THE RELATIONSHIP OF SPIRITUALITY, BENEFIT FINDING, AND OTHER PSYCHOSOCIAL VARIABLES TO THE HORMONE OXYTOCIN IN HIV/AIDS

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ABSTRACT

The hormone oxytocin is known to play a role in social relationships and bonding, yet it has been relatively unexplored in relation to psychosocial variables. Thus, the aim of this study was to determine whether associations exist among oxytocin and the psychological resource factors spirituality, benefit finding, coping, and optimism, as well as depression and anxiety, in a diverse HIV-positive sample. Interviews and questionnaires were administered to 79 HIV-positive individuals, 38 of whom were from a chronic disease sample, and 41 of whom were from a study investigating spiritual transformation. Plasma samples were collected and assayed for oxytocin after being purified by an extraction procedure. Higher oxytocin levels were significantly associated with greater spirituality ($r = .27, n = 79, p = .017$), spiritual transformation ($r = .26, n = 79, p = .020$) and benefit finding ($r = .32, n = 77, p = .005$). Median oxytocin levels of those who experienced a spiritual transformation (26.48 pg/ml) were two times higher ($U = 507, p = .021$) than those who did not undergo a spiritual transformation (13.13 pg/ml). Oxytocin levels were not associated with coping, optimism, depression, or anxiety in this sample. The psychological resource factors spirituality and benefit finding were found to be associated with increased levels of oxytocin, suggesting that future studies should examine whether this hormone may play a protective role in HIV/AIDS, perhaps by mediating the relationship between these resource-related factors and health outcomes.

Keywords: HIV, AIDS, spirituality, spiritual transformation, benefit finding, oxytocin

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The search for biological correlates of spirituality and other psychological variables is an emerging field which has been limited in scope (Koenig, 2008; Seeman, Dubin, & Seeman, 2003). This is important because biological correlates may provide a mechanism by which psychological variables are linked to health. We investigated oxytocin in this study because it is the “tend and befriend” hormone which is elevated in social bonding. In addition, oxytocin has potential protective effects on health in general and in the HIV disease process. Of particular importance, those who are spiritual may reap benefits of a felt connection similar to what one feels in social bonding. We also explored the relationship between oxytocin and other protective psychological factors, including those that have been related to slower disease progression in HIV.

HIV/AIDS

HIV is the human immunodeficiency virus, which can lead to AIDS, or acquired immunodeficiency syndrome. In the United States (US), an estimated 1.2 million people are living with HIV, and approximately 50,000 new infections are diagnosed per year, with gay and bisexual men being the most severely affected of all groups within the US (Centers for Disease Control and Prevention [CDC], 2010). Of all racial/ethnic groups, the most severe burden is borne by African-Americans, who represent 14% of the US population yet comprise 44% of new HIV infections (CDC, 2010). Before the advent of antiretroviral medication in the mid-1990s, HIV would often progress rapidly to AIDS within a few years. Currently, those with HIV may now live for many years with the infection. Two biological markers of key relevance in HIV/AIDS are CD4 T-cell count and viral load. CD4 T-cells are immune cells that fight infection and are specifically targeted by HIV. A higher number of CD4 T-cells is healthier, with normal T-cell counts in healthy individuals ranging from 500–1,800 cells/mm³. As HIV progresses, the CD4 T-cell count declines, and when it falls below 200 cells/mm³, the diagnosis of AIDS is given, and severe symptoms often occur. Viral load represents the average level of HIV that is present within the bloodstream. Antiretroviral medications are aimed at keeping the viral load as low as possible.

Spirituality and Health in HIV

Spirituality is generally protective of health both in general and HIV populations (Chida, Steptoe, & Powell, 2009; Koenig, 2008; McCullough, Hoyt,