2002; Johnson et al., 2003; Simoni et al., 2008). Among these well-documented predictors of poor adherence is the presence or anticipation of adverse effects of ART, including gastrointestinal distress, fatigue, and neuropathic pain (Ammassari et al., 2002; Johnson & Neilands, 2007; Johnson et al., 2005; Remien et al., 2003). Although current ART regimens have much lower side-effect profiles than previous HIV treatment, treatment uptake and adherence remain suboptimal, and medication side effects remain among the top reasons for poor ART adherence across a wide range of HIV-infected populations (Gari et al., 2013; Lenzi, Wiens, & Pontarolo, 2013).

Keywords: HIV; medication adherence; cognitive behavioral intervention; randomized controlled trial

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In addition to medication side effects, adherence is threatened by multiple factors, including financial problems, housing instability, substance use, mental illness, poor access to support, and negative perceptions of treatment efficacy. If individuals are unable to adhere to treatment recommendations, they are more likely to develop resistance, succumb to other illness and infections, and more easily transmit HIV to others. Adjuvant treatments and assistance can truly help people living with HIV find meaningful ways to cope with unwanted side effects and manage other life stressors that affect their adherence to ART (Antoni et al., 2002; Chesney, Chambers, Taylor, Johnson, & Folkman, 2003). These adaptive coping tools and strategies provide opportunities for HIV-positive individuals to optimize ART efficacy, feel empowered by their options, and reinforce their beliefs that side effects can be manageable.

The purpose of this article is to describe the Balance Project intervention, which uses cognitive behavioral approaches to improve antiretroviral medication adherence by promoting adaptive coping with side effects and HIV treatment-related distress. The intervention has been documented to prevent nonadherence among persons living with HIV in San Francisco, CA, who experience high levels of distress associated with their antiretroviral medication side effects (Johnson et al., 2011). In a randomized controlled trial, those receiving the Balance intervention reported higher rates of ART adherence over time than participants randomized to the no-intervention condition. In the efficacy trial, HIV-positive adults reporting side-effect-related distress were randomized to the Balance intervention or a treatment as usual (TAU) control. At the conclusion of the final study assessment, we offered a condensed version of the Balance intervention to individuals in the control condition.

In this article, we describe the theoretical underpinnings and structure of the intervention and offer a case example based on a composite of participants seen in the trial. We provide details of the training and session protocols, and discuss implications for future applications of the intervention in both research and clinical settings.

Theory

Cognitive behavioral therapy was used as a fundamental source in the development of this intervention, with a focus on Coping Effectiveness Training (CET; Chesney et al., 2003) derived from Stress and Coping Theory (SCT; Lazarus & Folkman, 1984) and elements drawn from Social Problem Solving Therapy (Nezu, 1986, 2004; Nezu, Nezu, Friedman, Faddis, & Houts, 1998). SCT posits that the relationship between a stressful situation or problem (i.e., a stressor such as HIV diagnosis or HIV treatment side effect) and outcome is influenced by two processes: appraisal and coping. CET teaches specific skills to help people better appraise a stressful situation and find the most effective coping strategies on the fit between appraisal and coping as well as the social aspects of coping (Folkman et al., 1991).

Appraisal

Appraisal refers to an individual's evaluation of a stressor in terms of its personal significance and one's available options for coping. The appraisal process involves an exploration of the meaning of the stressor, the ways in which the stressor influences physical, emotional, and social well-being, and the degree to which a stressor is perceived as changeable or controllable (Folkman et al., 1991; Lazarus & Folkman, 1984).

Coping

Coping can take the form of instrumental thoughts and actions aimed at removing the stressor or reducing its intensity (problem-focused coping), regulation of distress resulting from the stressor without removing the stressor (emotion-focused coping), or the maintenance of well-being in the face of the stressful condition (meaning-based coping), which is a newer facet of SCT (Park & Folkman, 1997).

Problem-Focused Coping

The construct of self-appraised social problem-solving ability has been linked to higher ART adherence and lower sexual risk among HIV-infected men in prior research (Johnson, Elliott, Neilands, Morin, & Chesney, 2006). Problem-focused coping strategies include problem solving, in which a systematic approach to defining a problem and clarifying a desired outcome is followed by a rational exploration and evaluation of potential solutions (i.e., brainstorming). The decision-making process facilitates identification and implementation of a solution. Other skills related to problem-focused coping include assertive communication and support seeking. In the context of HIV treatment side effects, problem-focused coping may involve asking for clarifying information from one's medical provider about whether there is another medication option that does not result in nausea (assertive communication and information seeking), searching online for herbal remedies for a side effect (information seeking), or asking a neighbor for a ride to an urgent care clinic when experiencing an acute side effect (social support seeking).

Emotion-Focused Coping

Emotion-focused coping approaches aim at addressing the problematic affective/emotional responses to the stressor—such as anxiety, depression, fear, and helplessness—without necessarily altering or removing the actual stressor (Folkman et al., 1991). Examples of emotion-focused coping strategies related to HIV treatment side