DEPRESSION AND REASONS FOR LIVING AMONG AIDS PATIENTS

by

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Submitted in partial fulfillment of the requirements

For the Master of Arts degree

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January, 2009
CASE WESTERN RESERVE UNIVERSITY
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Depression and Reasons for Living in AIDS Patients

Abstract

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The current study examined emotional distress, quality of life, physical health, and reasons for living in AIDS patients. Analyses revealed that emotional distress was associated with negative cognitive schemas related to the medical illness but not with physical functioning or role limitations. Importance attached to reasons for living reported by AIDS patients was best understood by overall quality of life. Reasons for living were not related to physical functioning. Results suggest that AIDS patients with poor physical functioning may maintain important reasons for living if a high sense of quality of life is achieved. Implications for improved assessment and treatment of quality of life in AIDS patients include treatment strategies that foster a sense of achievement, strengthen interpersonal relationships, and increase positive self-expression.
Introduction

I. Major Depression in AIDS Patients

HIV is an incurable medical illness affecting over one million individuals nationwide, according to the Center for Disease Control (CDC) (2006). AIDS is the final stage of HIV infection that can take years to develop (CDC). A diagnosis of AIDS indicates a T-cell count below 200 and a severely weakened immune system (CDC). Some HIV and AIDS patients meet criteria for co-morbid psychiatric diagnoses such as Major Depression (Israelski et al., 2007). In a sample of 450 patients meeting criteria for HIV or AIDS, 53.6% met criteria for significant depressive symptoms (Yi et al, 2006). In a study examining psychiatric diagnoses in African women with HIV or AIDS, major depression was followed by dysthymia as the most frequent diagnosis (Olley, 2006). Furthermore, Major Depression is more common in individuals with HIV or AIDS compared to those who do not have HIV or AIDS (Turrina et al., 2001).

Typical assessment measures for Major Depression may not be appropriate in a population of AIDS patients. There is evidence that conventional symptoms of Major Depression might not discriminate between normal functioning and psychopathology in individuals suffering from a life-threatening illness. Depressive symptoms reported by cancer patients are qualitatively different than depressive symptoms reported by a psychiatric control group (Moorey & Steiner, 2007). Compared to typical patients with depression, patients with a life-threatening illness are more likely to report somatic symptoms of depression and negative, disease related schemas (Gore-Felton et al, 2006; Moorey & Steiner, 2007). The assessment of Major Depression in AIDS patients may be improved by excluding physical symptoms of depression. Furthermore, accurate
assessment of Major Depression in AIDS patients may be achieved by examining cognitive schemas related to the medical diagnosis.

II. Depression and Physical Indicators of Disease Progression

Somatic symptoms used to diagnose depression may not be relevant to the diagnosis of depression in patients with a life-threatening illness (Kurlowicz & Streim, 1998). Among 224 hospitalized cancer patients, an average number of nine physical symptoms were reported at the time of the assessment (Jones, Huggins, Rydall, & Rodin, 2003). Fatigue, pain, drowsiness, dry mouth, and nausea were the most common somatic symptoms reported (Jones et al, 2003). Somatic symptoms of depression including weight change and difficulties sleeping are common in patients with a life-threatening illness. For example, fatigue is a frequent side effect of chemotherapy; and in one sample of cancer patients, fatigue, hypersomnia, and hyposomnia did not contribute to the understanding of depression (Akechi et al., 2003; Kim, Hickok, & Morrow, 2006). Because of the prevalence of physical symptoms, somatic disturbances may not be necessary to the assessment of Major Depression in AIDS patients.

Physical symptoms may not reflect depression, leading to false positives when assessing depression in AIDS patients. However, it is still important to recognize the relationship between psychological and physical indicators of disease progression in patients with a life-threatening illness. More severe depression is associated with a more destructive physical illness course in patients suffering from a life-threatening disease. For example, higher levels of depression are related to a greater number of HIV symptoms (Yi et al, 2006). Furthermore, depressive symptoms are associated with a
longer hospital stay independent of the severity of physical illness in AIDS patients (Uldall et al, 1994).

Depression severity predicts future physical health outcomes. Among HIV patients, depression is associated with a more rapid disease progression indicated by a decrease in CD4 cell count (Gore-Felton et al., 2006, Ickovics et al, 2001). A longitudinal analysis examining women with HIV provides strong evidence that depression is critically linked to the risk of mortality in a seven year time span (Ickovics et al., 2001). In this study, women with HIV who reported chronic symptoms of depression were twice as likely to die compared to the women with HIV who did not experience chronic depression (Ickovics et al., 2001). Of particular note, the relationship between depression and mortality was significant even after controlling for other medical indicators of disease status (Ickovics et al, 2001). Thus, it appears that depressive symptoms have a unique contribution to mortality independent of physical health factors.

Medical employees report difficulty in screening for Major Depression in their patients (Lloyd-Williams, Dennis, Taylor, 2004). Confusion may be the result of the close association between physical symptoms and negative affect. Because depression severity is related to disease progression, somatic symptoms of depression should not be measured when assessing for depression. Hospitalized medical patients experience pain and adjustment in physical functioning regardless of depression status (Clarke, Cook, Coleman, & Smith, 2006). Thus, measures of depression may be confounded by symptoms common to the natural course of a terminal illness (Kurlowicz & Streim, 1998). Instead, cognitive symptoms of depression may be more indicative of Major Depression in AIDS patients.
III. Depression and Negative Cognitive Schemas

The examination of cognitions may be particularly important when assessing for Major Depressive Disorder in AIDS patients. Most hospitalized medical patients report having time to think, but depressed patients distinctly report that they feel forced to think (Clarke et al, 2006). In addition, decision-making abilities can become diminished in physically ill patients with Major Depression (Marcoux et al, 2005). In cancer patients, a diminished ability to think was independently associated withanhedonia after controlling for physical illness factors (Akechi et al, 2003). Hopeless beliefs are characteristic of typical patients with Major Depression. However, hopelessness is a difficult construct to measure in patients with a life-threatening illness (Abbey, Rosenfeld, Pessin, & Breitbart, 2006). Hopeless beliefs may signify a realistic outlook as opposed to pessimistic beliefs among AIDS patients. Consequently, it is difficult to determine whether hopeless beliefs reflect the reality of a chronic medical diagnosis or a psychological disorder. For example, two items on the Beck Hopelessness Scale were endorsed by over 50% of a sample of patients with a life-threatening illness. The most frequently endorsed items included item four “I can’t imagine what my life will be like in ten years” and item eighteen “The future seems vague and uncertain to me.” The items that were specifically focused on feelings about the future were least likely to discriminate between participants (Abbey et al., 2006). Because the cognitions of AIDS patients often reflect hopeless beliefs, the assessment of depression in this population should examine pessimistic beliefs related to current functioning.

Symptoms of depression are related to subjective feelings and beliefs associated with the physical illness. Negative, disease specific beliefs may be a sign of Major
Depression in AIDS patients. Depressed AIDS patients are likely to have negative
cognitive schemas about their illness which may contribute to maladaptive coping (Gore-Felton et al, 2006). For example, depressed, medically ill patients are likely to
experience cognitive distortions of perceived burden on others (Rosenfeld, 2000).
Furthermore, depression in individuals with a life-threatening illness may be
characterized by feeling like giving up and believing that one is not getting better (Clarke et al., 2006). In a sample of 450 patients diagnosed with HIV or AIDS, depressive
symptoms were associated with more health related worries, and discomfort regarding
how the disease was contracted (Yi et al, 2006). Focusing on disease specific schemas as
opposed to hopeless beliefs should improve the assessment of cognitive symptoms of
depression in an AIDS population.

In response to the unique presentation of Major Depression in AIDS patients,
researchers and clinicians have recognized the necessity to tailor assessment measures to
this population. Specific attempts have been made to alter commonly used methods of
assessment for depression to make them useful in a population of medical patients
(Vilijoen, Iverson, Griffiths, & Woodward, 2003; Walker et al, 2007). Nevertheless,
there has been difficulty validating a scale that accounts for behavioral, affective, and
cognitive symptoms of depression. The Medically-Based Emotional Distress Scale was
developed to accurately diagnose depression in a medical population (Overholser,
Schubert, Foliart, & Frost, 1993). Unlike typical scales for depression, the Medically-
Based Emotional Distress Scale relies on cognitive, affective, and behavioral correlates
of depression as opposed to somatic symptoms. Symptoms that could be the direct result
of a physical condition are not assessed by this scale. In addition, the Medically-Based
Emotional Distress Scale can be used as a diagnostic tool as opposed to a screening measure for depression and other related psychological problems, such as anxiety. The Medical-Based Emotional Distress Scale was validated on 81 adults with a spinal cord injury, but can be used with individuals who have any kind of physical disability. The Medically-Based Emotional Distress Scale was correlated with the SCL-90-R Depression Scale, the Zung Self-Rating Depression Scale, and the Hopelessness Scale in order to establish convergent validity. The Medically-Based Emotional Distress Scale appears to be useful in measuring depression in AIDS patients because it ignores symptoms that could be the result of a physical condition in the diagnosis of Major Depression.

**IV. The Will to Live in AIDS Patients**

The will to live is often threatened in AIDS patients. AIDS patients are at risk for reporting current suicidal ideation as well as past suicidal ideation (Robertson, Parsons, Van Der Horst, & Hall, 2006). In multiple samples of HIV patients, 59% reported thinking about suicide at some time (Shelton et al., 2006), 19% reported thoughts of suicide in the past week (Carrico et al., 2007), and 50% reported having suicide plans (Robertson et al., 2006). Prevalence rates range from roughly one-quarter to one-half of individuals with HIV reporting a suicide attempt (Cooperman & Simoni, 2005; Roy, 2003; Shelton et al., 2006). HIV patients may be more likely to attempt suicide soon after receiving the life-threatening diagnosis or near the year anniversary of the diagnosis (Cooperman & Spimoni, 2005). In a sample of over 200 HIV positive women 42% of suicide attempts occurred within the month following the diagnosis and 27% within the first week (Cooperman & Spimoni, 2005). Furthermore, the HIV diagnosis was strongly associated with the decision to attempt suicide (Cooperman & Spimoni, 2005). Among
individuals with a serious medical illness, being female, younger, having a co-morbid substance problem, and having a lifetime history of a depressive episode may increase overall suicide risk (Roy, 2003).

Empirical studies that examine suicide history, current suicidal ideation, and desire for hastened death explore the will to live in AIDS patients. Desire for hastened death is the wish that inevitable death will occur sooner rather than later. There appears to be a consistent positive relationship between desire for hastened death and depression (O’Mahoney et al., 2005; Rosenfeld, 2000). Current research findings point to psychological phenomena as the primary correlates of desire for hastened death (Sullivan, 2005). Thus, the physical experience of the medical illness may be less relevant than the psychological experience to the understanding of the will to live in AIDS patients. Some of the factors that appear to contribute to our understanding of will to live in AIDS patients include physical indicators of disease progression, depression, hopelessness, existential variables, self-view, and romantic relationship status.

*Will to Live and Physical Illness Factors*

Physical indicators of disease progression contribute to the understanding of the will to live in AIDS patients. A study examining desire for death in cancer patients at various stages of disease concluded that desire for hastened death was more common in later stages of the illness (Jones et al, 2003). In this sample, no participants in the early stages of the illness reported a desire for hastened death (Jones et al, 2003). Similarly, requests for hastening death may increase during the last three months of life (Georges, Onwuteaka-Philipsen, van der Heide, van der Wal, & van der Maas, 2006). In contrast to
these findings, the desire for hastened death was not associated with proximity to death or treatment status in a sample of patients with metastatic cancer (Rodin et al., 2007).

A desire for hastened death in individuals with a terminal illness may be associated with other physical indicators of disease progression, including pain and symptom interference. In terminally ill cancer patients, the desire for death is associated with more severe pain (Sullivan, 2005) and a greater number of severe symptoms related to the medical disease (Georges et al., 2006). Lower physical functioning and increased physical distress are related to a desire for hastened death (O’Mahoney et al., 2005; Rodin et al., 2007). In addition, pain severity and the degree to which pain interferes with physical functioning are related to a stronger desire for hastened death (O’Mahoney et al., 2005). However, when examining the physical illness factors over time, a decline in pain intensity and interference does not predict an improvement in desire for hastened death (O’Mahoney et al., 2005). Thus, findings are contradictory indicating that they may be better understood by examining mediating and moderating factors.

In a sample of women living with HIV or AIDS, psychiatric symptoms were a significant positive predictor of suicide attempts (Cooperman & Spimoni, 2005).

Will to Live and Psychological Factors

Although there may be a relationship between will to live and some physical indicators of disease progression, will to live is likely better understood by examining psychosocial factors. In a sample of terminally ill cancer patients, depression and anxiety were significantly related to the desire for hastened death while pain was not (Mystakidou et al., 2005). In another sample of terminally ill patients, no individuals reported a desire for hastened death without having significant levels of psychological
distress (Rodin et al., 2007). Furthermore, over half of these patients who reported desire for hastened death reported experiencing no pain (Rodin et al., 2007). Improvement in levels of depression predicted a significant reduction in the desire for hastened death (O’Mahoney et al., 2005). Conversely, a reduction in the desire for hastened death is predicted by decreases in levels of depression (Rodin et al., 2007). The relationship between desire for hastened death and pain may be mediated by emotional distress (Sullivan, 2005).

Other psychosocial variables that contribute to the understanding of will to live in AIDS patients include hopelessness, existential variables, self-view, and romantic relationship status. Although hopelessness is not a valid indicator of depression in AIDS patients, more severe levels of hopelessness are related to a decreased will to live (Jones et al., 2003). Furthermore, hopelessness was the strongest predictor of desire for hastened death in cancer patients (Rodin et al., 2007). Hopelessness may be the most important mediator between desire for hastened death and all physical illness factors (Jones et al., 2003). Hopelessness coupled with a lack of will to live does not seem to reflect a natural psychological course following the diagnosis of a life-threatening illness (O’Mahoney et al., 2005). In contrast, severe feelings of hopelessness represent extreme psychological distress. For example, cancer patients who report a desire for hastened death are more likely to report suicidal ideation on the Beck Depression Inventory (O’Mahoney et al., 2005). Thus, AIDS patients experiencing hopelessness may not only have a desire for hastened death, they may be actively considering ways to end their own life.
Similar to depression, hopelessness is likely better understood in AIDS patients by examining beliefs related to the illness course. Desire for hastened death is associated with a number of illness related concerns (Georges et al., 2006). These concerns may actually reflect a feeling of general weakness, or a belief that uncontrollable suffering will continue (Georges et al., 2006). Thus, in AIDS patients, a lack of will to live may reflect the existence of an intolerable future state as opposed to the present state (Sullivan, 2005). The current physical experience or pain may be bearable, but the threat that physical suffering will continue may not be (Sullivan, 2005). Consequently, in AIDS patients, desire for hastened death may be understood by a feeling of hopelessness characterized by the belief in an unbearable future.

Existential variables including spirituality, sense of meaning, and purpose are becoming increasingly recognized as significant to the understanding of the will to live in AIDS patients (Chochinov et al., 2005; Sullivan, 2005). For example, suicidal ideation was significantly negatively correlated with spirituality in a sample of HIV positive women (Cooperman & Simoni, 2005). Furthermore, desire for hastened death in cancer patients was associated with lower levels of spiritual well-being (Rodin et al., 2007). Feelings of meaning and peace may be more important than other psychological variables when examining desire for hastened death. In terminally ill cancer patients, the relationship between desire for hastened death and spiritual well-being was stronger than the relationship between desire for hastened death and depression (McClain, Rosenfeld, & Breitbart, 2003). Meaning and purpose, as opposed to faith, may be the protective mechanism reducing a wish to die in individuals with a terminal illness (McClain et al.,
As a result, spirituality may be more relevant to the understanding of desire for hastened death than the belief in an afterlife (McClain-Jacobson et al., 2004). AIDS patients may be less likely to have a will to live if they hold a negative, devalued view of the self. Medical patients with low self-esteem are more likely to report a desire for death than patients with high self-esteem (Rodin et al., 2007). Dignity in medically ill patients facing death is a construct that had received recent attention. A lack of dignity is best characterized by a sense of burden and a feeling of disrespect or misunderstanding (Chochinov et al., 2006). The loss of dignity in terminal ill individuals may be a major contributor to requests to end treatment and hasten death (Georges et al., 2006). The will to live is more strongly correlated with dignity than with physical variables in individuals in the end stage of cancer (Chochinov, et al., 2005).

Contradictory evidence exists regarding the effect of being in a romantic relationship on the will to live in AIDS patients. Medically ill patients in a romantic relationship and those who perceive high levels of social support are less likely to desire a hastened death (Carrico et al., 2007; O’Mahoney et al., 2005; Rodin et al., 2007). In contrast, there is evidence that being married does not protect against desire for death in cancer patients (Akechi, Okamura, Yamawaki, & Uchitomi, 2001). Contrary evidence alludes to a more complicated understanding of romantic relationship status on the psychological well-being of AIDS patients. A study examining the effect of social support on patients with head and neck cancer may address this discrepancy (de Leeuw, et al., 2000). Perceived availability of social support was related to less severe depression, but the effects of received social support were not as clear (de Leeuw et al., 2000). When patients reported physical distress, received social support was related to
positive effects, and when patients reported no physical distress, received social support was related to negative effects (de Leeuw et al., 2000). Further evidence describes that received social support may be detrimental when individuals experience feelings of burden, having to rely on others, shame, and guilt (Clarke et al., 2006). Social support is likely linked with patients’ self-views. Findings suggest being in a romantic relationship can be beneficial, but when the support received from one’s partner leads to a negative self-evaluation and a loss of dignity, social support may have detrimental effects on well-being.

Quality of life is a comprehensive, multidimensional construct often assessed in medical populations (Clayson, et al., 2006). The assessment of quality of life is unique because patient perceptions, beliefs, and values influence responses on a quality of life measure (Kudel, 2006). Although definitions of quality of life slightly differ, most include physical health and functioning, mental health and functioning, social and role functioning, and general well-being (Clayson et al., 2006). Specific areas integrated in the assessment of quality of life include life satisfaction, sexual functioning, health related worries, and financial worries (Kudel, 2006). Life satisfaction may include fulfillment in areas of achievement, self-expression, environment, and interpersonal relationships (O’Cleirgh & Safran, 2006). Because quality of life covers multiple domains, it is likely to be related to various aspects of functioning in AIDS patients.

Quality of life in AIDS patients is related to physical health. Quality of life was significantly related to a decline CD4 cell count in AIDS patients (Kudel, 2006). Furthermore, receiving an HIV diagnosis appeared to negatively influence physical indicators of disease progression in AIDS patients (Liu et al., 2006). However, quality of
life is also affected by factors independent of the experience of living with AIDS. A reduction in physical health functioning is not always linked with a decreased quality of life (Clayson et al., 2006). A study by Kudel et al. (2006) examined unique classes of AIDS patients and found a subset of patients who maintained a high sense of quality of life despite poor physical health. After receiving medical treatment, some AIDS patients report an increase in mental health quality of life even when physical health quality of life has decreased (Liu et al., 2006). Increased optimism and less complex medication regimens may contribute to the sense of quality of life that is sustained in AIDS patients (Liu et al., 2006).

Quality of life in AIDS patients is positively associated with general psychological health. One study found that quality of life measured by life satisfaction was not associated with physical health variables but it was significantly related to mental health (O’Cleirgh & Safran, 2006). A high sense of quality of life is associated with fewer symptoms of depression and positive coping styles (Kudel, 2006). Quality of life is often used in the assessment of physical and emotional domains of functioning, but it has not been used to examine the will to live in AIDS patients. However, prior research findings suggest that quality of life may be a useful indicator of reasons for living in AIDS patients. AIDS patients with a high sense of quality of life are opposed to living shorter but healthier lives (Kudel, 2006). In addition, AIDS patients with a high sense of quality of life are unlikely to report that they would risk death in exchange for perfect health (Kudel, 2006). Thus, quality of life may contribute to the understanding of the will to live in AIDS patients.

III. Reasons for Living
Prior studies examining the will to live in AIDS patients commonly focus on risk factors contributing to suicidality or desire for hastened death. The majority of research has aimed to highlight mechanisms of risk. There seems to be a recurrent effort to clarify the reasons why an AIDS patient would want to die. Recognizing factors that increase risk in AIDS patients may improve the assessment and treatment of depression and will to live. However, by only focusing on areas of risk, researchers are ignoring potentially valuable information regarding what sustains the will to live in AIDS patients. A study by Edwards and Holden (2001) adopts a resiliency approach by highlighting purpose in life and a sense of coherence as factors that buffer against suicide. Edwards’ and Holden’s method can be emulated by addressing factors associated with the will to live in AIDS patients, and results can be used to guide interventions. Furthermore, understanding factors associated with reasons for living could likely contribute to a more comprehensive treatment for AIDS patients. The current study attempts to understand the will to live in AIDS patients by examining important reasons for living reported on the Reasons for Living Inventory (Linehan, Goodstein, Nielsen, & Chiles; 1983). The will to live in AIDS patients has not yet been explored by with the Reasons for Living Inventory. The Reasons for Living Inventory assesses a range of potentially important reasons against committing suicide. In other words, the Reasons for Living Inventory examines reasons that might be important to maintaining a will to live when thinking of dying.

The Reasons for Living Inventory has been used to successfully discriminate suicidal from non-suicidal individuals in normal groups as well as in groups of psychiatric inpatients (Linehan et al, 1983; Osman, et al., 1999). In these studies, non-
suicidal individuals report a greater number of reasons for living than suicidal
individuals. The RFL inventory is negatively and significantly correlated with depression
and general psychological distress (Osman et al, 1993). Thus, individuals with
depression or other distressing disorders may be more likely to report fewer reasons for
living than individuals with normal psychological functioning. In addition, a higher
number of reasons for living are associated with more positive overall coping (Range &
Stringer, 1996).

Gender differences in reasons for living are not clear. In a sample of older adults,
there were no significant gender differences on total reasons for living or on the subscales
(Segal & Needham, 2007). Similarly, in a sample of individuals ages 17 to 24, there
were no differences reported in reasons for living when comparing men and women
(Mize & Ellis, 2003). Range and Stringer (1996) found results in contrast to these
findings. These authors found that women reported a greater number of total reasons for
living although they argue that men and women were not different in overall coping
abilities (Range & Stringer, 1996). Women have reported a greater number of reasons
for living related to fear of suicide and moral objections (Linehan et al, 1983).

There are conflicting findings regarding reasons for living reported by various age
groups. The Reasons for Living inventory appears to be valid in adult populations.
Adults who did not report suicidal ideation reported significantly more reasons for living
than individuals who reported suicidal ideation (Mize & Ellis, 2003). A cross-sectional
study examined reasons for living in 17 to 34 year olds and in 60 to 95 year olds (Miller,
Segal, & Coolidge, 2001). Older adults attributed more reasons for living to moral
objections and child-related concerns than younger adults.
Certain reasons for living appear to be more strongly associated with psychological well-being and reduced suicidality than others. Survival and coping beliefs, responsibility to family, and child-related concerns are the reasons for living that most strongly differentiate between non-suicidal and suicidal individuals (Linehan et al, 1983). Additional findings show that the survival and coping beliefs subscale may be most indicative of group distinction. For example, reasons related to survival and coping beliefs such as “I have the courage to face life” and “I believe I can find a purpose in life, a reason to live” contribute the most to distinguishing between suicidal and non-suicidal individuals (Osman et al, 1993). In addition, the survival and coping beliefs subscale explained the largest amount of variance in general psychological distress (Osman et al, 1993).

There is evidence that the Reasons for Living Inventory is able to differentiate suicidal from non-suicidal groups independent of their mental health status. After controlling for general psychopathology, individuals who report a higher number of reasons for living related to survival and coping beliefs are less likely to report suicidal ideation and threats of suicide and they are more likely to demonstrate a lower likelihood of suicide (Osman et al, 1993). Reasons for living related to survival and coping beliefs may be useful in targeting individuals who are less likely to engage in future suicidal behaviors. At a six month follow-up assessment, individuals who scored low on the Reasons for Living Inventory were 6.8 times more likely to engage in self-damaging and suicidal behaviors than individuals who stated a higher number of reasons for living associated with survival and coping (Rietdijk, et al., 2001). Survival and coping related
reasons for living were the only reasons able to predict suicidal behaviors (Rietdijk et al, 2001).

Other categories of reasons for living may also provide useful information that can distinguish individuals who are more likely to want to live from individuals at risk for suicide. Non-attempters report fewer moral objections to suicide and they are less likely to commit suicide (Dervic, Grunebaum, Burke, Mann, & Oquendo, 2006; Osman et al, 1993). In a clinical sample of individuals, there is evidence that reporting child-related concerns as a reason for living is a protective factor against suicide among individuals who report suicidal ideation (Linehan et al, 1983). In addition, individuals who did not attempt suicide in the past but who reported past suicidal ideation were more likely to report social disapproval as a reason for living (Linehan, 1983). The fear of suicide may also buffer against para-suicidal behavior in individuals who are thinking of suicide (Linehan, 1983).

IV. Reasons for Living in AIDS Patients: Hypotheses

The present study examined the psychological functioning of AIDS patients. Psychological functioning was assessed by examining depressive symptoms, quality of life, and reasons for living. Of note, the present study examined depression by excluding the assessment of physical symptoms of the disorder. The current study explored the relationship between emotional distress and physical indicators of disease progression. In addition, the relationship between emotional distress and negative schema related to progression of the physical illness was evaluated. The will to live was examined in the present study by exploring reasons for living among AIDS patients. Quality of life was included as a possible contributor to the understanding of reasons for living. Lastly, the
present study examined romantic relationship status by investigating differences between AIDS patients in a romantic relationship and AIDS patients not in a romantic relationship. The current study aimed to highlight protective factors that are associated with healthy psychological functioning among AIDS patients.

Hypotheses for the current study included:

1. Depression will be significantly related to indicators of physical illness progression (physical functioning, role limitations due to physical functioning).
2. Depression will be significantly associated with negative schema related physical illness progression (general health perceptions, pain).
3. Psychological factors (depression, quality of life, burden) will account for more variance in reason for living than physical factors (physical functioning).
4. AIDS patients in a romantic relationship will report more perceived burden and less reasons for living than AIDS patients not in a romantic relationship.

Method

Participants

Participants were medical patients hospitalized in an infectious disease unit. Patients were eligible if they had a diagnosis of AIDS. T-cell counts were under 200. In addition, eligibility requirements included no symptoms of psychosis, dementia, mental retardation, or mental confusion. All participants were proficient in the English language and between the ages of 25 and 65. The current study included 68 individuals.

Measures
The Medical-Based Emotional Distress Scale (MEDS; Overholser, et al., 1993) was developed to measure depression in individuals with a medical illness or physical disability. Depression is assessed by excluding the assessment of somatic symptoms that could be the result of the physical condition. The MEDS includes a total of 60 questions divided into 7 subsets. Each subset begins with a question designed to determine whether there is a problem in mood, affect, behavior, social functioning, or cognitions about the past, present, and future. Questions include “Lately, would you say you’ve been feeling irritable or easy-going… or equal amounts of both.” The participant chooses one of three responses indicating whether or not there is a problem in the area. If no problem is reported, the questions in that group are skipped and the participant continues to the following subset. Specific follow-up questions measure how often or how much a specific item occurs. Examples include “How often do you feel better if you are with other people” and “How much do you think you could have avoided what happened.” Questions are scored for frequency ranging from never (1) to always (4) and for intensity from not at all (1) to very much (4). Higher scores indicate more severe levels of depression and emotional distress. There is support for moderately high internal consistency (alpha = .92) and evidence of convergent validity ($p < .001$) for this measure (Overholser et al, 1993).

The Reasons for Living Inventory (Linehan, et al., 1983) was designed to assess important reasons for living, or reasons against attempting suicide. The Reasons for Living Inventory includes six subscales including survival and coping beliefs, responsibility to family, child-related concerns, fear of suicide, fear of social disapproval, and moral objections. There are forty-eight individual items that can be scored from 0 to
5 ranging from not at all important to extremely important. Higher total scores indicate a higher degree of importance attributed to reasons for living. Examples of individual items include “I believe everything has a way of working out for the best” and “I have a responsibility and commitment to my family.” The Reasons for Living Inventory is a valid measure of important reasons for living in psychiatric and non-psychiatric samples (Osman et al, 1993; Osman et al, 1999). Construct validity has been established (alpha = .93) (Osman et al, 1999). Cronbach’s alpha for subscale correlations with total reasons for living ranges from .42-.79 indicating that each subscale is a significant contribution to the total scale (Osman et al, 1993). Reasons for living related to survival and coping beliefs are related to suicide threats \( p < .01 \) and suicide likelihood \( p < .01 \) when controlling for general psychopathology. Furthermore, the relationship between reasons for living and current psychological distress is negative and significant (Bonferroni’s alpha < .007).

*The Short Form-36* is a health survey intended to examine health status in the Medical Outcome Study (Ware & Sherbourne, 1992). The scale assesses objective measures of physical health, subjective measures of physical health, and general psychological health. Eight specific health concepts are examined. Physical health domains measured include general physical functioning, role limitations due to physical health problems, pain, and general health perceptions. In addition, general mental health, role limitations due to emotional functioning, vitality, and social functioning are also measured in the Short Form-36. The Short Form-36 was highly correlated with the 136 item Sickness Impact Profile (Weinberger, Samsa, Hanlon, & Schmader, 1991).
The Quality of Life Inventory (Frisch, Cornell, Villanueva, Retzlaff, 1992) is a measure of life satisfaction. The Quality of Life Inventory examines eleven different areas of life including health, self-esteem, goals and values, money, work, play, learning, creativity, helping, love, and friends. Life satisfaction in each category is measured by the rating of importance to one’s happiness on a scale ranging from not important, important, to extremely important. In addition, satisfaction is examined by asking for the level of satisfaction within each category. For example, question two states “How satisfied are you with your health?” Satisfaction is reported on a six point Likert scale ranging from very dissatisfied to very satisfied. There is evidence for test-retest coefficients (alpha = .80 - .91) and for internal consistency (alpha = .77 -.89) in clinical and non-clinical samples (Frisch et al., 1992). A factor analysis of the Quality of Life Inventory revealed four quality of life domains including Achievement, Self-expression, Environment, and Interpersonal Relationships (O’Cleirigh & Safran, 2006).

Burden was evaluated by examining an adapted scale measuring attitudes toward physician assisted suicide by Brietbart, Rosenfeld, and Passik (1996). The measure includes eleven self-report items that evaluate attitudes toward euthanasia, the consideration of euthanasia for oneself, personal experience of living with a person diagnosed with a terminal illness, and perception of burden. The current study incorporated one item from the adapted scale: “I am worried that I am or will become a burden to family and friends.” Responses range from strongly agree to strongly disagree on a five point scale. Patients who had considered physician assisted suicide were significantly more likely for report a fear of being a burden (Brietbart et al., 1996).

Procedures
Participants were interviewed during their hospital stay by doctoral students enrolled in a clinical psychology graduate program. Individuals in the infectious disease unit were approached for participation. Patients who met eligibility criteria were then approached to ask for participation in the study. If the patient agreed, consent was obtained and the participant was asked to participate in a short interview and to fill out a packet composed of self-report questionnaires. Participants were then thanked for their time and given contact information regarding the study. In addition, patients were compensated ten dollars for their participation.

Data Analysis

Hypothesis one and hypothesis two will be examined using Pearson correlations. Hypothesis three will be evaluated with a hierarchical regression analysis. Hypothesis four will be analyzed using an independent \( t \)-test. Results will be considered significant if \( p \) value is less than .05.

Results

Preliminary analyses compared males \((n = 47)\) and females \((n = 21)\) with a diagnosis of AIDS on several demographic variables. Analyses showed that males and females were not significantly different on most demographic variables: race \((\chi^2(4) = 5.67, ns)\), education \((\chi^2(9) = 7.30, ns)\), and income \((\chi^2(3) = 0.76, ns)\). However, males \((M = 37.60, SD = 6.97)\) were significantly younger than females \((M = 42.81, SD = 10.69)\), \(t(66) = 2.40, p < .05\). An independent \( t \) test analysis revealed that level of emotional distress was similar when comparing men and women \((t(60) = 0.10, ns)\). Preliminary analyses compared emotional distress in the sample of AIDS patients to emotional
distress in patients with spinal cord injury to evaluate level of distress in the current sample. Level of emotional distress reported by the current sample ($M = 97.58$, $SD = 25.05$) was greater than level of emotional distress reported by individuals with spinal cord injury from a prior study ($M = 64.84$, $SD = 35.36$; $M = 52.80$, $SD = 32.71$) (Overholser et al., 1993).

**Relationship between Emotional Distress, Quality of Life, and Physical Illness Factors**

Pearson correlations were calculated to evaluate the relationship between psychological health and physical indicators of disease progression in our sample of patients with AIDS. Physical indicators of disease progression included physical functioning, role limitations due to physical functioning, pain, and general health perceptions. A series of Pearson correlations was calculated to examine the relationship between emotional distress and physical indicators of disease progression. In addition, a series of Pearson correlations were calculated to examine the relationship between quality of life and physical indicators of disease progression. Results showed that lower levels of emotional distress were significantly associated with more positive perceptions of health $r(58) = -0.31$, $p < .05$ (See Table 1). In addition, lower levels of emotional distress were significantly associated with less pain $r(58) = -0.27$, $p < .05$. Emotional distress was not significantly related to physical functioning or role limitations due to physical functioning. Analyses revealed that a higher sense of quality of life was significantly related to better overall physical functioning $r(57) = 0.30$, $p < .05$ and less role limitations due to physical problems $r(56) = 0.39$, $p < .01$. A higher sense of quality of life was significantly correlated with more positive perceptions of health $r(58) = 0.42$, $p < .01$. Quality of life was not significantly related to pain.
Relationship between Reasons for Living and Emotional Distress

A series of Pearson correlations were conducted to evaluate reasons for living reported in the sample of individuals diagnosed with AIDS. The relationship between reasons for living and emotional distress was examined. Results showed that more important reasons for living were significantly correlated with less severe emotional distress \( r(58) = -0.28, p < .05 \). Pearson correlations were also conducted to evaluate the relationship between components of emotional distress and reasons for living. Pearson correlations revealed more important reasons for living were significantly and negatively related to dysphoria \( r(61) = -0.54, p < .01 \), irritability \( r(61) = -0.30, p < .05 \), and social withdrawal \( r(60) = -0.25, p < .05 \).

Reasons for Living and Quality of Life

Pearson correlations were conducted to examine the relationship between reasons for living and quality of life. Results revealed that more important reasons for living were associated with a higher sense of quality of life \( r(56) = 0.68, p < .01 \). Pearson correlations were performed to examine the relationship between quality of life domains and reasons for living. Quality of life domains included achievement, self-expression, environment, and interpersonal relationships. Analyses revealed that more important reasons for living were significantly associated with satisfaction in achievement \( r(53) = 0.53, p < .01 \), self-expression \( r(53) = 0.62, p < .01 \), environment \( r(53) = 0.43, p < .01 \), and interpersonal relationships \( r(53) = 0.62, p < .01 \). Pearson correlations were calculated to evaluate the relationship between quality of life items and reasons for living. Reasons for living was not significantly related to satisfaction derived from money \( r(58) = 0.17, ns \) and work \( r(55) = 0.21, ns \).
Model of Reasons for Living

A hierarchical regression analysis was performed to investigate which psychological and physical factors account for variance in reasons for living (See Table 2). To statistically adjust for demographic differences, age and gender were entered at Step 1. Next, emotional distress was entered at Step 2 and physical functioning at Step 3, because psychological factors appear to be more strongly linked to the will to live than physical factors, although findings are not conclusive. Emotional distress accounted for a significant amount of variance in reasons for living ($\Delta R^2 = .08, p < .05$). Physical functioning did not significantly contribute to variance in reasons for living after adjusting for emotional distress. Quality of life was entered at Step 4 and perceived burden was entered at Step 5, because less is known about the relationship between these variables and reasons for living. After adjusting for emotional distress and physical functioning, quality of life continued to account for a significant amount of variance in reasons for living ($\Delta R^2 = .35, p < .01$). Burden did not significantly account for variance in reasons for living after adjusting for emotional distress, physical functioning, and quality of life.

Individuals with a High Quality of Life Versus Individuals with a Low Quality of Life

Post-hoc analyses were conducted to further examine quality of life in patients diagnosed with AIDS. Independent $t$ tests were calculated to compare AIDS patients with a high quality of life ($n = 31$) to AIDS patients with a low quality of life ($n = 29$) (See Table 3). A median split was used to create the two groups. A quality of life score less than 2 was classified as low quality of life and a quality of life score greater than or equal to 2 was classified as high quality of life. Scores reflect group differences reported by the scale developer (Frisch, 1992) indicating that a quality of life score greater than or
equal to 2 is in the normal range and less than 2 is below-average range. Independent $t$ tests were used to compare AIDS patients with a high quality of life and AIDS patients with a low quality of life on perceived burden and physical functioning. Results revealed that AIDS patients with a high quality of life were significantly less likely to perceive they were a burden on family members ($t(59) = 2.77, p < .01$) than AIDS patients with a low quality of life. AIDS patients with a high quality of life and AIDS patients with a low quality of life reported similar abilities on physical tasks: completing vigorous activities ($t(58) = 0.98, ns$), lifting and carrying groceries ($t(59) = 1.59, ns$), climbing stairs ($t(59) = 1.17, ns$), and bathing or dressing oneself ($t(59) = 0.42, ns$). Both groups reported a similar progression of health during the past year, but individuals with a high quality of life were less likely to expect their health to decrease ($t(59) = 2.69, p < .01$). Self-esteem satisfaction was important to AIDS patients with a high quality of life and to AIDS patients with a low quality of life, but patients with a high quality of life were more likely to be satisfied with self-esteem ($t(59) = 2.77, p < .01$).

Independent $t$ tests were used to compare social functioning in AIDS patients with a high and low quality of life. AIDS patients with a high quality of life were significantly more likely to have better overall social functioning ($t(59) = 3.80, p < .01$). Furthermore, AIDS patients with a high quality of life were significantly less likely to demonstrate a desire to avoid others ($t(59) = 2.45, p < .05$). AIDS patients with a high quality of life were significantly less likely to let physical symptoms interfere with normal social activities ($t(59) = 3.39, p < .01$) and emotional symptoms interfere with normal social activities ($t(59) = 3.03, p < .01$).

*Individuals in a Romantic Relationship Versus Single Individuals*
Independent sample t tests were conducted to investigate whether being in a romantic relationship was associated with increased psychological distress among patients with AIDS. AIDS patients in a romantic relationship (n=15) and AIDS patients not in a romantic relationship (n=50) reported a similar level of perceived burden (t(65) = 1.41, ns) (See Table 4). AIDS patients in a romantic relationship and AIDS patients not in a romantic relationship reported similar important reasons for living (t(61) = 1.32, ns). Level of emotional distress (t(59) = 1.01, ns), quality of life (t(58) = 0.04, ns), and physical functioning (t(63) = 0.90, ns) were not significantly different when comparing groups.

**Discussion**

The present study examined the relationship between psychological factors, physical functioning factors, and reasons for living among 68 patients diagnosed with AIDS. Few physical indicators of disease progression were related to emotional distress. Physical indicators of disease progression were moderately related to quality of life. Quality of life was the best predictor of reasons for living. Quality of life domains (achievement, self-expression, interpersonal relationships, and environment) were positively and significantly related to reasons for living.

*Psychological Variables and Physical Indicators of Disease Progression*

Prior studies have consistently demonstrated a link between depression and physical health factors among AIDS patients. Depression has been linked to a longer hospital stay (Uldall et al, 1994), greater symptom burden (Walker et al., 2007), and mortality (Ickovics et al., 2001; Katon & Ciechanowski, 2002). In the current study, perceptions of health and pain were the only physical health variables significantly
related to emotional distress. The assessment of depression in medical populations is challenging because prevalence of physiological symptoms due to the medical illness often threatens the accuracy of the diagnosis, leading to false positives. A strength of the present study was the use of the Medical-Based Emotional Distress Scale for the assessment of depressive symptoms (Overholser et al, 1993). The Medical-Based Emotional Distress Scale excludes physiological symptoms as an indicator of psychopathology which may explain the weak relationship between emotional distress and physical health variables. An exaggerated relationship between depression and physical health may have been found in prior studies because of the inclusion of somatic symptoms in diagnostic criteria. The relationship between depression and physical health status in AIDS patients may not be as strong as previously concluded. Accurate assessment measures are needed to screen for psychological problems in AIDS patients. Emotional and cognitive symptoms of distress as opposed to physiological symptoms should be used to assess Major Depression in AIDS patients.

Greater levels of emotional distress were significantly related to general health perceptions and pain. Self-reported health perceptions and pain are subjective phenomena. Perceptions of general health are not always accurate (Goodwin, 2002). In addition, pain reported by patients in primary care is often greater than physician ratings of patient pain (Solomon, 2001). Furthermore, depression reduces the ability to make logical and rational cognitive attributions (Beck, 2005). Thus, the relationship between emotional distress and subjective measures of physical health may reflect a self-report bias. Bias due to the cognitive processing of distressed patients may inflate the reporting
of physical problems and subsequently overestimate the relationship between distress and subjective indicators of physical health.

Reasons for Living

The current study examined the importance attached to various reasons for living among a sample of AIDS patients. Prior studies have evaluated the will to live in AIDS patients by assessing desire for hastened death (Mystakidou, 2005) but to our knowledge, reasons for living have not yet been examined. The mean level of importance attached to reasons for living in our sample was similar to the importance attached to reasons for living among depressed, psychiatric inpatients (Malone, 2000). Fewer important reasons for living suggests that our sample resembles the greater population of AIDS patients who are at risk for suicidal ideation (Robertson et al., 2006) and attempting suicide (Cooperman & Simoni, 2005). Findings suggest that AIDS patients are at risk for not viewing life as worthwhile or valuable. The will to live is likely to be threatened in AIDS patients. Psychological treatment for AIDS patients should explore areas where patients find satisfaction and meaning in their lives. Therapy should aim to increase important reasons for living in the lives of AIDS patients.

Reasons for living in AIDS patients may be best understood by psychological variables. Although past studies have argued that AIDS patients with decreased physical functioning have less will to live, more recent findings have emphasized the greater importance of psychological health (Mystakidou et al., 2005; Rodin et al., 2007). In the current study, physical functioning did not account for a significant amount of the variance in reasons for living. Emotional distress and quality of life were the only variables that significantly accounted for variance in reasons for living. Contrary to our
hypothesis, AIDS patients in a romantic relationship were not more likely than AIDS patients not in a romantic relationship to report less reasons for living. Prior research has examined the controversial role of social support among individuals with a chronic medical illness. A high level of social support may decrease the will to live, because patients feel like a burden on family and friends (Cooperman & Simoni, 2005). The current study does not support this argument. However, small sample sizes for comparison may have influenced results. Present findings suggest that reasons for living among individuals with AIDS are best understood by distress and quality of life, not by the quality of physical health. Physical functioning appears insignificant to the understanding of reasons for living among AIDS patients. Thus, reasons for living in AIDS patients can be increased despite inevitable deficits in physical health and functioning. Increasing reasons for living in AIDS patients should be approached with psychological treatment.

Quality of Life

Quality of life was the strongest predictor of reasons for living in the sample of AIDS patients, accounting for almost forty percent of the variance. A high sense of quality of life in four domains (achievement, self-expression, environment, and interpersonal relationships) was related to more important reasons for living. In addition, quality of life was significantly related to physical indicators of disease progression. Many primary care settings have adopted disease specific, curative interventions that place little focus on improving psychological well-being and quality of life (Selwyn & Rivard, 2003). However, the assessment and treatment of quality of life in AIDS patients is essential because of its relationship to both physical health and the will to live.
Assessment of physical functioning may provide information about disease progression but will not examine the patient’s desire to live. Providers should be aware that the will to live is not always maintained in AIDS patients who are functioning well physically. During the preliminary stages of treatment with AIDS patients, a multidimensional measure of quality of life should be administered by medical employees or mental health professionals. The present findings suggest that improvement in quality of life domains should be a treatment goal during initial and end of life stages of care in AIDS patients.

Psychosocial factors are often overlooked in the treatment of AIDS patients (Israelski et al., 2007). Patient education is an integral component to AIDS treatment (Sheffield & Casale, 2007). The impact of psychological health and quality of life on long-term outcomes should be explained to patients during initial phases of treatment. Current education typically focuses on the nature of AIDS as a physical illness, information regarding antiretroviral drugs, and the vital role of the patients in their care (Sheffield & Casale, 2007). However, the importance of healthy psychosocial functioning should also be emphasized at this stage of treatment. Mental health professionals should explain that maintenance of a high quality of life is related to positive psychological and physical functioning. Tips to sustaining and enhancing quality of life can be provided. For example, patients should be informed that maintaining a sense of achievement, being able to express one-self, and having a strong social network will be important to overall well-being.

Comparing AIDS patients with a high versus low quality of life yielded some important differences in psychological functioning. AIDS patients with a low quality of life reported significantly more perceived burden on friends and family members.
However, AIDS patients with a low quality of life were equally limited in a number of physical functioning domains compared to AIDS patients with a high quality of life. For example, AIDS patients with a low quality of life experienced similar limitations to AIDS patients with a high quality of life when comparing their ability to complete vigorous activities, to lift and carry groceries, to climb stairs, and to bathe and dress oneself. Findings suggest that burden may be influenced by the perception of the patient and be less reflective of actual differences in physical capabilities.

Perceived burden and a low self-view lead to a loss of dignity among patients with a chronic illness (Chochinov et al., 2006). Although both groups reported that self-esteem was important to them, AIDS patients with a high quality of life were significantly more likely to be satisfied with their self-esteem. Adequate social functioning was maintained among AIDS patients with a high quality of life. AIDS patients with a high quality of life were less likely to let emotional or physical health interfere with normal social activities. The current study was cross-sectional so causal relationships cannot be assumed. However, findings suggest that among AIDS patients with a low quality of life, feeling like a burden and having a negative view of the self influences deficits in social functioning. Quality of life treatment with AIDS patients should emphasize the perception of burden, self-view, and social engagement as components of intervention.

Pharmacotherapy is the most frequently used treatment for mental disorders among AIDS patients. Some medical providers argue that anti-depressant medications are under-diagnosed in AIDS patients (Frank, Treisman, & Penna, 2007). In addition, some medical providers believe that discussing psychotherapy with patients can be
daunting (Frank et al., 2007). The tendency to rely on pharmacologic treatment as an initial mechanism of intervention is disconnected from current findings. Although pharmacologic medications may temporarily decrease mood symptoms, they may not always improve quality of life in other domains. Psychological interventions that solely rely on medication ignore the impact of quality of life on psychological and physical health outcomes.

**Implications**

Assessment and intervention techniques were not evaluated in the current study. However, findings suggest strategies that may be useful in improving the treatment of AIDS patients. Quality of life assessment will help guide the psychological treatment of AIDS patients. The assessment of quality of life domains should help tailor cognitive and behavioral interventions to the needs of each patient. Adaptive coping strategies are related to healthy psychological and physical trajectories among AIDS patients (O’Cleirgh, Ironson, Fletcher, & Schneiderman, 2003). Furthermore, cognitive-behavioral therapy is an effective method of reducing mood disturbance in AIDS patients (Cruess et al., 2002). Cognitive-behavioral interventions aimed at improving a sense of achievement, increasing self-expression, and enhancing interpersonal relationships may encourage positive coping strategies and increase the will to live among AIDS patients. Behavioral assignments used in cognitive-behavioral therapy can be designed to improve functioning in each quality of life domain. Approaching treatment with a focus on these domains allows cognitive-behavioral therapists to explore necessary factors including burden, view of self, social engagement, and management of negative emotions.
Therapists can improve a sense of achievement by working with AIDS patients to explore ways clients can generate feelings of self-worth in spite of physical limitations. Problem solving is related to better psychological functioning in AIDS patients (Chan, et al., 2006). Therapist and patient can collaborate on behavioral assignments that include participation in goal-oriented, purpose driven activities. Achievement oriented activities can be implemented as a coping strategy to help AIDS patients manage feelings of sadness and irritability. In the current study, AIDS patients with a high quality of life were significantly less likely to believe that their health will get worse even though both groups reported a similar deterioration of health during the previous year. Optimistic thinking (Chan et al., 2006) and positive health perceptions (Yi et al., 2006) are related to less depressive symptoms in AIDS patients whereas catastrophizing (Griswold, Evans, Spielman, & Fishman, 2005) is related to more severe depression. Cognitive-behavioral therapists can improve quality of life in the achievement domain by helping patients to accurately perceive changes in health. In addition, patients can learn to appreciate improvements in health. By improving quality of life in the achievement domain, cognitive-behavioral therapy may foster a more positive self-view in AIDS patients.

Cognitive-behavioral therapy techniques can be used to increase quality of life by enhancing social functioning in AIDS patients. Social support is related to medical illness medication adherence and positive coping behaviors in AIDS patients (Tate, 2006; Vyavaharkar et al., 2007). AIDS patients should learn the importance of maintaining quality social interaction in spite of their medical illness. Avoidance is related to greater psychological distress in AIDS patients (Chan et al., 2006). Thus, cognitive-behavioral therapists should explore whether emotional or physical problems are impeding social
activities and how this can be changed. Homework assignments may encourage AIDS patients to engage in social interaction. Treatment should include an emphasis on burden. Therapists can use cognitive therapy to ask patients about the effect that physical problems have on others around them. Cognitive therapy can be implemented to address how the role of significant others will change during the course of the physical illness. Furthermore, therapists can explore how the patient’s self-view is affected by an increased reliance on others with an emphasis on maintaining dignity in AIDS patients.

Cognitive-behavioral therapy can improve quality of life by developing adaptive methods of self-expression. AIDS patients experience a wide range of emotions in the months following the diagnosis (Stevens & Hildebrandt, 2006). However, emotional disclosure and cognitive processing protect AIDS patients from negative health outcomes (O’Cleirigh, et al., 2008). Therapists can ask clients to explore thoughts and feelings about the medical diagnosis. In addition, therapists can help patients learn positive, comprehensible means of expressing themselves to others by role-playing in session. Therapists can collaborate with patients to explore creative methods of self-expression that can be implemented through behavioral assignments. Improving quality of life in the self-expression domain will help AIDS patients learn to cope with feelings of dysphoria.

Limitations

There are some limitations to the findings of the current study. Data collected included little information regarding the AIDS diagnosis or progression of illness. The participants in our sample all had T-cell counts below 200; however, data regarding the method of contracting the disease or the date of onset of the diagnosis was not collected.
In addition, all data was collected by participant self-report. As a result, there was no method of evaluating the accuracy of health functioning reported by the participants.

Other limitations may be important to mention. AIDS patients in the sample were of a restricted age range, with most participants being middle-aged. Thus, findings may not extrapolate to younger or older populations of AIDS patients. The data collected did not include information about the social networks of participants. Detailed information regarding the quantity and quality of social interaction was not collected and how the AIDS diagnosis has influenced social functioning. Lastly, spiritual and religious information were not included in our analyses. Future research may want to include some of these other variables when examining quality of life and reasons for living in AIDS patients.

The current study did not examine treatment outcomes in AIDS patients. Thus, ideas and suggestions for improved psychological treatment of AIDS patients should be taken with caution. Future studies may want to evaluate treatment strategies with a longitudinal design. Perhaps findings from the current study can guide future research and treatment with patients diagnosed with other life-threatening medical illnesses as well as chronic psychological illnesses.
**Table 1. Correlations Between Reasons for Living, Emotional Distress, Quality of Life, and Physical Illness Factors in 68 Patients Diagnosed with AIDS**

<table>
<thead>
<tr>
<th></th>
<th>Reasons for Living Inventory</th>
<th>Medical-Based Emotional Distress Scale</th>
<th>Quality of Life Inventory</th>
<th>Physical Functioning</th>
<th>Burden</th>
<th>Role Limitations -Physical</th>
<th>Social Functioning</th>
<th>Bodily Pain</th>
<th>Role Limitations -Emotional</th>
<th>General Health Perceptions</th>
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<tbody>
<tr>
<td>Reasons for Living Inventory</td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>Medical-Based Emotional Distress Scale</td>
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<td></td>
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<tr>
<td>Quality of Life Inventory</td>
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<td>-.35**</td>
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<tr>
<td>Physical Functioning</td>
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<td>-.19</td>
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<tr>
<td>Burden</td>
<td>-.44**</td>
<td>.15</td>
<td>-.43**</td>
<td>-.16</td>
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<tr>
<td>Role Limitations -Physical</td>
<td>.33**</td>
<td>-.04</td>
<td>.39**</td>
<td>.43**</td>
<td>.26*</td>
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<td>Social Functioning</td>
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<td>-.27**</td>
<td>.43**</td>
<td>.33**</td>
<td>.38**</td>
<td>-.50**</td>
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<tr>
<td>Bodily Pain</td>
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<td>.44**</td>
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<td>General Health Perceptions</td>
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<td>.42**</td>
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Note: *p<.05; **p<.01
### Table 2. Hierarchical Regression Analysis Predicting Reasons for Living

<table>
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<th>Step</th>
<th>Predictors</th>
<th>R Square Change</th>
<th>F Change</th>
<th>Significance Value for F Change</th>
<th>Standardized Beta</th>
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<td></td>
<td>Gender</td>
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<td>.67</td>
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<td>5</td>
<td>Burden</td>
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<td>2.26</td>
<td>.14</td>
<td>-.17</td>
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Table 3.  
Comparison of Individuals with a High Quality of Life to Individuals with a Low Quality of Life in 61 Patients Diagnosed with AIDS

<table>
<thead>
<tr>
<th>Variable</th>
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<th>Low n = 31</th>
<th>df</th>
<th>T-test</th>
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<td>Perceived Burden</td>
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<td></td>
<td></td>
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<tr>
<td>( M )</td>
<td>2.57</td>
<td>3.58</td>
<td>59</td>
<td>2.77**</td>
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<tr>
<td>( SD )</td>
<td>1.55</td>
<td>1.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to Complete Physical Tasks:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigorous Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( M )</td>
<td>1.87</td>
<td>1.48</td>
<td>57</td>
<td>1.95</td>
</tr>
<tr>
<td>( SD )</td>
<td>0.82</td>
<td>0.69</td>
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Note: **\( p < .01 \)
Table 4. Psychological and Physical Functioning Differences Between Single Individuals and Individuals in a Romantic Relationship

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<th>Variable</th>
<th>Single n=52</th>
<th>In a Relationship n=15</th>
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<sup>a</sup> Note: sample sizes slightly differ due to incomplete data on individual scales
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