Health locus of control, distress, and utilization of protease inhibitors among HIV-positive men

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Abstract

Objective: To investigate the relationship between health locus of control (HLOC), distress, and protease inhibitor (PI) utilization in gay/bisexual men in all stages of HIV illness. **Method:** A total of 173 men participating in a longitudinal study of the psychological effects of HIV illness were administered a number of psychological distress measures and the HLOC scale. The association between the HLOC subscales, distress, and PI utilization was evaluated. **Results:** In addition to physical symptoms, the attribution of health status to chance or fate significantly predicted depressive symptoms, feelings of hopelessness, and recent life stress. Results also demonstrated a significant relationship between strong, positive beliefs in doctors and other health care professionals and PI utilization. **Conclusion:** The results of this study point to a strong association between beliefs that health status is related to chance or fate and distress. In addition, beliefs in physicians and other health care providers appear to contribute to decisions to initiate PI therapy. © 2000 Elsevier Science Inc. All rights reserved.

Keywords: Distress; HIV/AIDS; Protease inhibitor utilization

Introduction

Personal control has been linked to self-esteem but not until recently have patient's perceptions of control over the course and treatment of serious illness been studied systematically [1–6]. In general, investigators have found that beliefs of personal control are positively and significantly associated with better psychosocial adjustment. Some studies, however, have qualified the relationship of personal control and adjustment, taking into account the nature and severity of disease. For example, Burish et al. [7] report that personal control over a chronic disease can be maladaptive in the face of repeated failures to gain control over the disease and may be especially harmful when the disease is more severe, and relinquishing some control to others may be adaptive. Affleck et al. [1] found in those in-patients with rheumatoid arthritis that the relationship between perceived control over illness and mood was moderated by the severity of the disease. For example, in those with mild disease,

perceived personal control was marginally associated with positive mood, while in those with severe disease, beliefs in personal control was significantly associated with negative mood, perhaps because of self-blame for illness progression.

The concept of personal control in HIV illness has been studied in a variety of contexts, with most studies finding a sense of personal control to be adaptive in that it helps people adjust to illness and moderate stress [8–12]. Perceptions of control over the course of HIV illness have also been associated with fewer depressive symptoms and less anxiety about death [13]. Conversely, attributions that health is influenced by chance factors have been associated with high levels of depression [14] and problems with psychological adjustment [15]. While these studies suggest that personal control can be helpful, Jenkins and Patterson [16], in a study of HIV-positive military medical beneficiaries, report high levels of depression in "believers of control" and that external attributions of control generally appear more adaptive.

The specific relationships among health locus of control (HLOC), psychological well-being, and the severity of illness in HIV disease have not been systematically studied. In addition, new developments in the treatment of HIV disease, specifically the advent of potent combination antiretroviral

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therapies including protease inhibitors (PI), which interfere with the replication of the virus, may have significant effects on the perception of personal control in HIV disease. PIs have been associated with durable reduction in the amount of virus in the bloodstream (HIV-1 viral load) and a dramatic reduction in morbidity and mortality [17]. PIs may offer patients with HIV the potential of increased control over the course of their illness.

While PIs have clear advantages to HIV-infected patients with symptomatic illness, numerous factors may influence PI utilization, including difficulty with adherence to complicated regimens, high costs, and adverse effects. Drug resistance to PIs resulting from factors such as prior monotherapy, inadequate adherence, or improperly prescribed medications can develop quickly and is characteristically irreversible; in most cases, the patient will also have broad resistance to other PIs as well. These factors, along with the question of the long-term benefits of PI therapy, may deter some patients from initiating these therapies, entailing a certain "leap of faith" for individuals to accept this treatment. This "leap of faith" may be easier for those people who have the attitude that the status of their health is related to receiving good medical treatment from doctors and health care professionals. Therefore, strong, positive attitude towards physicians who recommend a PI may be a significant factor in people's decision to engage in PI therapy. On the other hand, patients who adhere to strong beliefs that their health status is largely under their own control might be less likely to take PIs because of the belief that their own behavior determines their prognosis.

HLOC is a measure that specifically seeks to tap beliefs regarding the source of reinforcements for health-related behaviors. By assessing the various dimensions of HLOC, the probability of increasing understanding and prediction of health behaviors may be increased.

In this context, the aims of this study were twofold: first, to examine the relationship between HLOC and distress in individuals infected with HIV, taking into account the severity of illness and HIV symptomatology and its manifestations; second, to determine whether particular dimensions of HLOC are associated with the use of PIs.

Method

Sample

This sample consisted of 173 HIV-infected gay men who were recruited by a university research program to participate in a longitudinal study of psychological adaptation to HIV illness. The men were seen semi-annually. In this study, a particular effort was made to recruit men with late-stage HIV illness. The study was initiated in July 1995 before any PIs were marketed. At that time, 10 men (5%) were taking PIs in clinical trials. PI utilization was assessed at each semi-annual visit. Recruitment was conducted by means of posted notices at community-based AIDS organizations such as GMHC, in clinics and gay neighborhoods, and by word of mouth. The data reported here were collected at visits 1–3.

Measures

Markers of HIV illness stage
Laboratory markers. Assays to determine the number and percentage of CD4 cells were performed. CD4 cell count is one component of the 1993 CDC [18] criteria for AIDS-defining conditions, with values under 200 cells/mm constituting such a condition. HIV RNA viral load was determined by the polymerase chain reaction, which amplifies viral RNA. Values cover a wide range, from undetectable (<400) to several million copies per milliliter (ml) of serum, and are expressed in terms of log to the base 10.

Medical symptom checklist. This checklist, a synthesis of scales used in prior research cohorts [19,20], consists of 14 signs and symptoms commonly associated with HIV infection. Examples include unexplained fatigue, night sweats, shortness of breath, and fever. The total is the sum of symptoms currently present.

AIDS indicator conditions. The number of past or present opportunistic infections (OIs) or cancers according to CDC criteria [18] was recorded for each subject.

Fatigue. The Chalder Fatigue Scale (CFS) [21], a self-report measure developed to assess fatigue in general medical patients, was used. Response items range from never (1) to always (5), and items are summed to obtain a total severity score (range 7–35). Clinical fatigue was defined as 75% or more of the total possible score on the CFS (i.e., >27).

Distress measures
Beck depression inventory (BDI). The BDI [22] is a self-report scale that measures symptoms, affects, and thoughts characteristic of depression, and each of the 21 items is scored from absent (0) to severe (3). Each item represents a depression symptom and consists of four statements, with gradations of severity for each particular category. A score of 13 or above has been recommended for research purposes as the cutoff to indicate significant depressive symptomatology.

Beck hopelessness scale (BHS). This is a 20-item measure in true–false format, with half scored in reverse [23]. Scores of 0–3 indicate a lack of hopelessness, 4–8 represents "mild" hopelessness, 9–12 represents "moderate" hopelessness, and scores over 12 indicate "severe" hopelessness. A sample item is "I look forward to the future with hope and enthusiasm."