A Dissertation

Entitled

The Use of the Beck Depression Inventory-II and the Patient Health Questionnaire-9
with Persons Diagnosed with HIV/AIDS: An Exploratory Study

By

Jennifer M. Seymour

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the
Doctor of Philosophy Degree in Counselor Education

________________________
Dr. Kathleen M. Salyers, Committee Chair

________________________
Dr. Holly Harper, Committee Member

________________________
Dr. Martin Ritchie, Committee Member

________________________
Dr. Mojisola Tiamiyu, Committee Member

________________________
Dr. Patricia Komuniecki, Dean
College of Graduate Studies

The University of Toledo

August 2010
As the prevalence of HIV/AIDS continues to reach pandemic proportions and medical advancements allow for persons to live longer with the disease, counselors should expect to work with clientele who present with HIV/AIDS. Persons with HIV/AIDS often present with unique mental health issues and diagnostic dilemmas. One of the most common mental health issues reported in persons with HIV/AIDS is that of depression. Research suggests that depressive symptoms are more common in persons with HIV/AIDS; however, depression in persons with HIV may be over-diagnosed and/or misdiagnosed as a result of the somatic features of HIV (Judd et al., 2005; Kalichman, Sikkema, & Somlai, 1995). The physical and physiological symptoms of HIV/AIDS often resemble typical symptoms of depression (Kalichman, Sikkema, & Somlai, 1995; Rabkin, Wagner, & Rabkin, 2002). As a result of depressive symptoms and HIV illness consisting of similar features, the literature both challenges and supports the belief that persons with HIV/AIDS are more likely to be depressed. Subsequently, it is suggested that when using depression rating tools with persons with HIV, one should focus on
affective symptoms rather than somatic symptoms (Rabkin et al., 2002). The Beck Depression Inventory-II (BDI-II), which is the most widely used instrument for measuring depression in the mental health profession, has not been validated among persons with HIV/AIDS (Barroso & Sandelowski, 2001; Kalichman, Sikkema, & Somlai, 1995). Further, research suggests that specific items on depression rating tools, like the BDI-II, may be more indicative of HIV illness, such as central nervous system functioning or physical ailments, rather than depressive symptoms (Castellon et al., 2006). In order to determine if the Beck Depression Inventory-II is an effective tool in assessing depression in persons with HIV/AIDS, it may be useful to compare the BDI-II with other depression screening tools that are more widely used in persons with chronic illness such as HIV.

In the current study, persons diagnosed with HIV who were receiving medical treatment for HIV management completed both the Beck Depression Inventory-II (BDI-II) and the Patient Health Questionnaire (PHQ-9). In addition, study participants were also invited to respond to open-ended items relating to depression and factors commonly associated with depression. Results indicated that there were no statistically significant difference between depression as indicated by the BDI-II and the PHQ-9. Limitations of the study and suggestions for future research are presented.
Dedication

To my parents and my granny. Thank you for always supporting me.
Acknowledgements

This dissertation would not have been possible without the love, support, and encouragement from my parents, family, and friends. Thank you, mom and dad, for supporting and loving me unconditionally. I cannot express to you how much love, gratitude, and respect I have for both of you. Granny, thank you for always believing in me (even when I didn’t believe in myself). Thank you to my family—words cannot express just how important you are to me. I also want to thank my friends who have stood by me through this journey. Thank you Erica, Stephanie, Heather, Paul, Kristin, and Sarah for being the best friends anyone could ask for. I also want to acknowledge Dr. Kathleen Salyers, my advisor and chairperson. Thank you for the opportunities you have given me to work alongside you. Thank you for reminding me to take things “one day at a time.” You have been a tremendous resource throughout my graduate program and for that I am truly grateful. Thank you, Dr. Mojisola Tiamiyu for being a wonderful and committed undergraduate advisor. I am so happy to have gotten to work with you again. Dr. Martin Ritchie and Dr. Holly Harper, thank you for serving on my committee—your wisdom and feedback were very much appreciated. Ross Chaban, thank you for your supervision and for helping me to get where I am today. I couldn’t have done it without you. Sue Martin, thank you for your patience and for helping me step-by-step in this crazy process. And thank you to the persons who participated in this study and the medical staff at the University of Toledo Medical Center. I very sincerely thank you all.
Table of Contents

Abstract iii
Acknowledgements vi
Table of Contents vii
Chapter I: Introduction 1
   General Introduction 1
   Statement of the Problem 3
   Background of the Problem 4
      Depression 4
      HIV/AIDS 6
      Depression in Persons with HIV/AIDS 7
   Purpose of the Study 10
   Research Questions 11
   Significance of the Study 16
   Assumptions Underlying the Study 19
   Summary 19
   Definition of Key Terms 21
   Organization of Chapters 24
Chapter II: Review of the Literature 26
   Introduction 26
Understanding HIV and AIDS 27

Overview of HIV/AIDS 27

Discovery of HIV/AIDS 28

History of HIV/AIDS 30

Theories of Origin 30

Transmission of HIV 32

Prevalence and Current Trends in HIV/AIDS 35

At Risk Populations 36

African Americans 36

Hispanic/Latino Americans 38

Substance Abusers/Injection Drug Users 40

Treatment Issues and Considerations 42

Stigmatization 42

Depressive Disorders 43

Suicide Risks 46

Assessing for Depression 46

Assessment Tools 47

The Beck Depression Inventory-II 48

The PHQ-9 Depression Tool 49

HIV/AIDS and Depression 50

Chapter III: Methodology 52

Research Questions and Hypotheses 53

Research Questions 53
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Design</td>
<td>58</td>
</tr>
<tr>
<td>Participants</td>
<td>59</td>
</tr>
<tr>
<td>Data Collection</td>
<td>60</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>62</td>
</tr>
<tr>
<td>The Patient-Health Questionnaire-9</td>
<td>62</td>
</tr>
<tr>
<td>The Beck Depression Inventory-II</td>
<td>63</td>
</tr>
<tr>
<td>Data Management</td>
<td>64</td>
</tr>
<tr>
<td>Analysis of the Data</td>
<td>65</td>
</tr>
<tr>
<td>Summary</td>
<td>66</td>
</tr>
<tr>
<td>Chapter IV: Results</td>
<td>67</td>
</tr>
<tr>
<td>Chapter V: Discussion</td>
<td>76</td>
</tr>
<tr>
<td>Summary of Literature</td>
<td>77</td>
</tr>
<tr>
<td>Conclusions</td>
<td>79</td>
</tr>
<tr>
<td>Limitations</td>
<td>80</td>
</tr>
<tr>
<td>Implications for Counselors</td>
<td>81</td>
</tr>
<tr>
<td>Implications for Future Research</td>
<td>82</td>
</tr>
<tr>
<td>Summary</td>
<td>82</td>
</tr>
<tr>
<td>References</td>
<td>84</td>
</tr>
<tr>
<td>Appendix A</td>
<td>97</td>
</tr>
<tr>
<td>HSRB Revised Approval Notification</td>
<td></td>
</tr>
<tr>
<td>Appendix B</td>
<td>99</td>
</tr>
<tr>
<td>Cover Letter</td>
<td></td>
</tr>
<tr>
<td>Appendix C</td>
<td>101</td>
</tr>
<tr>
<td>Informed Consent Form</td>
<td></td>
</tr>
<tr>
<td>Appendix D</td>
<td>104</td>
</tr>
<tr>
<td>Adult Research Subject Information Form</td>
<td></td>
</tr>
<tr>
<td>Appendix E</td>
<td>107</td>
</tr>
<tr>
<td>Approval Letter to Use the PHQ-9</td>
<td></td>
</tr>
<tr>
<td>Appendix</td>
<td>Title</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Appendix F</td>
<td>Approval Letter to Use the BDI-II</td>
</tr>
<tr>
<td>Appendix G</td>
<td>The Beck Depression Inventory</td>
</tr>
<tr>
<td>Appendix H</td>
<td>The Patient Health Questionnaire-9</td>
</tr>
<tr>
<td>Appendix I</td>
<td>The PHQ-9 Scoring Sheet</td>
</tr>
<tr>
<td>Appendix J</td>
<td>Demographic Questionnaire and Survey Form</td>
</tr>
</tbody>
</table>
CHAPTER I

Introduction

General Introduction

Public concern for the growing pandemic of the Human Immunodeficiency virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) has been well documented among various professional disciplines (Bass, Linsk, & Mitchell, 2007; National Institute on Drug Abuse [NIDA], 2008; Robiner, Parker, Ohnsong, & Strike, 1993; World Health Organization [WHO], 2006). Advances in both national and worldwide efforts involving treatment and prevention strategies have been made in order to combat the alarming rates of HIV/AIDS transmissions and infections. According to the Centers for Disease Control and Prevention (CDC), there are an estimated 1.1 million people living with HIV in the United States, with approximately 21% of these people unaware of their diagnosis (CDC, 2009). Since the discovery of AIDS, more than 25 million people have died as a result of this disease (United Nations Programme on HIV/AIDS [UNAIDS], 2008).

The CDC reported that approximately 56,300 people were newly infected with HIV in 2006 (CDC, 2009). The prevalence of human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) continues to be of pandemic proportions, with an estimated 33.2 million people worldwide living with HIV (Morbidity and Mortality Weekly Report [MMWR], 2007). Every day, nearly 7,000 people are newly infected with HIV, while another 5,700 people die from AIDS (MMWR, 2007).
In Lucas County, where this research study was conducted, there were approximately 441,910 residents and 877 identified persons living with HIV/AIDS as of 2008 (Census Bureau, 2008; Lucas County Health Department [LCHD], 2009). Of those infected, roughly 46% are African-American, despite the fact that African-Americans make up only 17% of the population in Lucas County (LCHD). High-risk behaviors, such as men having sex with men and injection drug use, continue to be the two leading risk factors for HIV infection, both nationally and locally (LCHD; MMWR, 2007). In Lucas County, sharing contaminated needles for intravenous drug use is the second highest at-risk behavior for contracting HIV, accounting for 18% of all HIV infections (LCHD).

Both locally and nationally, HIV appears to be clustered among certain high-risk groups, including injection drug users, men-who-have-sex-with-men (MSM), and minority groups, such as African-Americans and Hispanics (MMWR).

The prevalence of HIV/AIDS among minority groups such as African Americans and Hispanics continues to increase at disproportionate rates. HIV/AIDS infection is now the leading cause of death in African Americans from 25 to 44 years old (National Institute on Drug Abuse [NIDA], 2008). African Americans accounted for roughly 51% of new HIV diagnoses and 48% of overall persons living with HIV/AIDS (CDC, 2009). In addition, African Americans accounted for more than 56% of AIDS-related deaths in 2004 and 40% of all AIDS-related deaths in 2007 (CDC, 2009; Kaiser Family Foundation, 2008). Hispanics are also disproportionately impacted by HIV/AIDS and are three times more likely to have HIV than a non-Hispanic (Uribe et al., 2009). HIV/AIDS is the fourth leading cause of death among Hispanic women between the ages of 35 to 44 (CDC, 2009).
Statement of the Problem

Due to the sheer volume of HIV/AIDS cases, counselors should expect that they will likely encounter clients who present with HIV or AIDS. Further, persons who have chronic illnesses, such as HIV/AIDS, often present with a variety of unique mental health issues of which counselors should be aware. Physical deterioration, neurocognitive degeneration, and psychological symptoms, such as depression, often ensue as untreated HIV progresses (Castellon et al., 2006). Neuropsychiatric symptoms often emerge as the central nervous system is destroyed by the progression of the HIV virus, resulting in both neurochemical and neuroanatomical changes, specifically in the hypothalamic-pituitary region and in dopaminergic regulations (Castellon et al.; Green, Platt, Eley, & Green, 1996; McAllister-Williams, Ferrier, & Young, 1998). In addition to mental health issues that may develop as a direct physiological result of the disease, the psychological impact of having a chronic disease, feelings of stigma often associated with HIV/AIDS, and depressive symptoms commonly experienced as side effects of the illness, all present unique treatment considerations for counselors. Persons with both HIV and depression are at a much greater risk for thoughts of suicide, attempting suicide, and completing suicide, making it a priority for counselors to address the mental health needs of this population (Asch et al, 2003).

Advancements in medications and the use of Highly Active Antiretroviral Therapy (HAART) have increased the life expectancy of those living with HIV/AIDS (Collier et al., 1996; Eller, 2001; Prachakul & Grant, 2003). With increased longevity and life expectancy, however, there is also a greater likelihood that a person with HIV/AIDS may experience psychological symptoms associated with advanced HIV and/or may
suffer from symptoms of depression (Eller; Prachakal & Grant). Although some research has shown that highly active antiretroviral therapy may reduce symptoms of depression in persons with HIV (Judd et al., 2000).

**Background of the Problem**

As a consequence of the high rates of HIV both nationally and globally, educated and competent mental health counselors and other clinicians must respond to meet the needs of persons living with HIV. In order for counselors to provide best practices regarding persons with HIV/AIDS, it is integral for counselors to have a basic understanding of the disease and to be aware of the potential psychosocial issues that may arise as a consequence of HIV infection. In addition, it may be useful for counselors to be aware of unique treatment dilemmas to consider when working with HIV-infected persons, in particular, the difficulty in assessing for depression and factors associated with depression in persons with HIV. As a result of the AIDS pandemic and the unique treatment issues that may impact persons with HIV, emphasis must be placed on assessment and appropriate treatment interventions (Britton, Cimini, & Rak, 1999). Subsequently, it is essential for counselors and other mental health professions to be knowledgeable of the specific assessment tools available, limitations of depression screening tools, and potential barriers in assessing depression in persons infected with HIV/AIDS.

*Depression.* Major Depressive Disorder is “the most common psychiatric illness that clinicians in any branch of medicine are likely to encounter” (Andreasen & Black, 2006, p. 140). Depression, often masked by the nearly identical somatic symptoms of HIV illness, frequently leads people to seek medical care. Persons suffering from
depression may seek medical attention for these somatic features, which often include symptoms of fatigue, insomnia, changes in mood, or unexplainable pain (Andreasen & Black). Depression is one of the leading health-care conditions impacting the utilization of healthcare and healthcare spending. Most of the costs incurred, however, are not a result of depression treatment *per se*, but rather monies spent managing the indirect effects of depression and ruling out other conditions (Andreasen & Black; Donohue & Harold, 2007). As a result of the somatic features of HIV often masking depression, 10.3% of biomedical costs worldwide (hospital visits, primary care physician visits, etc.) are better accounted by depressive illness (Andreasen & Black). Depression is also ranked as the fourth leading disorder identified as negatively impacting a person’s life expectancy, also known as a *Disability-Adjusted Life Year* or *DALY* (Donohue & Pincus). The DALY, according to the World Health Organization (WHO) is “one lost year of "healthy" life” (WHO, 2009). It is predicted that by the year 2020, depressive disorders will be ranked second among diseases that shorten a person’s life expectancy (Donohue & Pincus).

Depression is defined in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association [*DSM-IV-TR*, 2000] as “a clinical course that is characterized by one or more Major Depressive Episodes….” (p. 369) and may have an onset at any age, although it typically occurs in the mid-20s. Depression is associated with a high risk of mortality, lower reported quality of life, increased risk of heart disease, higher rates of illness, and increase in amount of high-risk behaviors (*DSM-IV-TR*, 2000; Monahan et al., 2008). Nearly 15% of persons diagnosed with Major
Depressive Disorder die by suicide. The prognosis is even poorer for those who have a Major Depressive Disorder and a chronic or severe medical condition (DSM-IV-TR).

**HIV/AIDS.** Human Immunodeficiency Virus (HIV), a virus that breaks down the body’s immune system, thus, weakening the body’s defense to illness and disease, is transmitted most frequently through three avenues: 1) exchange of bodily fluids during sexual encounters, 2) exchange of blood through needle sharing practices in the injecting drug use population, and, more commonly in developing countries, 3) vertical transmission through shared body fluids between mother and fetus/newborn infant. Blood transfusions were an additional significant route of transmission prior to current blood screening practices, which safeguard against HIV-infected blood being used for transfusions.

Acquired Immune Deficiency Syndrome (AIDS) develops as the immune system is severely damaged by spread of the virus. It is during this final stage, that the infected person’s immune system is no longer able to defend against common illness, thereby succumbing to one or more opportunistic infections. AIDS, “characterized by the death of CD4 cells (an important part of the body’s immune system)…leaves the body vulnerable to life-threatening conditions such as infections and cancers” (National Institutes of Health [NIH], 2005, p.5).

To this date, no cure has been found for persons with HIV/AIDS, although advancements in treatment have reduced the incidence of perinatal transmission of HIV infection from mother-to-child (Kresge, 2005; MMWR, 2007) and Highly Active Antiretroviral Treatment (HAART) has extended the life-expectancy of persons living with HIV (Collier et al., 1996; Eller, 2001; Prachakul & Grant, 2003). Research continues
to expand our knowledge of HIV and a potential HIV vaccine is well underway (Johnston & Fauci, 2008; McMichael, Mwau, & Hanke, 2002). Despite medical advances and efforts in HIV/AIDS prevention, there continues to be more than 50,000 new HIV-infections reported in the United States each year (CDC, 2009). From a global perspective, HIV continues to be of alarming proportion, with 25 million people infected in sub-Saharan Africa and 5 million infected in Asia (World Health Organization [WHO], 2009).

Since the early 1980s, when AIDS was first identified in San Francisco, California, the course of the disease and identifiable high risk populations have continued to change. What was once perceived as a “socially isolated” and geographically-contained disease is now a worldwide pandemic (McMichael, Mwau, & Hanke, 2002; Robiner et al., 1993; WHO, 2009). It is imperative that counselors gain awareness concerning the unique challenges that are present when working with clients who are HIV positive, especially when one considers this population’s increased risk for depression and other psychological disorders.

**Depression in Persons with HIV/AIDS.** Research suggests that depressive illness, depressive symptoms, and suicidality are higher among persons with HIV/AIDS (Judd et al., 2005; Komiti et al., 2001). Depression, a major health concern for those with HIV, is correlated with reduced medical compliance, substance abuse, alcoholism, treatment non-compliance, poorer physical health, and having a worse medical prognosis (Benton, 2008; Berger, Ferrans, & Lashley, 2001; Crandall & Coleman, 1992; Leserman, 2003). Suicide, which is highly correlated with depression, continues to be a major health risk for those with HIV (Valente & Saunders, 1997). Rates of suicide for those infected with
HIV are reported to be between 7 and 9 times that of the general population (Copeland, 1993; Cote, Biggar, & Dannenberg, 1992).

Depression is one of the most common mental health conditions experienced by persons who have HIV/AIDS (Benton, 2008; Markowitz, Rabkin, & Perry, 1994; Valente, 2003; Valente & Saunders, 1997). For the purpose of this paper, the term depression will include depressive disorders such as Major Depressive Episode and Major Depressive Disorder. Common symptoms of depression, according to the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association [DSM-IV-TR] 2000), include loss of interest or pleasure for at least two consecutive weeks, difficulty thinking, problems concentrating, recurrent thoughts of death, decreased energy, changes in appetite or weight, suicidal ideation, making plans of suicide or attempting suicide, difficulty making decisions, and experiencing changes in sleep patterns. People who are depressed may say they feel “down in the dumps” or describe themselves as “not caring anymore” (DSM-IV-TR, p. 349).

Due to the complexity of the HIV disease, however, many of the typical symptoms of depression may be masked by common somatic features of HIV/AIDS (Benton, 2008). Typical symptoms that may signal depression in the general population may simply be physical manifestations of HIV/AIDS for those who are infected with the virus. For instance, apathy or “not caring anymore,” may be indicative of central nervous system decline, memory deficits, and diminished executive function in a person with HIV/AIDS rather than a marker for depression (Castellon et al., 2006). Depressive symptoms such as fatigue, anorexia, pain, insomnia, dysphoria, and anhedonia are
somatic features commonly seen in persons with HIV/AIDS, making it difficult to properly diagnose depression when that person also has HIV/AIDS.

Depression in those with HIV/AIDS may also present unique health-related symptoms, such as reduced medical compliance, less favorable medical prognosis, and increased risk for suicide (Berger et al., 2001; Crandall & Coleman, 1992; Haller & Miles, 2003; Valente & Saunders, 1997). Research suggests that depressive illness, depressive symptoms, and suicidality are higher among persons with HIV/AIDS than in the general population (Judd et al., 2005; Komiti et al., 2001). According to the DSM-IV-TR, 20-25% of persons with chronic or severe medical conditions develop Major Depressive Disorder and the prognosis for a medical condition is worse if Major Depressive Disorder is present. Depression is correlated with high mortality, as approximately 15% of persons with Major Depressive Disorder die by suicide (American Psychiatric Association [DSM-IV-TR], 2000). For these reasons, it is important to address the mental health needs of this population and to be aware of the unique challenges that may present when a person has depression and HIV/AIDS.

Although depression is one of the most common mental health disorders among persons with HIV/AIDS, it is often overlooked and misdiagnosed among clinicians (Asch et al., 2003; Valente & Saunders, 1997). Clinical assessment tools used to identify depression are often confounded by somatic symptoms of HIV/AIDS, as many of the identifying markers for depression are identical to the physical, physiological, and neurocognitive symptoms of HIV/AIDS. Assessment tools, which rely heavily on somatic symptoms of depression, may over-diagnose persons as being depressed when in
fact these persons may be suffering from somatic symptoms of a chronic medical condition (Ritterband & Spielberger, 2001; Wedding et al., 2007).

In studies looking at the relationship between depression and somatic symptoms in persons with a chronic medical condition, researchers found that most symptoms leading to the diagnosis of depression based on somatic symptoms were more indicative of medical complaints than depression (Ritterband & Spielberger, 2001; Wedding et al., 2007). In a recent study investigating the use of the Beck Depression Inventory in persons diagnosed with cancer, the BDI was said to be an “inadequate instrument to screen for depression in cancer patients or, more generally, in patients with somatic disorder that have symptoms similar to somatic symptoms of depression” (Wedding et al., p. 1879).

Purpose of the Study

The purpose of this study was to develop a greater understanding of the relationship between depression and HIV/AIDS. One of the primary goals of this study was to determine whether or not the Beck Depression Inventory-II (BDI-II) is a valid and reliable measure of depression in persons living with HIV. For purposes of answering this research question, depression was defined by a score of 12 or more on the PHQ-9, which is considered to be a valid and reliable depression rating instrument with persons living with HIV. A score of 14-19 on the BDI-II indicates mild depression, 20-28 represents moderate depression, and a score of 29-63 is indicative of severe depression (Groth-Marnat, 2003). Another aim of this study was to identify what value on the BDI will produce the same specificity and sensitivity to depression as on the PHQ-9. Secondary aims of this study included exploratory analyses to address demographic items that may
be of interest in relation to better understanding depression in persons with HIV. The relationships between depression, as indicated by the BDI-II and the PHQ-9, and the following variables were explored: CD4+ levels; stigmatization; satisfaction with medical care; perceived support; route of transmission of HIV; prior history of depression; substance use/abuse; socioeconomic status; and sex. However, due to insufficient data (n=13), a statistical comparison was unable to be performed between participants’ BDI-II scores and their scores on the PHQ-9. Frequency data and results from the open-ended narrative portion were reported.

Research Questions

The researcher attempted to answer the following questions:

General Research Question 1

Is the Beck Depression Inventory-II (BDI-II) an effective assessment tool in measuring depression in persons with HIV/AIDS?

Specific Research Question 1

Does the Beck Depression Inventory-II (BDI-II) predict depression as defined by the Patient Health Questionnaire-9 (PHQ-9) in a sample with HIV/AIDS?

Research Hypothesis 1

The BDI-II will over-identify persons who have HIV/AIDS as being depressed when compared to the results of the PHQ-9.

General Research Question 2

Is there a more accurate cut-off score that could be used in assessing persons with HIV/AIDS using the Beck Depression Inventory?

Specific Research Question 2
What value on the BDI-II produces the same specificity and sensitivity to
depression as on the PHQ-9?

Research Hypothesis 2

A higher cut-off score on the BDI-II will be necessary to accurately assess for
depression in persons with HIV/AIDS.

General Research Question 3

Is there a relationship between stigma and depression in persons with HIV/AIDS?

Specific Research Question 3

Is there a correlation between depression, as measured by the BDI-II, PHQ-9, and
self-report (item #3c on the Demographic Questionnaire and Survey Form), and
feelings of stigma (item #3d on the Demographic Questionnaire and Survey
Form)?

Research Hypothesis 3

There will be a statistically significant (p < .05), positive relationship ($r = .50$)
between endorsement of feelings of stigma and depression as identified by the
BDI-II, PHQ-9 and self-report (item #3c on the Demographic Questionnaire and Survey Form)?

General Research Question 4

Is there a relationship between perception of family/friend support and
depression?

Specific Research Question 4

Is there a correlation between depression, as measured by the BDI-II, the PHQ-9,
and self-report (item #3c on the Demographic Questionnaire and Survey Form)
and perception of family/friend support (item #3a on the Demographic Questionnaire and Survey Form)?

Research Hypothesis 4

There will be a statistically significant (p < .05), negative relationship (r = -.50) between perception of support (item # 3a) and depression as identified by the BDI-II, PHQ-9 and self-report (item #3c on the Demographic Questionnaire and Survey Form)?

*General Research Question 5*

Is a there a relationship between mode of HIV transmission and perception of stigma?

Specific Research Question 5

Is the mode of transmission of HIV (homosexual contact, injection drug use, heterosexual contact, blood transfusion, or other) related to perception of stigma?

Research Hypothesis 5

There will be a statistically significant (p < .05), positive relationship (r = .50) between feelings of stigma (endorsement of item #3d on the Demographic Questionnaire and Survey Form) and modes of HIV transmission that have historically been associated with negative attitudes (injection drug use and homosexual transmission)?

*General Research Question 6*

Is there a relationship between CD4+ count and depression?

Specific Research Question 6
Is there a relationship between lowest CD4+ count, most recent (latest) CD4+ count, and depression, as defined by the BDI-II, the PHQ-9, and self-report (item #3c on the Demographic Questionnaire and Survey Form)?

Research Hypothesis 6

There will be a statistically significant ($p < .05$), negative correlation ($r = -.50$) between CD4+ cell count and endorsement of depression based on self-report (item #3c on the Demographic Questionnaire and Survey Form) and scores on the BDI-II and PHQ-9.

General Research Question 7

Is there a relationship between socioeconomic status and depression in persons with HIV?

Specific Research Question 7

Is there a relationship between socioeconomic status (as defined by employment status, education level, and income) and depression (as defined by self-report item #3c on the Demographic Questionnaire and Survey Form) and scores on the BDI-II and PHQ-9?

Research Hypothesis 7

There will be a statistically significant ($p < .05$), negative correlation ($r = -.50$) between socioeconomic status (as defined by employment status, education level, and income) and depression as defined by item #3c on the Demographic Questionnaire and Survey Form and scores on the BDI-II and PHQ-9.

General Research Question 8

Is there a relationship between gender and depression in persons with HIV?
Specific Research Question 8
Are women with HIV more likely to be depressed than men with HIV?

Research Hypothesis 8
Women with HIV are more likely to be depressed than men with HIV.

General Research Question 9
Is satisfaction with medical care related to depression?

Specific Research Question 9
Is there a relationship between perception of medical care and depression?

Research Hypothesis 9
There will be a statistically significant (p < .05), negative correlation ($r = -.50$) between perception of medical care (item #3f on the Demographic Questionnaire and Survey Form) and depression (as defined by item #3c on the Demographic Questionnaire and Survey Form and scores on the BDI-II and PHQ-9).

General Research Question 10
Is there a relationship between perceived support and suicide in persons with HIV?

Specific Research Question 10
Is there a relationship between suicidal ideation and suicide attempts (item #3f and #3g on the Demographic Questionnaire and Survey Form) and perceived support (item #3a)?

Research Hypothesis 10
There will be a statistically significant (p < .05), negative correlation ($r = -.50$) between suicide attempts and suicidal ideation (item #3f and #3g on the
Demographic Questionnaire and Survey Form) and perceived support (item #3a on the Demographic Questionnaire and Survey Form).

Significance of the Study

This study was important because HIV/AIDS continues to be of pandemic proportions and persons living with HIV/AIDS are at a greater risk for depression and suicide (Valente & Saunders, 1997). Depression among individuals with HIV/AIDS increases non-compliance with medical treatment, is associated with poorer medical prognoses, increased risk of suicide, higher mortality rates, and is also negatively correlated with quality of life scores (Broadhead et al., 2002; Valente & Saunders). For these reasons, it is imperative that counselors and other mental health counselors properly assess and treat those individuals with HIV/AIDS (Wolf & Mitchell, 2002). Unfortunately, the tools that are most often used to assess for depression within this population have not been validated among persons with HIV and may not be effective in accurately detecting depression. This study attempted to add to the current body of literature and aimed to provide counselors and other mental health professionals with a greater understanding of the complex relationship between depression and HIV. This study also sought to provide the impetus for future improvements in depression screening tools commonly used for persons with HIV/AIDS. Due to challenges in data collection, much of these objectives could not be explored. However, the basis for this study could still provide a foundation for discussion regarding the relationship between depression and HIV and could provide meaningful implications for future research and recommendations for assessing depression in persons with HIV.
The knowledge gained from this study could be beneficial in assisting counselors, mental health professionals, and other direct service providers in addressing psychosocial issues that are relevant to persons with HIV/AIDS. This study attempted to ask questions of participants that could, in turn, provide counselors and mental health professionals with ways to improve upon the services provided to those with HIV/AIDS.

In order to better serve this population, it is imperative that counselors be aware of the unique mental health issues that may present in persons with HIV/AIDS. One of the reasons why it is so critical for counselors to build an awareness of these issues is because one’s mental health and overall quality of life are highly correlated to his/her physical health and prognosis of HIV (Tate et al., 2003). Successful clinical treatment has the potential to positively influence the physical health of people who suffer from a chronic medical condition, especially those conditions that present physical, psychological, and social challenges (Tate et al.) Thus, this researcher believes that it is necessary to have the proper tools in order to assess and evaluate the client’s needs.

In a study conducted by Harker et al. (1995), researchers found that when using the Beck Depression Inventory (BDI) among persons with HIV/AIDS, more than 50% of persons with HIV-related physical/somatic symptoms qualified for at least moderate depression. In another study, 79% of persons with HIV were found to be depressed when using classification for depression on the BDI (Jin et al., 2006). However, when items that measure physical/somatic symptoms were removed, Harker et al., found that only 28% of participants then met the criteria for depression (1995). Other research has shown that items on the Beck Depression Inventory identifying somatic symptoms of depression were found to produce elevated depression scores in people with a chronic medical
illness (Kalichman et al., 1995). Thus, utilizing instruments that measure depression by means of cognitive/affective items rather than physical/somatic symptoms is suggested when working with persons with HIV/AIDS or other chronic medical conditions (Kalichman et al.). Clinicians, however, may not be aware of the potential drawbacks and confounding variables associated with using the BDI among persons with HIV/AIDS.

More research is needed to determine the validity of the Beck Depression Inventory among this population. Research that has been published in this area has been inconsistent, at best, due to the “variety of incompatible, non-standardized measures and a tendency for samples to be small and focused on one ‘risk group’” at a time (Green et al, 1996, p. 126). Some researchers have reported that the Beck Depression Inventory-II fails to identify persons who are diagnosed with depression as being depressed, and may, in fact, identify persons as having depression who are not clinically depressed (Barroso & Sandelowski, 2001; Kalichman et al., 1995). Although the BDI-II has been used in more than 2,000 studies, it may fall short in truly detecting depression in those with HIV/AIDS due to the complex nature of the disease, physical ailments associated with the disease progression, and somatic complaints that mimic depressive markers (Barroso & Sandelowski). Little empirical research has been done to reach a solid conclusion on the validity and reliability of the BDI-II on persons with HIV/AIDS. Some researchers have argued that the Beck Depression Inventory is an inappropriate instrument to use with HIV-seropositive patients because of its reliance on somatic symptoms as an indicator for depression (Barroso & Sandelowski). Still, the BDI-II continues to be the most commonly used instrument in measuring depression among persons with HIV/AIDS.
(Barruso & Sandelowski). Therefore, examining the usefulness of the BDI-II in measuring depression in persons with HIV is a recommendation for future researchers.

Assumptions Underlying the Study

There are several assumptions underlying this study. First, the researcher assumed that negative psychosocial and mental health issues, such as depression, were serious health concerns that are widespread and common among persons with HIV. This researcher assumed that negative psychological factors can be reduced or alleviated with proper treatment, such as counseling services or other mental health care. In addition, this researcher assumed that the HIV pandemic was a serious issue that impacts individuals psychosocially, impacting their overall well-being and quality of life. From a counseling perspective, this researcher assumed that those in the mental health field should be concerned with treating persons for depression and presumed that assessment tools are an integral part of measuring and identifying depression in persons with HIV. Furthermore, the fact that the most commonly used tool in assessing depression in persons with HIV, the Beck Depression Inventory-II, has not been validated among this population also indicates that discrepancies exist in accurately assessing persons for depression in persons with HIV (Valente & Saunders, 1997). This researcher attempted to determine if the BDI-II was a useful assessment tool in measuring depression in a sample with HIV and attempted to determine if a more accurate cut-off score on the BDI-II would allow counselors to more accurately assess for depression in persons with HIV.

Summary

The purpose of this study was to compare the Beck Depression Inventory-II (BDI-II) to the Patient Health Questionnaire (PHQ-9) in order to develop a better
understanding of how depression may be measured among persons living with HIV/AIDS. Another aim of this research was to determine if a different cut-off score for depression could be used when utilizing the BDI-II with persons with HIV/AIDS. In order to answer these questions, persons with HIV/AIDS who were currently receiving medical treatment for HIV management at a local, metropolitan teaching hospital were asked to complete the Beck Depression Inventory (BDI) after completing the Patient Health Questionnaire (PHQ-9), a form completed as part of their routine patient care.

Data was collected by two professional clinic staff persons within the Infectious Diseases Clinic of a metropolitan hospital. Each of the persons collecting data for this research study were granted approval to do so from the researcher’s institutional review board (IRB) prior to data collection. Each data collector completed an On-line course in human subjects and confidentiality, required by this institution’s IRB committee. At no time did this researcher come into contact with or communicate with study participants.

Data collected from each participant was coded numerically so that this researcher did not have access to participant’s confidential information or identities. An arbitrary numerical coding was used to correspond and compare each participant’s scores on the BDI-II, PHQ-9, and Demographic Questionnaire. These data were then dummy coded and manually entered into Predictive Analytics SoftWare (PASW) GradPack 17 for Windows (formerly known as the Statistical Package for the Social Sciences or SPSS). PASW is a professional and affordable statistical program used widely among the social sciences and designed for students and researchers (Creswell, 2008). However, due to insufficient data (n=13), a statistical comparison was unable to be performed between
participants’ BDI-II scores and their scores on the PHQ-9. Frequency data and results from the open-ended narrative portion were reported.

Definition of Key Terms

AIDS (acquired immunodeficiency syndrome) develops as the immune system is severely damaged by the spread of HIV virus. This stage is characterized by a dramatic reduction of CD4+ T cells. AIDS leaves the body susceptible to infections and opportunistic disease (Batki & Selwyn, 2003; National Institutes of Health [NIH], 2005). The Centers for Disease Control and Prevention has determined that AIDS can be diagnosed when an individual’s T-cell (or CD4) count is below 200/mL per cubic millimeter of blood (CDC, 2009).

Antiretroviral: A medication used to stop or weaken the production of a retrovirus, such as HIV. HAART is an example of such therapy (Batki & Selwyn; CDC, 2009).

CD4+ T cells: White blood cells found within the body’s immune system. Persons with HIV are monitored for their CD4+ T cell count regularly, as the number of cells in a milliliter of blood reflects the overall health of the immune system (Batki & Selwyn, 2003). A person is said to have AIDS when he or she has fewer than 200 CD4+ T cells per microliter of blood; healthy persons have between 800 and 1200 CD4+ T cells per microliter of blood (NIAID, 2008).

Depression (Major Depressive Disorder): Symptoms of depression include a diminished interest in once-pleasurable activities, fatigue or loss of energy, an inability to concentrate, significant weight loss, decrease in appetite, feelings of inappropriate guilt, and recurrent thought of death and/or suicidal ideation (American Psychiatric Association
Depression is a commonly occurring mental health disorder, with a lifetime prevalence of roughly 15% in the general population. Among women, depression rates vary from 10-25 percent. For men, the lifetime prevalence ranges from 5-12 percent (DSM-IV-TR).

GLBT: A sexual minority group which includes Gay/Lesbian/Bisexual/Transgender (GLBT) individuals. Gay and Lesbian persons are homosexuals whose affection and/or sexual orientation are towards a person of the same sex (Sue & Sue, 2003). Bisexual individuals are those persons whose sexual orientation and/or affection are towards both sexes. The term “transgender” is often contested and several definitions exist, however, most definitions recognize that it is an umbrella term adopted by persons who do not define themselves by strict societal norms on gender. Most transgender persons are those who define themselves as transsexual, cross-dressers, genderqueer, drag queens, female-transitioning-to-male, male-transitioning-to-female, or another group that better fits their own definition of gender (Stotzer, 2009; Sue & Sue).

HAART (Highly active antiretroviral therapy): An aggressive therapy used to weaken or stop the production of HIV. Usually, HAART is a combination of therapies that include an aggressive protease inhibitor medication (Batki & Selwyn, 2003). This type of therapy is now considered to be “the standard of care” among HIV medical specialists (Batki & Selwyn, p. 46). Typically falls into one of the five categories of anti-retroviral drugs, which correspond to different stages of the HIV life cycle (NIAID, 2008).

HIV (Human immunodeficiency virus): A retrovirus that causes AIDS. HIV was first identified in the US in 1983 and is transmitted through blood and other bodily fluids.
HIV is typically spread through sexual contact and sharing needles for injection drug use (NIAID, 2008). Advancements in medications have extended the lifespan of persons with HIV, although there is no cure for HIV or AIDS at this time (Batki & Selwyn, 2003).

Opportunistic Infections (OIs): Infections that may cause frequent or severe illness in a person with HIV-infection as a result of immunosuppression. These infections are not usually as severe or as frequent in persons with a healthy immune system. Despite the use of antiretroviral therapy, OIs are the leading cause of death in persons with HIV/AIDS (Morbidity and Mortality Weekly Report (MMWR), 2009).

Protease Inhibitor: A type of therapy that interacts with protease enzymes, which are required in HIV replication. Thus, protease inhibitors slow or stop the replication of HIV. Examples of protease inhibitors include: saquinavir, ritonavir, nelfinavir, and indinavir (Batki & Selwyn, 2003).

Stigma: Characteristics, attributes, qualities, features, or parts that are viewed negatively by society, culture, or specific persons (Berger et al., 2001). The phenomenon of stigma is common among persons with HIV/AIDS (Crandall & Coleman, 1992; Herek, 1999). Stigma is associated with numerous health-related issues, such as anxiety, depression, loneliness, decreased self-esteem, and loss of social support (Berger et al., 2001).

Substance: Chemicals, drugs, medication, toxins, etc., used for non-medical purposes, which usually result in negative or harmful consequences (Batki & Selwyn, 2003).

Substance Abuse: A maladaptive pattern of substance use leading to impairment in job, physical hazard, interpersonal relationships, etc., which occur over a 12-month
period. In addition, the individual must not have previously met the criteria for a substance dependence disorder (Andreasen & Black, 2006; American Psychiatric Association [DSM-IV-TR], 2000).

Viral Load: This is the amount of HIV found in the bloodstream. Medications can keep the viral load low, however, the infected individual is still able to spread the virus when his/her viral load is low (Batki & Selwyn, 2003).

Organization of Chapters

Chapter One includes an introduction to the HIV/AIDS pandemic, including current statistic on this global issue and impact of the disease on society. Background information on the problem, the prevalence of depression and HIV/AIDS, as well as the need for proper assessment tools are discussed. The nature of this study and the need for more research in this area is addressed. Also included in this chapter is information on the history of HIV and its complex interrelation with depression. General research hypotheses which this study seeks to answer have been provided, as well as limitations of the research, significance of this study, assumptions underlying this research, and a summary of the proposed research. Lastly, definitions of key terms have been provided for the reader.

Chapter Two presents a review of the current literature. Characteristic symptoms of HIV, course of the disease, societal views, advancements in technology and treatment interventions, myths and facts surrounding the origins of the disease, prevalence, and transmission routes are discussed. Also included is information on Major Depressive Disorder, it's relation to HIV/AIDS, overlapping symptoms of depression and HIV, and a
discussion on stigma as a leading factor in depressive symptoms among persons with HIV.

Chapter Three discusses the methodology for this research study, including the rationale for research, design methods, methods of recruitment, data collection methods, how consent was obtained, and instruments used. Potential participants were asked to complete the Beck Depression Inventory-II after completing the Patient Health Questionnaire (PHQ-9) as part of their routine patient care. Procedures for informed consent, data collection, storage, and management are discussed in this chapter. Statistical hypotheses are provided and limitations of this research study are discussed. Methods for coding the interpretive, qualitative portion of data are explained in this chapter. Sections on data collection, coding, management, and analysis are discussed.

Chapter Four provides results of the data in relation to the proposed hypotheses. This chapter includes both the results of the interpretive, qualitative data in both table and narrative form. In addition, tables displaying a graphic presentation of the data are provided.

Chapter Five provides challenges encountered in this research study. A discussion of results and challenges in this research are provided. This chapter concludes with conclusions, recommendations for future research, and implications for research in this area.
CHAPTER II

Review of the Literature

Introduction

In order to develop a greater understanding of the relationship between depression and HIV/AIDS and to examine the potential barriers presented by using current depression screening tools with persons who are living with HIV, a comprehensive review of the literature must be provided. An examination of related literature explores the following (a) a comprehensive overview of HIV/AIDS, including information on statistics, current trends, history of the disease course, symptoms, transmission, high risk populations, and unique treatment considerations, (b) prevalence of depression, overall impact of depression, both psychosocially and financially, on society and individual well-being, and risks associated with untreated depression, such as mortality and suicide, (c) the interconnectedness of HIV/AIDS and depression, negative outcomes associated with depression and HIV/AIDS, prevalence, risk factors, impact of depression on medical prognoses, figures on suicide among persons living with HIV/AIDS and depression, and (d) current assessment tools available for screening for depression in persons with HIV/AIDS and potential limitations of these instruments. In addition to providing a comprehensive review of the current literature, specific aims and considerations for the future of counseling persons with HIV/AIDS is provided.
Understanding HIV and AIDS

As counselors prepare to better meet the needs of their clients, it is essential for them to have a foundation of knowledge and proficiency specific to HIV/AIDS. Persons living with HIV/AIDS may present with a variety of concerns, may commonly identify as a member of one or more historically marginalized groups or protected classes, may experience depression, stigma, isolation, oppression, marginalization, discrimination, or violence (Sue & Sue, 2003). As a result of the various psychosocial issues impacting persons with HIV/AIDS, counselors and other mental health professionals should be aware and sensitive to various social constructs, challenges, and barriers that may potentially impact treatment.

Overview of HIV/AIDS. Human Immunodeficiency Virus (HIV), a retrovirus that infects the body’s immune system by destroying CD4+ T cells, can progress to Acquired Immunodeficiency Syndrome (AIDS), a disease for which there is no cure. The progression of HIV infection to AIDS can vary from a few months to more than 15 years (Holodniy & Busch, 2003). A flu-like syndrome may develop shortly after HIV infection, although most persons who are newly infected with HIV have only mild to moderate symptoms. Few people who are newly infected with HIV will require hospitalization (Holodniy & Busch). Symptoms that may present with early HIV infection include fever, rash, fatigue, myalgias (muscle pains), or lymphadenopathy (swollen or enlarged lymph nodes). As CD4+ T cells are continually destroyed, the immune system fails, leading to the progression of AIDS. A person is said to have AIDS when he or she has fewer than 200 CD4+ T cells per microliter (µL) of blood (healthy persons have between 800 and 1200 CD4+ T cells per µL of blood) (National Institute of Allergy and Infectious
Diseases (NIAID), 2008). When a person with AIDS is no longer capable of warding off diseases, due to lowered CD4+ T cell count, the body is open to opportunistic infections as well as various cancers, pulmonary diseases, and gastrointestinal disorders, which can be fatal. Opportunistic Infections (OIs) continue to be one of the leading causes of death in persons with HIV/AIDS (Morbidity and Mortality Weekly Report (MMWR), 2009).

*Discovery of HIV/AIDS.* Although HIV was first identified in the U.S. in 1983, studies have shown that the virus was present decades before that time. Research looking at collected blood samples suggests that the virus was present in the U.S. as early as the 1970s and in the Democratic Republic of Congo since 1959 (CDC, 2009). Genetic testing of blood samples indicate that HIV may have originated from the same strand of virus in the late 1940s or early 1950s (CDC). Some researchers have suggested that HIV was present even earlier than that, perhaps as early as the 1900s (Engel, 2008).

The disease, now known as HIV, first began receiving attention in the late 1970s and early 1980s when homosexual men presented with rare illnesses in San Francisco, New York, and Los Angeles (CDC, 2009). In the late 1970s, the first cases of what today is called HIV were reported in the medical literature. At that time, rare infections that were seemingly unexplainable and unrelated to each other were being reported. In 1981, five young and previously healthy homosexual men each presented at Los Angeles hospitals with a rare type of pneumonia called *Pneumocystic Carinii* (Inciardi, 1990). At the same time, previously healthy homosexual men in New York and California were being diagnosed with an exceedingly rare type of cancer called *Kaposi’s Sarcoma* (CDC; Inciardi). The CDC reported, “The fact that these patients were all homosexuals suggests some association between some aspect of a homosexual lifestyle, or disease acquired
through sexual contact…” (p.401). The Lancet called the virus *Gay Compromise Syndrome*, while the Centers for Disease Control and Prevention (CDC) called this virus *Gay Cancer*. Later, the term *GRID*, which stood for “Gay-Related Immune Deficiency” became popular (Avert, 2009; CDC). Others called the disease “Community-Acquired Immune Dysfunction” (Avert). In 1982, when heterosexual men and women became infected with these same symptoms, the causative agent was isolated and the CDC reclassified the name of the disease to more accurately reflect the emerging face of the virus, calling the disease *HTLV-III* (human T-cell lymphotropic virus-type III). Later the profile of the virus was clarified and renamed *Human Immunodeficiency Virus*. The syndrome describing the advance immune damage of the HIV infection became known as *Acquired Immunodeficiency Syndrome* or *AIDS* (CDC).

In 1983, researchers isolated and discovered the virus that caused AIDS. The mechanism, a retrovirus that attacks, replicates, and multiplies, does so by taking over the host cell’s ribonucleic acid (RNA) and deoxyribonucleic acid (DNA). Retroviruses must replicate by making a DNA copy of their RNA. With each replication, the virus continues to change, thus the strain of HIV within an individual can undergo many changes (CDC, 2009). Researchers suggest that the complex nature of the virus and its ability to mutate are two reasons why the virus, although present in the U.S. prior to the 1970s/1980s, did not become more virulent (Inciardi, 1990). Due to the complex nature and course of the disease, a cure has not been found, although highly active antiretroviral therapy (HAART) has recently been successful in suppressing the spread of HIV within the body (CDC, 2009).
Researchers have diligently sought to answer questions regarding the origins of HIV/AIDS. There is much debate, scientific discussion, controversy, and varying theories surrounding the origins of HIV, especially that of the genesis of HIV in the United States (AVERT, 2009; CDC, 2009; Inciardi, 1990). It is generally accepted that HIV is directly derived from Simian Immunodeficiency Virus (SIV), a strain of virus found in a species of monkey indigenous to West Africa (AVERT; Batki & Selwyn, 2003; Inciardi). It is still unclear how exactly the strain of virus “jumped” from primates to humans, referred to as zoonosis, but several theories have become popular in explaining this phenomenon (AVERT; Inciardi).

Theories of Origin. The most widely-accepted theory on the origin of HIV is commonly referred to as “The Hunter Theory” (AVERT, 2009). Human contact with the blood and/or other bodily fluids of primates infected with SIV during hunting or butchering has been regarded as the primary mechanism for the genesis of HIV (Batki & Selwyn, 2003; Wolfe et al., 2004). It is believed that SIV entered the human body when hunters attempted to capture and/or prepare African monkeys for food (AVERT; Inciardi, 1990; Wolfe et al., 2004). Infected blood could have been transferred from primate to human if the hunter had an open wound or cut and came into contact with the blood of an infected monkey. Evidence tends to support this theory, as early strains of HIV have slight variations, suggesting that multiple hunters became infected from different monkeys, each possessing a similar strain of SIV (AVERT). In addition, further evidence shows that even in present day, viruses are still being passed from primates to hunters.
during hunting and butchering. Wolfe et al. (2004) reported that 1% of hunters in Cameroon are newly infected with a virus that had previously only been seen in primates.

One of the most controversial theories of the origin of HIV has been largely contended within the medical field and government sectors while being widely accepted within the African-American community (Bird & Bogart, 2005; Klonoff & Landrine, 1999). Largely as a result of racial discrimination and a history involving exploitation and cruelty, it is well-documented that the African-American community has developed a deep-seated suspicion towards whites and the government, especially concerning health-related matters (Bird & Bogart; Hagen, 2005; Klonoff & Landrine). One theory surrounding the origin of HIV consists of the government creating HIV in an effort to eradicate historically marginalized groups, namely the African American community. In one study, nearly 30% of blacks believed that HIV was created by the government to destroy the black community, while another study found that more than 50% endorsed this belief (Jones, 1993; Klonoff & Landrine). Studies reveal that 40-70% of African Americans believe that the government is keeping information from the general public regarding AIDS and 44% of blacks reported that they did not trust the government (Bird & Bogart). In addition, more than half of blacks believed that the government was withholding a cure for HIV from the poor (Fears, 2005).

Many who endorse what is commonly referred to in the research literature as “The Conspiracy Theory” believe that the oral polio or smallpox vaccines were intentionally used to infect black persons with the HIV virus. Other potential sources for contamination have been linked to government studies, namely the “Special Cancer Virus Program” and the Hepatitis B vaccine trials (AVERT, 2009; Fears, 2005). It is not
difficult to understand why a sense of mistrust is so pervasive within the African American community. From the Tuskegee Syphilis Experiment to slavery, there is a documented history of disenfranchise and deception (Simmons & Parsons, 2005). One of the reasons why it is so important for counselors and other mental health providers to be aware of these theories of origin, is because patient attitudes directly impact patient care and the prognosis of the individual. Belief in conspiracy theories are negatively correlated with treatment adherence (Simmons & Parsons). In addition, adopting conspiracy beliefs is highly correlated with feelings of stigma and an ambivalence toward HIV prevention (Herek & Capitanio).

Transmission of HIV

In contrast to explaining the origins of HIV to the U.S., there are much more definite answers when it comes to explaining the transmission of HIV. Researchers have been able to track the spread of the disease both in the U.S. and globally, having identified all primary routes of transmission. When the disease was first discovered, researchers observed that HIV was being transmitted through sexual contact, specifically through blood and bodily fluids. In 1982, the first case of a person contracting HIV from a blood transfusion was identified (Donegan, 2003). In the United States, approximately 14,262 persons had been diagnosed with HIV/AIDS as a result of receiving HIV-infected blood transfusions (Donegan). Nearly all of these transfusions were completed prior to 1985 (CDC, 2009; Donegan; FDA, 2002). Public awareness of the link between HIV and blood transfusions was raised when Ryan White, a 13 year old boy with hemophilia was diagnosed with AIDS in 1984 as a result of a blood transfusion (HRSA, 2009). Reported cases of HIV from blood transfusions and the attention that Ryan White received as he
battled with AIDS, led to an effort to implement more stringent guidelines for blood transfusions and donations (Donegan).

Since 1985, all blood donations in the United States have been screened for antibodies to the HIV-1 strand of HIV, the most common strain of HIV (CDC, 2009; FDA, 2002). After 1992, screenings for the HIV-2 strain of HIV have been conducted. Beginning in 1995, the Food and Drug Administration (FDA) ordered all plasma collected in the US to undergo testing for both HIV-1 and HIV-2 and put into place a multi-level system of safeguards to protect persons who receive blood transfusions from HIV-infected blood (FDA, 2002). With improvements in screening for all donated blood, the incidence of HIV infection due to a blood transfusion is estimated to be between 1 in 450,000 to 1 in 660,000 per year (National Institute of Allergy and Infectious Diseases (NIAID), 2009).

Despite the safeguards put into place for blood transfusions, the virus continues to be spread at alarming rates through other means, making it one of the most deadly pandemics in the world. HIV continues to be spread when HIV-infected blood, semen, or vaginal secretions come in contact with an uninfected person’s broken skin, blood, or mucous membranes. Pregnant women who have HIV can pass the virus to their baby during pregnancy or delivery, as well as through breast-feeding (CDC, 2009). The Centers for Disease Control and Prevention classifies transmission of HIV into six categories for surveillance purposes: male-to-male sexual contact, injection drug use, male-to-male sexual contact and injection drug use, high-risk heterosexual (male-female) contact, mother-to-child (perinatal) transmission, and other causes (which includes blood transfusions and unknown causes). The CDC estimated that 56,300 people were newly
infected with HIV in 2006 (CDC, 2009). More than half of these new infections occurred in gay and bisexual men. African American men and women were among the highest proportion of racial/ethnic groups newly infected, with a rate of HIV illness 7 times higher than that of Caucasians/whites (CDC, 2009).

In the United States, advances in HIV treatments in the 1990s slowed the development of HIV infection into AIDS. At the end of 2003, an estimated 1,039,000 to 1,185,000 persons in the United States were living with HIV/AIDS, mainly due to the advancements in medical treatment (CDC, 2009). Prior to highly active antiretroviral therapy (HAART) for HIV, the prognosis of HIV/AIDS was always 100% fatal; In the 1980s the progression of HIV infection to AIDS took a predictable route and a short life span was expected (Ungvarski, 2001). However, in 1996, when highly active antiretroviral therapy (HAART) became available to persons with HIV, the course of the disease no longer was predictable or fatal (Prachakul & Grant, 2003; Ungvarski, 2001). For that reason, statistics which indicate trends in AIDS do not necessarily indicate newly infected persons or most recent HIV trends. That is, more people in the U.S. may have HIV/AIDS than ever before, but this is also due to the fact that persons with HIV/AIDS are living longer lives. In order to look at the trends in HIV/AIDS, the CDC has required reporting of all HIV diagnoses since April of 2004 (CDC, 2009). Prior to that, the HIV Counseling and Testing System (CTS) monitored HIV counseling and testing services at all CDC-funded testing sites from 1989 to 2004. Now, all testing sites, health departments, and hospitals are required to report seropositive status to the Centers for Disease Control and Prevention (CDC, 2009).
Prevalence and Current Trends in HIV/AIDS

Nearly thirty years ago, HIV/AIDS was just beginning to receive attention in the medical community and media outlets. Since that time, HIV has caused an estimated 25-30 million deaths worldwide and has become the single most detrimental disease in history (CDC, 2009). “The HIV/AIDS pandemic has inflicted the single greatest reversal in human development.” (United Nations Development Programme (UNDP), 2005, p. 3). HIV has plagued society and individuals in a variety of ways and has caused a global impact in the following areas: reducing life expectancy, increasing poverty levels, significantly reducing populations in countries most impacted by HIV, weakening institutional structures, and leaving thousands of children orphaned (Commission on AIDS in Asia, 2008). According to the Joint United Nations Programme on HIV/AIDS (UNAIDS, 2008), the detriment and death toll caused by HIV/AIDS is much too great to predict and far exceeds the death toll directly linked to AIDS deaths. UNAIDS claims that the reported numbers of deaths related to HIV fail to identify those people who were never aware of their HIV status and it does not include the countless others who were impacted indirectly by the virus.

The pervasiveness of HIV/AIDS on a global level continues to be of pandemic proportions, with an estimated 33.2 million to 39.5 million people worldwide living with HIV (UNAIDS, 2008; Dortzbach & Long, 2006). Every day, nearly 7,000 people are newly infected with HIV, while another 5,700 people die from AIDS (MMWR, 2007). These estimates, however, could be much greater, as they do not include those persons who are asymptomatic and unaware of their HIV status until it has progressed into AIDS, a number estimated to be between 25-30% (CDC, 2009: UNAIDS, 2008).
The United States ranks as having one of the largest populations of people living with HIV/AIDS (CDC, 2009).

At Risk Populations

It is essential to note, that a majority of persons living with HIV/AIDS are members of a historically marginalized or traditionally underrepresented class, such as: African Americans, Hispanics, GLBT members, Women, and/or members of lower socio-economic status (Harrison, Ling, Song, & Hall, 2008; Stotzer, 2009; Sue & Sue, 2003). As a result of being a member of one or more of these traditionally marginalized groups, these individuals may face added oppression, discrimination, stigma marginalization, social injustice, and violence (Harrison et al., 2008; Sue & Sue, 2003).

African-Americans. Although African Americans make up only 13% of the US population, they account for more than 51% of newly reported HIV cases in the US (CDC, 2009). In Lucas county, where this research study took place, there were 877 reported persons living with HIV/AIDS in 2008, approximately 46% of whom were African American. African Americans are disproportionately infected with HIV in this region, as they comprise only 17% of the total population in Lucas County (Health Department, 2009). Of the women diagnosed with HIV/AIDS, greater than 70% are African American (Office of Minority Health [OMH], 2009). The prevalence of AIDS among African American women is twenty times the rate of non-Hispanic white women. In addition, African American women are twenty-two times more likely to die from HIV/AIDS than white, Non-Hispanic women (OMH). Further, 62% of children born of HIV-infected mothers are African American (CDC). HIV/AIDS infection is now the leading cause of death in African Americans ages 25 to 44 years old (National Institute
on Drug Abuse [NIDA], 2006). African Americans accounted for roughly 48% of the overall population of persons living with HIV/AIDS and 40% of all AIDS-related deaths in 2007 (CDC, 2009).

There may be many contributing factors as to why African Americans are disproportionately infected with HIV in the U.S. For example, it is well-documented that lower socioeconomic status (SES) is linked to HIV infection and faster rates of mortality among those living with HIV (Harrison et al., 2008; Hughes, 2007; Steenland, Henley, Calle, & Thun, 2004). Lower SES is associated with restricted access to quality healthcare, poverty, poorer housing conditions, and limited access to HIV education and prevention programs (Armstrong, 2007; CDC, 2009).

In a study by Bird and Bogart, researchers found that one in seven African Americans believed that AIDS was created by the government to control the black population (2005). In addition, the researchers found that more than 50% said they believed there was a cure for HIV/AIDS that was being withheld from the poor and 44% believe that persons who take HIV-medications are being used by the government for testing purposes (Bird & Bogart). The notion of conspiracy beliefs among African American persons is a well-documented phenomenon, most likely stemming from historical events including slavery, Jim Crow laws, the Tuskegee Syphilis Experiments, and current tones of discrimination (Bird & Bogart, 2005; Jones, 1993; Klonoff & Landrine, 1999; Simmons & Parsons, 2005). Subsequently, this manifestation of mistrust and suspicion towards government and health care perpetuates a lack of treatment and prevention that is ubiquitous in the African American community (Klonoff & Landrine). Counselors, therefore, should be prepared to explore and implement culturally-sensitive
and specifically-tailored programs that meet the needs of black clients while promoting health care interventions.

*Hispanic/Latino Americans.* The largest ethnic minority group in the U.S. is that of the Hispanic/Latino Americans. For the purpose of this paper, the term *Hispanic* or *Latino Americans* will be used to refer to individuals living in the United States who have ancestry or heritage from Mexico, Puerto Rico, Cuba, Latin America, El Salvador, and the Dominican Republic. It should be noted, that these terms are not necessarily accepted by all groups or races, but are generally accepted by most within these cultures. Other terms, such as *la raza* (the race), *Mexicano, Chicano*, Mexican American, or Spanish American are preferred (Sue & Sue, 2003).

According to the U.S. Census Bureau, there were 44.3 million Hispanics in America in 2006, making them the largest ethnic minority group in the United States (2006). Hispanic Americans make up 14.8% of the total population and are the largest growing ethnic group in the United States. In fact, Hispanic Americans accounted for approximately 50% of the nation’s growth in 2006 and experienced a population increase three times that of the growth rate for the nation (US Census Bureau, 2008). Projections based on current fertility and immigration trends predict that Hispanic Americans will make up more than 25% of the nation’s population by the year 2050, compromising more than 100 million persons (Choi, Sakamoto, & Powers, 2008; US Census Bureau). It is estimated that more than 25% of all Hispanic/Latino Americans in the U.S. are undocumented and/or not of legal citizenship (Livingston, 2009).

Hispanic/Latino Americans comprise 19% of new reported AIDS diagnoses and nearly 20% of those living with HIV/AIDS in the US (CDC, 2009). HIV/AIDS is now
the fourth leading cause of death among Hispanic Americans ages 35-44 years old (CDC). The leading cause of HIV transmission among Hispanic males is male-to-male contact among Men-Who-Have-Sex-With-Men-and-Women (MSMW), followed by injection drug use, and high risk heterosexual contact (CDC). Hispanic American women are most likely to contract HIV through sexual contact with men, many of whom are MSMW. Studies have shown that Hispanic American women do not accurately assess the risk factors of their sexual partners and are often unaware of their partners’ high risk behaviors (Montgomery, Mokotoff, Gentry, & Blair, 2003; Mutchler et al., 2008). Unfortunately, Hispanic American MSMW have the highest rates of unprotected sex (Mutchler et al.) and Hispanic women may not be aware of their partners’ sexual behaviors with other men, which may, in turn, increase the potential to spread HIV from MSMW to their unknowing female partners (Montgomery et al.; Mutchler et al.).

There appears to be several factors that may contribute to the high rates of HIV among Hispanic/Latino Americans. The following factors may collectively contribute to the excessive rates of HIV among Hispanics: receiving limited access to medical care, often as a result of being undocumented or of illegal status in the U.S.; suffering from educational, political, economic, and occupational oppression (being of low socioeconomic status); having inadequate knowledge or access to AIDS resources and/or being unable to understand information regarding prevention, treatment or medical care; and/or adopting inaccurate information about HIV/AIDS (CDC, 2009; Sue & Sue, 2003). Hispanic Americans are disproportionately represented among the poor, have lower SES than non-Hispanics, experience higher rates of unemployment, and frequently live in substandard housing conditions (CDC; Sue & Sue). Subsequently, education and medical
attention in the area of HIV/AIDS prevention and treatment is often neglected.
Approximately 30% of Hispanic/Latino American citizens of the U.S. do not have health insurance. More than 60% of undocumented Hispanic Americans lack health insurance (Livingston, 2009). Many undocumented Hispanic Americans report that they do not go to the doctor or seek medical attention due to fear of deportation and/or of being discovered by authorities (Sue & Sue).

**Substance Abusers and Injection Drug Users.** The public health problem of substance abuse is one that impacts society on many levels. The effects of drug addiction and substance abuse impact individuals, families, communities, and national and global infrastructures. The societal costs of substance abuse are tremendous, costing the United States more than $484 billion dollars each year (National Institute on Drug Abuse [NIDA], 2008). Only 3% of this total, however, is spent on substance abuse treatment or prevention programs (Cartwright, 2008). The remaining nearly $470 billion can be accounted for by lost wages, crimes, drug-related accidents, lost productivity in the workplace, medical treatment, and costs of other diseases directly related to drug use (Cartwright, 2008; NIDA, 2008). The costs of substance abuse is a substantial burden on society, costing more than cancer and diabetes combined (NIDA, 2008). These numbers exclude the indirect costs of substance abuse, as several of the nation’s other leading health problems are indirectly related to substance abuse: Cancer, Heart Disease, HIV/AIDS, and Hepatitis C (NIDA, 2008). According to the National Institute on Drug Abuse (NIDA), tobacco use accounts for 11-30% of cancer deaths and 30% of deaths attributes to heart disease (2008). In addition, 33-36% of all reported AIDS cases in the United States in 2000 (11,635) and the majority of Hepatitis C cases (roughly 25,000) in
2001 were directly related to injection drug use (Centers for Disease Control and Prevention [CDC], 2007; NIDA, 2008).

Since the late 1970s and early 1980s, when AIDS was first identified, injection drug use has directly and/or indirectly accounted for 36% of all HIV/AIDS cases in the United States (CDC, 2007; Dortzbach & Long, 2006). Research has shown that using drugs increases a person’s risk of contracting HIV/AIDS (Batki and Selwyn, 2003). There are several reasons why the use of illicit drugs increases a person’s risk of having HIV. People who use drugs may engage in risky behaviors while under the influence, such as having unprotected sex, having multiple sex partners, or exchanging sexual behaviors for drugs or money. In addition, people who use drugs may also use injection drugs and may share needles with other injection drug users. Among those who use illicit drugs, injection drug users (IDUs) have the highest rates of HIV infection (Batki & Selwyn, 2003). According to the Morbidity and Mortality Weekly Report (MMWR) (2003), injection drug use was involved in nearly 25% of all newly confirmed AIDS cases.

It is also important to note that current substance abuse among persons who are living with HIV presents unique treatment issues. Researchers have found that persons living with HIV who are also injection drug users are less likely to seek HIV treatment and are less adherent to treatment recommendations (Wood et al., 2008). Barash, Hanson, Buskin, and Teshale (2007) found that persons living with HIV who were also injection drug users were less likely to seek outpatient services but were more likely to have more frequent and lengthier emergency room visits and hospitalization stays. Specifically, HIV-positive injection drug users were more than two times as likely to
have one or more emergency room visits and were nearly two times as likely to be hospitalized. Further, HIV-positive injection drug users were less likely to receive testing for viral load and CD4 level count, despite recommendations from the Department of Health and Human Services, which encourages test CD4 and viral load testing every three to four months (Barash et al.; Wood et al., 2008).

Treatment Issues and Considerations

Stigmatization. One of the unique issues among persons with HIV/AIDS, is that of stigma, a consequence of overt and indirect discrimination against persons with HIV (United Nations Programme on HIV/AIDS (UNAIDS), 2007). Unlike, other types of illness, persons with HIV/AIDS may feel stigmatized as many people attribute HIV to historically-viewed socially unacceptable behaviors, such as homosexuality, promiscuity, or injection drug use (UNAIDS). Much of what researchers know about stigma comes from Goffman’s theory of stigma, which posits that at the foundation of stigma is a mark that devalues a person in society (Earnshaw & Chaudoir, 2009). Since the beginning of the HIV pandemic, persons with HIV have been discriminated as a result of their diagnosis (Dodds et al., 2004; Gostin, Feldblum, & Webber, 1999; UNAIDS). Feelings of stigma, which include shame, fear of being recognized, embarrassment, fear of rejection, and discrimination, have long-been associated with HIV infection (Berger et al., 2001; Dodds et al.).

Stigma is widespread among persons with HIV and has been reported to be one of the most common stressors among infected persons (Berger et al., 2001; Taylor, 2001). Persons often experience depression as a result of feeling stigmatized. Sadly, it is a common phenomenon among persons with HIV to be shunned by family or friends after
initial disclosure. Research indicates that the majority of people with HIV have disclosed to someone with mixed results, subtle distancing, or overt rejection (Berger et al.; McCain & Gramling, 1992; Weitz, 1990). In addition, research indicates that 12% of men and 21% of women have experienced physical violence as a direct result of their HIV status (Vanable, Carey, Blair, & Littlewood, 2006; Zierler et al., 2000).

Feelings of stigma can occur in a variety of social settings. Most often, stigma is felt within intimate partnerships, among family and friends, or on a societal level, which includes discrimination within the workforce, difficulties in obtaining employment, problems assessing healthcare services, and barriers to acquiring housing (Gostin et al., 1999; Vanable et al., 2006). Stigma, which is often accompanied by discrimination, is one of the biggest barriers to persons receiving proper treatment (UNAIDS, 2007). The effects of stigma can deter many people from receiving the necessary treatment they need (UNAIDS). In addition, the literature seems to suggest that reported self-stigma is directly associated with depression and feelings of hopelessness (Lee, Kochman, & Sikkema, 2002), which is correlated with greater mortality and suicide (Jin et al., 2006; Simbayi et al., 2007).

Depressive Disorders. Persons with HIV/AIDS are at a greater risk for depressive symptoms, which has been linked to reduced adherence and non-compliance to medical treatment, often resulting in poorer medical prognoses (Berger et al., 2001; Crandall & Coleman, 1992; Leserman, 2003). It is important to be aware of the unique challenges that may present when a person has depression and HIV/AIDS (Walker & Spengler, 1995). Depression and stress affects the body’s immune system and the ability to protect against illness. In a person with an immunocompromising condition, such as HIV, the
immune system is already impacted by the course of HIV and is thus, further weakened by depression and added stress. In HIV-infected persons with depression, it is not surprising that they are associated with having a worse prognosis than those persons who have HIV but do not experience depression (Leserman, 2003).

Major Depressive Disorder is defined in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association [DSM-IV-TR], 2000) as “a clinical course that is characterized by one or more Major Depressive Episodes…” (p. 369) and may have an onset at any age, although it is typically occurs in the mid-20s. Some symptoms of depression include a diminished interest in once-pleasurable activities, fatigue or loss of energy, an inability to concentrate, significant weight loss, decrease in appetite, feelings of inappropriate guilt, and recurrent thought of death and/or suicidal ideation (DSM-IV-TR). Depression is a commonly occurring mental health disorder, with a lifetime prevalence of roughly 15% in the general population. Among women, depression rates vary from 10-25 percent. For men, the lifetime prevalence ranges from 5-12 percent (DSM-IV-TR).

Depression is associated with a high risk of mortality, lower reported quality of life, increased risk of heart disease, higher rates of illness, and increase in amount of high-risk behaviors (American Psychiatric Association [DSM-IV-TR], 2000; Monahan et al., 2008; Tate et al., 2003). Nearly 15% of persons diagnosed with Major Depressive Disorder die by suicide. The prognosis is even poorer for those who have a Major Depressive Disorder and a chronic or severe medical condition (DSM-IV-TR).

Several research studies have demonstrated the negative effect of depression on HIV prognoses. The San Francisco Men’s Health Study, followed 395 HIV-infected men
for 9 years. All men were initially asymptomatic of HIV markers. Researchers found that progression to AIDS was an average of 1.4 years faster in those who were classified as depressed. In another study known as the “Coping in Health and Illness Project” or “CHIP”, 96 HIV-positive men who were initially asymptomatic for HIV were followed twice a year for 9 years. Research showed that men were more likely to develop AIDS at the 9 year follow-up if he identified with “more cumulative depressive symptoms.” Specifically, “for each 3-point change in average depressive symptoms (equal to one severe symptom), the risk of developing a clinical AIDS condition was more than doubled” (p. 297).

In a study by Burack, Stall, Barrett, and Coates (1992), 277 gay men were studied for 5.5 years. Researchers found that those who are depressed show more rapid decline in their CD4+ count. Researchers also found that men who had elevated symptoms of depression over the course of the study, were at nearly twice the risk of mortality than those who did not report symptoms of depression. In another study, researchers found that women with chronic depressive symptoms were twice as likely to die from HIV as those who did not experience depression (Ickovics et al., 2001) Their research controlled for factors such as age, employment status, medication usage, CD4+ cell count, RNA viral load, and HIV symptoms (Ickovics).

Since depression is correlated with overall well-being, prognosis of medical conditions, and increased risk for suicide, it is important for persons with HIV/AIDS to be properly diagnosed and treated for depression (Eller 2006; Gore-Felton et al., 2006). Some researchers have concluded that depression in persons with HIV/AIDS is correlated with a decrease in adherence to medical treatment and is a major risk factor for non-
compliance in care (DiMatteo, Lepper, & Croghan, 2000). Depression is also correlated with poorer immune system functioning and increased mortality among persons with HIV/AIDS (Overman & Anderson, 2001). In addition, persons with HIV/AIDS have higher rates of substance abuse disorders, slightly higher lifetime rates of depression, and are at greater risk for suicide (Jin et al., 2006). Several studies have shown that more than 50% of persons with HIV/AIDS suffer from depression compared to roughly 15% of persons in the general population (Rabkin, Wagner, Rabkin, 1997; Kelly et al., 1998; Perkins et al., 1994). Research by Jin et al. (2006) indicates that nearly 79% of those with HIV/AIDS met the criteria for Major Depressive Disorder.

Suicide Risks. Persons with HIV/AIDS often face many psychosocial issues that contribute to feelings of depression. If left untreated, depression may lead to recurrent suicidal ideation, attempted suicide, and mortality related to suicide. HIV-infected persons are at greater risk for attempting suicide and mortality associated with a completed suicide. Studies have reported that a person with HIV/AIDS is 7-36 times more likely to attempt suicide than an HIV-negative person (Roy, 2003). Other studies have indicated that a lifetime prevalence of suicide attempts range from 16% to 52% in persons who are HIV-infected, which is alarmingly high when compared to roughly 4.2% among HIV-negative persons (Gielen, McDonnell, O’Campo, & Burke, 2005).

Assessing for Depression

It is imperative that counselors are aware of the instruments that are available to measure depression in persons with HIV/AIDS and the limitations that these instruments may have. “Effective treatment of depression has the potential to significantly influence the mental and physical health of a population living with a chronic condition that
continuously presents physical, social, and psychological challenges” (Tate et al., 2003, p. 117).

Part of the difficulty in capturing an accurate picture of the relationship between depression and HIV/AIDS may be in the instruments used to measure depression in this population. These instruments often rely heavily on somatic symptoms of depression and may not be effective when used with persons with chronic illnesses, such as HIV/AIDS (Castellon et al., 2006). Research indicates that few validated depression scales exist for persons with HIV/AIDS (Monahan et al., 2007). Depression among persons with HIV/AIDS does seem to be greater than what is seen in the general population, however, rates of depression among persons who are HIV positive (HIV+) may be over-estimated due to problems with the assessment tool used.

Assessment Tools. In order to address the concern of depression among persons with HIV/AIDS, it is essential to properly assess persons for depression by using assessment tools which properly measure depression. More research is needed to determine the validity of assessment tools among this population. Research that has been published in this area has been inconsistent, at best, due to the “variety of incompatible, non-standardized measures and a tendency for samples to be small and focused on one ‘risk group’” (Green et al, 1996, p. 126).

Some researchers have reported that the Beck Depression Inventory-II fails to identify persons who are diagnosed with depression as being depressed, and identifies persons as having depression who are not clinically depressed, but have somatic symptoms. Although the BDI-II has been used in more than 2,000 studies, some researchers have concluded that the BDI-II may be inadequate in assessing depression in
persons with chronic illness who have somatic complaints which are identical to somatic features of depression (Barruso & Sandelowski, 2001; Wedding et al., 2007). Little empirical research has been done to reach a solid conclusion on the validity and reliability of the BDI-II on persons with HIV/AIDS. Still, the BDI-II continues to be the most commonly used instrument in measuring depression among persons with HIV/AIDS (Barruso & Sandelowski). It is, therefore, important to compare the BDI-II to other depression screening tools which are considered to be valid and reliable among persons with HIV.

*The Beck Depression Inventory-II.* One of the most commonly used assessment tools for measuring depression is the Beck Depression Inventory-II (BDI-II). This instrument, originally created by Beck, Ward, Mendelson, Mock, and Erbaugh in 1961 and copyrighted in 1979, has since been revised and republished in order to better meet the current diagnostic criteria of the *DSM-IV-TR* (Beck et al, 1961). The self-administered, Beck Depression Inventory-II, is a 21-item multiple choice questionnaire used to assess for depression in persons over the age of 13. The BDI has been revised multiple times, with the current version, the BDI-II published in 1996 (Groth-Marnat, 2003). The BDI-II continues to be the most commonly used instrument for measuring depression and has been translated in several languages (Barroso & Sandelowski, 2001; Groth-Marnat). The BDI-II is often used because of its brevity and ease in scoring.

Each of the 21 items on the BDI-II is scored from 0-3 to indicate severity of depression and agreement with each statement. Thus, a range of 0 to 63 is possible (Barroso & Sandelowski, 2001; Groth-Marnat, 2003). Typical clinical depression is usually indicated by a score of 14-28; scores of 14-19 suggest mild depression, 20-28
suggests moderate depression, and a score between 29-63 indicates severe depression (Barrossa & Sandelowski; Groth-Marnat).

One of the arguments made against using the BDI-II, is that it may be ineffective in measuring depression in persons chronic or physical illness. Researchers have argued that the BDI-II relies too heavily on somatic symptoms, which may be measuring a phenomenon of the pre-existing condition or disorder rather than depression (Castellon et al., 2006; Gibbie et al., 2006). Although there is an overlap between depression and chronic illness, it is important to understand the distinction and be able to measure depression reliably within this population.

The PHQ-9 Depression Tool. The PHQ-9 is a nine item depression scale that is commonly used in the medical field to assess depression in patients. The PHQ-9 is completed by the patient/client and can easily be scored by a clinician or other staff. The PHQ-9 is based directly on the nine diagnostic criteria from the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association [DSM-IV-TR], 2000) for Major Depressive Disorder (Kroenke, Spitzer, & Williams, 2001; Monahan et al., 2007). Total scores on the PHQ-9 range from 0-27 with five severity categories: ranges from 0 to 27 with severity categories including: mild (5–9), moderate (10–14), moderately severe (15–19) and severe (20–27) (Monahan et al., 2007).

Some of the benefits of using the PHQ-9 are that it is self-administered, takes only a few minutes to complete, and can be scored in minutes. The respondent is asked to consider “Over the last 2 weeks, how often have you been bothered by any of the following problems?” The individual is asked to rank each of the nine statements from 0-3, where “0” indicates “not at all,” a “1” suggests “several days,” a “2” implies “more
than half the days,” and a “3” denotes “nearly everyday.” Participants are asked to determine how often he/she endorsed statements, such as, “Thinking that you would be better off dead or that you want to hurt yourself in some way.” The PHQ-9 is also helpful in assessing the severity of depression. A score of 5 or more items indicating endorsement of “more than half the days” suggests Major Depressive Disorder. Minor Depressive Syndrome is suggested if items b, c, or d are endorsed as occurring “more than half the days.” The PHQ-9 also provides suggested courses of interventions should a person score within a given range on this assessment. A score of 15 or more “warrants treatment for depression, using antidepressant, psychotherapy, and/or a combination of treatment.”

The PHQ-9 is said to have both construct and criterion validity (Kroenke, Spitzer, & Williams, 2001). An instrument is said to have construct validity if the scores on that instrument “are significant, meaningful, useful, and have a purpose” (Creswell, 2008, p. 173). Criterion-related validity occurs when “the scores from an instrument are a good predictor of some outcome (or criterion) they are expected to predict” (Creswell, p. 173). It is also described in the research literature as the only validated instrument measuring depression among persons with HIV/AIDS using the nine diagnostic criteria for depression from the *DSM-IV-TR* (Monahan et al., 2008).

*HIV/AIDS and Depression.* Research findings in this area of depression and HIV are often inconsistent and demonstrate conflicting results regarding comorbidity of HIV and depression (Asch et al., 2003; Eller, 2006; Gibbie et al., 2006; Griffin & Rabkin 1997; Judd et al., 2005; Overman & Anderson, 2001). Griffin, Rabkin, Remien, and Williams (1998) point out that the relationship between HIV/AIDS and depression is not
well understood and is extremely complex in nature. Some researchers have proposed that depressive symptoms may be a consequence of HIV infection (organic depression), as there is a correlation between the number of missed antiretroviral medication and higher rates of depression (Barroso, Carlso, & Meynell, 2003; Judd et al.).

This study was proposed to develop a better understanding of the relationship between depression and HIV/AIDS. It was hoped that this research could explore the effectiveness of the Beck Depression Inventory-II (BDI-II) with persons with HIV/AIDS by attempting to compare participants’ scores on the BDI-II to their scores on the PHQ-9. However, due to insufficient data, a statistical comparison was unable to be performed.

The results of this study were intended to build upon the previously existing body of literature regarding HIV and depression. It was hoped that this research would increase the knowledge base and understanding of assessing persons with HIV and to assist counselors and other mental health providers to promote and provide better care and treatment to persons with HIV. Additionally, results of this study were intended to explore other variables impacting depression in persons with HIV, including stigma, disparities in medical care, and socioeconomic status.
CHAPTER III
Methodology

The purpose of this study was to develop a greater understanding of the relationship between depression and HIV/AIDS. The overarching research question was to determine whether or not the Beck Depression Inventory-II (BDI-II) is a comparable assessment tool when evaluated against the Patient Health Questionnaire-9 (PHQ-9), a common assessment tool used by medical professionals to identify depression in patients with HIV. Secondary aims of this study included exploring the relationships between depression and the following components: CD4+ levels; stigmatization; satisfaction with medical care; perceived support; route of HIV transmission; prior history of depression; substance use/abuse; socioeconomic status; stage of HIV infection; and gender.

Other aims of this study included developing a greater understanding of how depression can be more accurately measured among persons with HIV/AIDS so that counselors and other treatment providers can effectively assess for depression, and, therefore, better meet the needs of this population. In addition, this study sought to advance the current literature and knowledge base by drawing attention to the unique challenges that may arise when assessing persons with HIV/AIDS for depression.

Within this chapter, the research methodology used to investigate this study’s research questions and hypotheses are discussed. This chapter also presents the research design utilized in this study, the sample of participants, as well as the sampling
procedures and instruments used during data collection. Lastly, this chapter discusses the procedures implemented for collecting and analyzing data.

Research Questions and Hypotheses

This study investigated the relationship between depression and HIV/AIDS. The overarching research question was to determine whether or not the Beck Depression Inventory-II (BDI-II) is a comparable assessment tool when evaluated against the Patient Health Questionnaire-9 (PHQ-9). Additionally, the study explored the relationships between depression and the following variables: CD4+ levels; stigmatization; satisfaction with medical care; perceived support; route of transmission of HIV; prior history of depression; substance use/abuse; socioeconomic status; and sex. The study investigated the following research questions and hypotheses:

Research Questions

General Research Question 1

Is the Beck Depression Inventory-II (BDI-II) an effective assessment tool in measuring depression in persons with HIV/AIDS?

Specific Research Question 1

Does the Beck Depression Inventory-II (BDI-II) predict depression as defined by the Patient Health Questionnaire-9 (PHQ-9) in a sample with HIV/AIDS?

Research Hypothesis 1

The BDI-II will over-identify persons who have HIV/AIDS as being depressed when compared to the results of the PHQ-9.

General Research Question 2
Is there a more accurate cut-off score that could be used in assessing persons with HIV/AIDS using the Beck Depression Inventory?

Specific Research Question 2

What value on the BDI-II produces the same specificity and sensitivity to depression as on the PHQ-9?

Research Hypothesis 2

A higher cut-off score on the BDI-II will be necessary to accurately assess for depression in persons with HIV/AIDS.

General Research Question 3

Is there a relationship between stigma and depression in persons with HIV/AIDS?

Specific Research Question 3

Is there a correlation between depression, as measured by the BDI-II, PHQ-9, and self-report (item #3c on the Demographic Questionnaire and Survey Form), and feelings of stigma (item #3d on the Demographic Questionnaire and Survey Form)?

Research Hypothesis 3

There will be a statistically significant (p < .05), positive relationship (r = .50) between endorsement of feelings of stigma and depression as identified by the BDI-II, PHQ-9 and self-report (item #3c on the Demographic Questionnaire and Survey Form)?

General Research Question 4

Is there a relationship between perception of family/friend support and depression?
Specific Research Question 4

Is there a correlation between depression, as measured by the BDI-II, the PHQ-9, and self-report (item #3c on the Demographic Questionnaire and Survey Form) and perception of family/friend support (item #3a on the Demographic Questionnaire and Survey Form)?

Research Hypothesis 4

There will be a statistically significant (p < .05), negative relationship ($r = -.50$) between perception of support (item #3a) and depression as identified by the BDI-II, PHQ-9 and self-report (item #3c on the Demographic Questionnaire and Survey Form)?

General Research Question 5

Is there a relationship between mode of HIV transmission and perception of stigma?

Specific Research Question 5

Is the mode of transmission of HIV (homosexual contact, injection drug use, heterosexual contact, blood transfusion, or other) related to perception of stigma?

Research Hypothesis 5

There will be a statistically significant (p < .05), positive relationship ($r = .50$) between feelings of stigma (endorsement of item #3d on the Demographic Questionnaire and Survey Form) and modes of HIV transmission that have historically been associated with negative attitudes (injection drug use and homosexual transmission)?

General Research Question 6
Is there a relationship between CD4+ count and depression?

Specific Research Question 6

Is there a relationship between lowest CD4+ count, most recent (latest) CD4+ count, and depression, as defined by the BDI-II, the PHQ-9, and self-report (item #3c on the Demographic Questionnaire and Survey Form)?

Research Hypothesis 6

There will be a statistically significant (p < .05), negative correlation ($r = -.50$) between CD4+ cell count and endorsement of depression based on self-report (item #3c on the Demographic Questionnaire and Survey Form) and scores on the BDI-II and PHQ-9.

General Research Question 7

Is there a relationship between socioeconomic status and depression in persons with HIV?

Specific Research Question 7

Is there a relationship between socioeconomic status (as defined by employment status, education level, and income) and depression (as defined by self-report item #3c on the Demographic Questionnaire and Survey Form) and scores on the BDI-II and PHQ-9?

Research Hypothesis 7

There will be a statistically significant (p < .05), negative correlation ($r = -.50$) between socioeconomic status (as defined by employment status, education level, and income) and depression as defined by item #3c on the Demographic Questionnaire and Survey Form and scores on the BDI-II and PHQ-9.
General Research Question 8

Is there a relationship between gender and depression in persons with HIV?

Specific Research Question 8

Are women with HIV more likely to be depressed than men with HIV?

Research Hypothesis 8

Women with HIV are more likely to be depressed than men with HIV.

General Research Question 9

Is satisfaction of medical care related to depression?

Specific Research Question 9

Is there a relationship between perception of medical care and depression?

Research Hypothesis 9

There will be a statistically significant (p < .05), negative correlation (r = -.50) between perception of medical care (item #3f on the Demographic Questionnaire and Survey Form) and depression (as defined by item #3c on the Demographic Questionnaire and Survey Form and scores on the BDI-II and PHQ-9).

General Research Question 10

Is there a relationship between perceived support and suicide in persons with HIV?

Specific Research Question 10

Is there a relationship between suicidal ideation and suicide attempts (item #3f and #3g on the Demographic Questionnaire and Survey Form) and perceived support (item #3a)?

Research Hypothesis 10
There will be a statistically significant (p < .05), negative correlation ($r = -.50$) between suicide attempts and suicidal ideation (item #3f and #3g on the Demographic Questionnaire and Survey Form) and perceived support (item #3a on the Demographic Questionnaire and Survey Form).

**Research Design**

This study used a mixed-method design, which incorporated quantitative and qualitative procedures throughout the data collection and analyses stages (Tashakkori & Teddlie, 2003). A convenience sample of persons living with HIV who were receiving medical treatment for HIV management were recruited for participation. All participants were consenting adults with a current diagnosis of HIV who were receiving medical treatment at a metropolitan research and teaching hospital.

Following their scheduled medical appointments, patients were verbally asked by a clinic staff member if they would like to participate in a research study investigating depression and HIV. Patients who were interested in learning more about the research study and/or were willing to participate, were given a manila envelope containing a pencil, all study materials, including a postage-paid envelope and a $5.00 gift card to a local retailer. Participants were informed verbally and in writing of patient consent.

All participants completed the PHQ-9 as part of their standard medical care routine and were asked both verbally and in writing if they would consent to having a carbon-copy of their PHQ-9 used in this study. For those patients who agreed to participate in this study, a carbon copy of their PHQ-9 was placed in their manila envelope. Participants completed the self-administered BDI-II and a demographic form also containing questions addressing depression, stigma, satisfaction of medical care, and
HIV. All participants were asked to refrain from making any identifying marks on the survey instruments and no identifying information was returned to this researcher.

Survey instruments and related research documentation were provided to participants by professional staff within the Infection Disease Clinic where this research was conducted. All professional staff providing survey instruments and related research documentation completed the required institutional review board training and all ethical guidelines established by the American Counseling Association were upheld. All participants were given an Informed Consent Form, Cover Letter, the Beck Depression Inventory-II (BDI-II), and a Demographic Form also containing a qualitative survey on depression and HIV. Participants were asked for permission to use a carbon copy of the Patient Health Questionnaire (PHQ-9), which participants completed earlier that day as part of their routine medical care. Participants were provided with contact information of this researcher and also had the opportunity to speak with a professional counselor and/or a licensed social worker, if he/she wanted to talk to someone regarding their feelings related to this research.

Participants

Consenting adults who voluntarily chose to participate in this study were currently receiving medical treatment at a metropolitan teaching hospital for their HIV/AIDS diagnosis. All adults who are currently receiving HIV management treatment at the Infectious Disease Clinic where this research was conducted were invited to participate in this research project. Professional staff members asked patients following their scheduled medical appointment if they would like to participate in a research study looking at depression and HIV. Interested persons were provided with a manila envelope
that contained the Cover Letter (see Appendix A) Informed Consent form (Appendix B), a Demographic Questionnaire and Survey (Appendix C), the Beck Depression Inventory-II (Appendix C), a $5.00 gift card to a local retailer, a pencil, and a self-addressed stamped envelope for the option of returning the survey instrument via mail.

Potential participants were informed of their right to refuse and/or withdraw from this study at any time. A Cover Letter and an Informed Consent Form was given to each participant. Following the review of the Cover Letter and Informed Consent Form, participants were asked to complete the Demographic Questionnaire and Survey, and the BDI-II.

Data Collection

Prior to recruiting participants for this study, permission to conduct this research was obtained from this university’s Human Subjects Research and Review Committee. This researcher had no contact with study participants. All clinical staff members who participated in this study had completed the required Institutional Review Board Human Subjects training on-line and had prior experience in data collection and confidentiality issues.

Persons who agreed to participate in this study were given a manila envelope by clinical staff members/data collectors, which contained all study materials: the Cover Letter (see Appendix A), Informed Consent form (Appendix B), a Demographic Questionnaire and Survey (Appendix C), the Beck Depression Inventory-II (Appendix C), a $5.00 gift card to a local retailer, a pencil, and a self-addressed stamped envelope for the option of returning the survey instrument via mail. Participants also were also
informed that should they agree to participate in this study, a carbon copy of their completed PHQ-9 would be used in this study.

Demographic information collected on the Demographic Questionnaire asked participants to indicate the following information: gender; age; marital status; education level; employment status; yearly income; health insurance status; number of children; race; living arrangements; year of HIV diagnosis; mode of HIV transmission; most recent CD4+ cell count; lowest CD4+ cell count; and information regarding personal experiences related to: depression; suicide; treatment satisfaction; and stigma. Participants were invited to provide in writing any details relating to stigma, depression, suicide, medical care, support.

In order to maintain confidentiality, this researcher did not have access to participants’ social security numbers or other identifying information such as medical records or other personal information. To protect confidentiality, an arbitrary number was used coding purposes. Completed data was never associated with patient names, identifying numbers, or other identifying information. All data were anonymous. Participants’ responses were dummy-coded and transferred by the researcher into an electronic statistical program, PASW (PASW Statistics Data Editor), which was formerly known as SPSS (Statistical Package for the Social Sciences). Responses from the PHQ-9, BDI-II, and the demographic form were coded using an arbitrary numerical system for data entry purposes only. No identifying information was collected, so therefore, no identifying information was entered into this electronic file. Only members of the research team had access to this electronic file.
In an effort to discourage potential participants from providing potentially identifying information, a white sticker was placed over certain sections of the BDI-II and the PHQ-9 prior to the participant receiving the survey. This sticker covered portions of the BDI-II and the PHQ-9 which asked subjects to indicate identifying information, such as name, occupation, and age. In addition, participants were informed both verbally and in writing that all responses were anonymous and, thus, participants were asked to refrain from making any potentially identifying marks on any of the survey instruments.

**Instrumentation**

All participants completed two survey instruments which measure depression. First, participants completed the PHQ-9 as a routine part of their medical care. Secondly, participants were asked to complete the Beck Depression Inventory-II as part of this research study.

*The Patient-Health Questionnaire.* The PHQ-9 is a nine item depression scale that is included in a larger Patient Health Questionnaire, commonly used in the medical field. The PHQ-9 can be completed by the patient/client and can easily be scored by a clinician or other staff. This instrument is commonly used in assessing depression among persons who are receiving medical treatment. It is based directly on the nine diagnostic criteria from the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association [*DSM-IV-TR*, 2000] for Major Depressive Disorder (Kroenke, Spitzer, & Williams, 2001; Monahan et al., 2008). Total scores on the PHQ-9 range form 0-27 with varying severity categories: moderate (10–14), moderately severe (15–19) and severe (20–27) (Monahan et al., 2007).
Some of the benefits of using the PHQ-9 are that it is self-administered, takes only a few minutes to complete, and can be scored in minutes. The respondent is asked to consider “Over the last 2 weeks, how often have you been bothered by any of the following problems?” The individual is asked to rank each of the nine statements from 0-3, where “0” indicates “not at all,” a “1” suggests “several days,” a “2” implies “more than half the days,” and a “3” denotes “nearly everyday.” Participants are asked to determine how often he/she endorsed statements, such as, “Thinking that you would be better off dead or that you want to hurt yourself in some way.” The PHQ-9 is also helpful in assessing the severity of depression. A score of 5 or more items indicating endorsement of “more than half the days” suggests Major Depressive Disorder. Minor Depressive Syndrome is suggested if items b, c, or d are endorsed as occurring “more than half the days.” The PHQ-9 also provides suggested courses of interventions should a person score within a given range on this assessment. A score of 15 or more “warrants treatment for depression, using antidepressant, psychotherapy, and/or a combination of treatment.”

*The Beck Depression Inventory-II.* Created by Aaron Beck, Ward, Mendelson, Mock, and Erbaugh in 1961, the Beck-Depression Inventory-II (BDI-II), is the most commonly used instrument for assessing depression. This 21-item multiple choice, self-administered questionnaire was originally published in 1961 and later revised in 1996 (Beck, Steer, & Garbin, 1988; Groth-Marnat, 2003). The BDI-II has been used in over 2,000 studies and has been translated in multiple languages (Barroso & Sandelowski, 2001; Groth-Marnat). The BDI-II can be used in persons over the age of 13 and has been standardized using college students and non-psychotic psychiatric patients.
Items on the BDI-II were originally based on observations of typical symptoms found in depressed persons. The most current version of the BDI is derived from descriptive statements commonly reported by persons who are depressed (Barroso & Sandelowski, 2001). Each of the 21 items are scored from 0-3 to indicate severity, therefore, a range of 0 to 63 is possible (Barroso & Sandelowski, 2001; Groth-Marnat, 2003). Typical clinical depression is usually indicated by a score of 14-28; scores of 14-19 are indicative of mild depression, 20-28 indicates moderate depression, and a score between 29-63 indicates severe depression (Barroso & Sandelowski; Groth-Marnat).

The BDI-II takes roughly 5-10 minutes to complete. Participants in this study were given the option to complete the survey while at the Infectious Disease Clinic or to complete the instrument at home. Participants were given the option to return their survey by placing it in a postage-paid envelope provided by this researcher. No participant chose to take the survey home; all survey instruments were completed within the hospital and returned immediately to the clinical staff person/data collector.

Data Management

All data was collected and managed in a way that was consistent with the American Counseling Associations Code of Ethics (2005) and the University of Toledo Human Subjects Review Board. All data was collected anonymously and measures were put into place to discourage participants from revealing potentially identifying information. Participants were given an Informed Consent Form to review but were not required to sign or return this form, further protecting the participant’s anonymity. Completed survey instruments were stored in a locked cabinet in the Infectious Disease Clinic where this data collection occurred.
**Analysis of the Data**

All data was analyzed using PASW Statistics Data Editor (formerly SPSS). This study utilized inferential and descriptive statistics. It was intended that this researcher would compare the results of the BDI-II and the PHQ-9. However, due to insufficient data, a statistical analysis of comparison could not be analyzed at this time. This researcher calculated the frequencies and reported these characteristics. In addition, themes identified from the narrative portion of this research were coded, re-coded, and provided for the reader.

In order to maintain statistical power, this researcher attempted to recruit 100 participants for this study. A sample size of 100 would have allowed this researcher to have what Cohen (1992) called a medium effect size. A formal statistical power analysis was intended to be conducted based upon conservative estimates and an estimated sample size of 100. However, due to difficulty in study recruitment resulting in insufficient data, statistical analyses such as the Receiver Operator Characteristic (ROC) Analysis, Chi-square, and independent sample t-test were unable to be calculated.

Interpretive methodologies were employed in an effort to increase one’s understanding of the quantitative data collected from research participants. A narrative approach, commonly used in qualitative research (Fossey, Harvey, McDermott, & Davidson, 2002), which allowed the respondent to elaborate on his/her answers was utilized throughout the Demographic Questionnaire and Survey Form and in the analysis stage of this research.
Summary

The literature on depression among persons with HIV/AIDS is often contradictory and incomplete. One of the reasons why this contradiction may exist could be attributed to the instrumentation being used to measure depressive symptoms. The Beck Depression Inventory (BDI-II), although widely used by counselors and among persons with HIV/AIDS, may be ineffective in measuring depression within this population. Many of the symptoms of depression mimic or overlap the symptoms of the HIV virus, making it difficult to assess for depression when a person also has HIV or AIDS. Other instruments such as the Patient Health Questionnaire (PHQ-9) rely less on somatic/physical symptoms of depression and may be more effective in accurately identifying depression. Since counselors and other mental health workers are more familiar with the BDI-II and it so widely accessible, it is important to determine if the BDI-II is a valid measure of depression among persons with HIV/AIDS and also, to identify a different cut-off score that may be more accurate in assessing for depression.
CHAPTER IV

Results

This chapter provides an overview of the research hypothesis, the collected data, and the demographic information related to the participants in this study. A summary of the research and conclusions that can be drawn from these findings are presented. Descriptive statistics are presented in relation to the applicable research hypothesis.

Participant Demographic Information

Thirteen adults with HIV who were receiving medical treatment for HIV management agreed to participate in this study. The ages of the thirteen participants ranged from “18-30” to “>51.” Due to the sensitivity of information from the participants, an age range was determined to be most appropriate for the survey, in order to further protect the participant from potentially revealing his or her identity. Therefore, a mean for the age range could not be determined. Table 1 presents demographic information for the participants according to: age, gender, race, marital status, education, employment, income level, type of insurance, number of children, living situation, time of HIV diagnosis, route of HIV transmission, lowest CD4 level, current CD4 level, perceived support, history of depression, current depression, feelings of stigma, perceived family/friend reaction to HIV diagnosis, suicide attempts, suicidal ideation, and perception of medical care.
### TABLE 1
Demographic Information for Participants

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-30</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>31-40</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td>41-50</td>
<td>4</td>
<td>30.8</td>
</tr>
<tr>
<td>&gt;51</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
<td>61.5</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian/White, Non-Hispanic</td>
<td>4</td>
<td>30.8</td>
</tr>
<tr>
<td>African American/Black, Non-Hispanic</td>
<td>8</td>
<td>61.5</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>Never Married</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>Single</td>
<td>8</td>
<td>61.5</td>
</tr>
<tr>
<td>Divorced</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>Widowed</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS Not Completed</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>HS Completed</td>
<td>4</td>
<td>30.8</td>
</tr>
<tr>
<td>Some College</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>College/University degree</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-Time</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>Part-Time</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>Not Employed</td>
<td>7</td>
<td>53.8</td>
</tr>
<tr>
<td>Characteristic</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>------------------------</td>
<td>----</td>
<td>-----</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$10,000 or less</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>$10,000 -15,000</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>$15,001- 30,000</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>$30,001 or more</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Insurance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>Medicaid/Medicare</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td>Private Insurance</td>
<td>4</td>
<td>30.8</td>
</tr>
<tr>
<td><strong>Children</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Children</td>
<td>4</td>
<td>30.8</td>
</tr>
<tr>
<td>1-2 children</td>
<td>8</td>
<td>61.5</td>
</tr>
<tr>
<td>3 or more children</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Living Situation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lives in own house or apartment</td>
<td>7</td>
<td>53.8</td>
</tr>
<tr>
<td>Someone else's house or apartment</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td><strong>Time of HIV Diagnosis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 2 years ago</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>2-5 years ago</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>6-10 years ago</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>&gt;10 years ago</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td><strong>Route of HIV Transmission</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual Contact</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td>Homosexual Contact</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>Not Sure</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td><strong>Latest CD4 Count</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 200</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>200-500</td>
<td>4</td>
<td>30.8</td>
</tr>
<tr>
<td>&gt; 500</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td><strong>Lowest CD4 Count</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 200</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td>200-500</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>&gt; 500</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>Characteristic</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>----</td>
<td>-----</td>
</tr>
<tr>
<td><strong>Perception of Support</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has Support</td>
<td>11</td>
<td>84.6</td>
</tr>
<tr>
<td>Does Not Have Support</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td><strong>History of Depression</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
<td>30.8</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>69.2</td>
</tr>
<tr>
<td><strong>Current Depression (Self-Report)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes (Depressed)</td>
<td>7</td>
<td>53.8</td>
</tr>
<tr>
<td>No (Not Depressed)</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td><strong>Feelings of Stigma</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes (Feels Stigmatized)</td>
<td>7</td>
<td>53.8</td>
</tr>
<tr>
<td>No (Does Not Feel Stigmatized)</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td><strong>Family/Friends Reaction to Diagnosis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supportive</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>Mostly Supportive</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>Not at all Supportive</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>Has not told family or friends</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td><strong>Suicide Attempts</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>61.5</td>
</tr>
<tr>
<td><strong>Current Suicidal Ideation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>Rarely</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>Sometimes</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>Often/All of the Time</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Perception of Medical Care</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excellent</td>
<td>11</td>
<td>84.6</td>
</tr>
<tr>
<td>Fair</td>
<td>1</td>
<td>7.7</td>
</tr>
</tbody>
</table>

The total sample included five males (38.5%) and 8 females (61.5%). Six participants (46.2%) indicated they were between the ages of 31-40, four participants were 41-50.
(30.8%), two participants identified as being 51 years or older (15.4%), and one participant was 18-30 (7.7%). Of the thirteen participants, eight were African American/Black, Non-Hispanic (61.5%), four were Caucasian/White, Non-Hispanic (30.8%), and one indicated to be of another race/ethnicity (7.7%).

Results of Hypotheses

It was anticipated that the results of the participants’ Beck Depression Inventory-II (BDI-II) scores and Patient Health Questionnaire-9 (PHQ-9) would be analyzed using a Receiver Operator Characteristic (ROC) Curve when compared to the patient’s identification of having depression or not. Due to insufficient data (n=13), a statistical analysis of this kind was unable to be calculated in order to determine if either assessment tool was more sensitive/specific in measuring depression in persons with HIV. In addition, due to this lack of sufficient data, independent samples t-tests, were unable to be calculated in order to assess differences among groups based on descriptive variables such as: marital status, education, employment, income level, type of insurance, number of children, living situation, time of HIV diagnosis, route of HIV transmission, lowest CD4 level, current CD4 level, perceived support, history of depression, current depression, feelings of stigma, perceived family/friend reaction to HIV diagnosis, suicide attempts, suicidal ideation, and perception of medical care.

Research Hypothesis 1

The BDI-II will over-identify persons who have HIV/AIDS as being depressed when compared to the results of the PHQ-9. Due to insufficient data from persons who identified as having depression (N=7) statistical analysis was unable to be
calculated to determine if the BDI-II over-identified depression when compared to the PHQ-9.

**Research Hypothesis 2**

A higher cut-off score on the BDI-II will be necessary to accurately assess for depression in persons with HIV/AIDS. Due to insufficient data, it was not possible to analyze differences between groups. A Receiver Operator Characteristic (ROC) Curve could not be calculated to determine a new cut-off score for depression in persons with HIV.

**Research Hypothesis 3**

There will be a statistically significant (p < .05), positive relationship ($r = .50$) between endorsement of feelings of stigma and depression as identified by the BDI-II, PHQ-9 and self-report (item #3c on the Demographic Questionnaire and Survey Form). Due to insufficient data, it was not possible to answer this.

**Research Hypothesis 4**

There will be a statistically significant (p < .05), negative relationship ($r = -.50$) between perception of support (item #3a) and depression as identified by the BDI-II, PHQ-9 and self-report (item #3c on the Demographic Questionnaire and Survey Form). Due to insufficient data, a statistical analysis of this kind could not be performed.

**Research Hypothesis 5**

There will be a statistically significant (p < .05), positive relationship ($r = .50$) between feelings of stigma (endorsement of item #3d on the Demographic Questionnaire and Survey Form) and modes of HIV transmission that have
historically been associated with negative attitudes (injection drug use and homosexual transmission). Due to insufficient data, a statistical analysis of this kind could not be performed.

Research Hypothesis 6

There will be a statistically significant (p < .05), negative correlation ($r = -.50$) between CD4+ cell count and endorsement of depression based on self-report (item #3c on the Demographic Questionnaire and Survey Form) and scores on the BDI-II and PHQ-9. Due to insufficient data, a statistical analysis of this kind could not be performed.

Research Hypothesis 7

There will be a statistically significant (p < .05), negative correlation ($r = -.50$) between socioeconomic status (as defined by employment status, education level, and income) and depression as defined by item #3c on the Demographic Questionnaire and Survey Form and scores on the BDI-II and PHQ-9. Due to insufficient data, a statistical analysis of this kind could not be performed.

Research Hypothesis 8

Women with HIV are more likely to be depressed than men with HIV. Due to a small sample size, which contributed to small group numbers, it was not possible to determine if there was a significant difference in depression between males and females. Therefore, due to insufficient data, a statistical analysis of this kind could not be performed.

Research Hypothesis 9
There will be a statistically significant (p < .05), negative correlation \( r = -0.50 \) between perception of medical care (item #3f on the Demographic Questionnaire and Survey Form) and depression (as defined by item #3c on the Demographic Questionnaire and Survey Form and scores on the BDI-II and PHQ-9). Due to insufficient data, a statistical analysis of this kind could not be performed.

**Research Hypothesis 10**

There will be a statistically significant (p < .05), negative correlation \( r = -0.50 \) between suicide attempts and suicidal ideation (item #3f and #3g on the Demographic Questionnaire and Survey Form) and perceived support (item #3a on the Demographic Questionnaire and Survey Form). Due to insufficient data, a statistical analysis of this kind could not be performed.

**Interpretive Characteristics and Results**

Themes based on participants’ narrative responses from the Demographic Questionnaire and Survey Form were analyzed by this researcher. Similar responses to each question were grouped together by theme. These groups allowed the researcher to note similar themes and responses. Narrative summaries were read, coded, re-read, and re-coded into themes in order to ensure the most accurate of theme categories. Table 2 provides results of common themes identified in narrative responses from participants.

**TABLE 2**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have informed family/friends of my diagnosis</td>
<td>8</td>
<td>61.5</td>
</tr>
<tr>
<td>People don’t understand HIV</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td></td>
<td>Count</td>
<td>Percentage</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------------------------------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>I have been judged negatively because of my HIV diagnosis</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>I have attempted suicide in the past</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>I attend an HIV support group</td>
<td>4</td>
<td>30.8</td>
</tr>
<tr>
<td>I am depressed for multiple reasons</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>I am not hopeful or am worried about my future</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>I have positive experiences with treatment</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>Person(s) close to me also have HIV</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>I have only told select people of my diagnosis</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>Religion/Spirituality is important to me</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>I have a positive outlook on life</td>
<td>2</td>
<td>15.4</td>
</tr>
</tbody>
</table>
CHAPTER V

Discussion

This chapter provides an overview of the research hypotheses, the collected data, and the demographic information related to the participants in this study. A summary of the research and conclusions that can be drawn from these findings are presented. Descriptive statistics are presented in relation to the applicable research hypothesis. Limitations of this present study are discussed within this chapter. Implications of this research study for counselors, the counseling profession, and other mental health practitioners are offered. Lastly, recommendations for future research in this area are suggested.

This study attempted to explore the relationship between depression and HIV in order to develop a greater understanding of the comorbidity of depression and HIV. This study attempted to compare scores on the Beck Depression Inventory-II with scores on the Patient Health Questionnaire-9, in order to determine if one depression measure gives a more accurate assessment of depression with persons with HIV. Due to insufficient data (n=13), the sample size was not large enough to make comparisons within groups, such as, those who were not depressed (N=6) and those who were depressed (N=7) based on their assessments. In addition, based on the sample size (n=13), there were no differences in determination of depression based on assessment scores from the Beck Depression Inventory-II (BDI-II) and the Patient Health Questionnaire-9 (PHQ-9). That is, each
person who was determined to be depressed based on the BDI-II was also determined to be depressed based on the scoring of the PHQ-9.

Summary of the Literature and Research

Despite advancements in HIV antiretroviral therapy (ART) and highly active antiretroviral therapies (HAART), HIV/AIDS continues to be of pandemic proportions, contributing to more than 25 million reported deaths and infecting more than 1.1 million people living in the U.S. (CDC, 2009; Morbidity and Mortality Weekly Report (MMWR), 2009; United Nations Programme on HIV/AIDS (UNAIDS), 2008). Of the more than 1 million persons living with HIV/AIDS in the U.S., it is estimated that more than half meet the diagnostic requirement for a depressive disorder (Jin et al., 2006; Kelly et al., 1998; Perkins et al., 1994; Rabkin, Wagner, Rabkin, 1997). Depression in persons with HIV/AIDS increases medical non-compliance, is associated with poor medical prognoses, increases risk of suicide, is associated with higher mortality rates, and is negatively correlated with perception of quality of life (Broadhead et al., 2002; Valente & Saunders, 1997). In addition, other psychosocial factors commonly associated with HIV, including bereavement, grief, and social support, are strongly correlated with perception of quality of life (Hansen, Vaughan, Cavanaugh, Connell, & Sikkema, 2009).

Due to the pervasive nature of HIV and depression, it is imperative that counselors and other mental health professionals properly assess and treat those individuals with HIV/AIDS for depression (Wolf & Mitchell, 2002). Unfortunately, the tools that are most often used to assess for depression in persons with HIV have not been validated among this population and may not be effective in accurately detecting depression. Since many of the symptoms of HIV are nearly identical to the symptoms of
depression, it may be difficult for clinicians to properly diagnose depression within this population. This study attempted to add to the current body of literature and aimed to provide counselors and other mental health professionals with a greater understanding of the complex relationship between depression and HIV. This study also sought to provide the impetus for future improvements in depression screening tools commonly used with persons with HIV/AIDS. Due to challenges in data collection, much of these objectives could not be explored. However, the basis for this study could still provide a foundation for discussion regarding the relationship between depression and HIV and could provide meaningful implications for future researchers and suggestions for assessing depression in persons with HIV.

The knowledge gained from this study could be beneficial in assisting counselors, mental health professionals, and other direct service providers in addressing psychosocial issues that are relevant to persons with HIV/AIDS. One thing that is clear from the literature regarding HIV is that depression is a serious concern in persons with HIV. It is estimated that 15% of persons in the general population suffer from depression. Among women, depression rates vary from 10-25 percent; for men, the lifetime prevalence ranges from 5-12 percent (American Psychiatric Association [DSM-IV-TR], 2000). In those infected with HIV/AIDS, estimates have reported depression rates as high as 50-79% (Jin et al., 2006). Some have argued that depression inventories, like the Beck Depression Inventory-II, may be found to produce elevated depression scores in people with a chronic medical illness (Kalichman et al., 1995). According to Wedding et al. (2007), the Beck Depression Inventory was an “inadequate instrument to screen for depression in cancer patients or, more generally, in patients with somatic disorder that
have symptoms similar to somatic symptoms of depression” (p. 1879). As a result of depression and HIV having similar somatic features, it is important for counselors and other mental health professionals to be aware of this potential confound in order to more accurately assess and treat for depression in persons with HIV/AIDS.

Conclusions

This study attempted to explore the relationship between depression and HIV, and more specifically, attempted to compare scores on the Beck Depression Inventory-II with scores on the Patient Health Questionnaire-9. Due to insufficient data (n=13), the sample size was not large enough to make comparisons within groups, such as, those who were not depressed (N=6) and those who were depressed (N=7) based on their assessments. In addition, based on the small sample size (n=13), there were no differences in determination of depression based on assessment scores from the Beck Depression Inventory-II (BDI-II) and the Patient Health Questionnaire-9 (PHQ-9). That is, each person who was determined to be depressed based on the BDI-II was also determined to be depressed based on the scoring of the PHQ-9.

Results from participants’ narrative summaries, although not statistically significant, revealed that 38.5% of participants (N=5) had attempted suicide in the past, while 46.2% (N=6) felt as if people (either people close to them or society, in general) did not understand HIV. About thirty-nine percent of the participants (N=5) reported feeling stigmatized or judged. These results, although not statistically significant, are consistent with the research literature that suggests that persons with HIV are more likely to feel stigmatized as a result of their HIV diagnosis (Harrison et al., 2008; Lee, 2007;
Sue & Sue, 2003) and are more likely to attempt suicide as a result (Jin et al., 2006; Lee, Kochman, & Sikkema, 2002; Simbayi et al., 2007).

Limitations

The biggest limitation in this study was, of course, the sample size. The researcher had limited access to persons with HIV and used only one method of participant recruitment at one location. Persons involved in recruiting study participants reported that the time it took to monitor and assist participants in completing survey forms was a contributing factor in low enrollment. One staff person reported that it was difficult to recruit persons for this research because of the amount of time necessary to monitor the study participants in the clinic. Time allotted for data collection was also a factor which may have also limited sample size.

The small sample size may have restricted the power to detect differences between groups, should any differences have actually existed. For that reason, results of this study cannot be generalized as the sample size was too small to accurately detect differences between groups and to generalize the results of this study. The sample of participants used in this study was a convenience sample from an urban college clinic. Often, one of the limitations of using a convenience sample is that results of a study may not generalize to other geographical regions or across other groups. When a convenience sample is used, this poses a threat to the study's external validity, or the extent to which this study's results can be generalized to other populations (Creswell, 2008). For the purpose of this study, it was necessary to use a convenience sample, as it allowed this researcher to gain information that would have been unavailable and unethical to gain through true experimental research.
Other limitations of this study include the possibility that participants may want to respond positively or "fake good," thereby denying potential depressive symptoms. This would seem unlikely, however, as participants routinely complete the Patient Health Questionnaire-9 (PHQ-9) as part of their HIV management regimen and participants communicated only with clinical staff, with whom they are expected to have a relationship prior to this research study. At no time did this researcher communicate with the study participants and all participants were informed that their responses would be confidential and anonymous.

Implications for Counselors

Counselors have a responsibility to address the needs of their clients and to advocate for best practices within the counseling profession and beyond. In order to provide effective care for our clients, it is integral to have a basic understanding of the treatment dilemmas and differential diagnoses that may be present when working with specific populations. Consequently, when working with persons with HIV, it is essential for counselors to be aware of the multidimensional factors that may impact their clients’ overall well-being, including mental health care, physical and physiological well-being, and adherence to medical treatment, such as antiretroviral therapies. In addition, it is of the utmost importance for counselors to be aware of the socioeconomic and political/societal structures correlated with HIV/AIDS, which includes high risk-factors, feelings of stigma associated with HIV/AIDS, and other comorbid conditions, such as injection drug use, substance abuse, depression, stigma, and suicide.

In order for counselors to provide the best care to their clients, it is important to accurately interpret assessment tools and to use assessment tools that are accurate and
valid. Research both challenges and supports the argument that persons with HIV are more likely to be depressed than those in the general population. Some estimates have reported that rates of depression in persons with HIV are as high as 50-79% (Jin et al., 2006). Some researchers have argued that depression inventories, like the Beck Depression Inventory-II, produce elevated depression scores in people with chronic medical illnesses, like HIV (Kalichman et al., 1995).

Implications for Future Research

There is a great need for counselors to investigate the accuracy of depression assessment tools, especially within the HIV population, whose estimates of depression range from 50-79% (Jin et al., 2006). There is also a need to determine what factors may contribute to high rates of depression and how best counselors can address the needs of this population. As one of the major limitations of this study was small sample size (n=13), it is recommended that future research include larger numbers of participants so as to assist the researcher in identifying statistically significant differences among groups.

Summary

This research provided discussion, review, and recommendations for future research that could be used as an impetus for further clinical studies within the HIV population. Due to a small sample size, it is not possible to generalize these findings or to analyze much of the data using statistical methods. For that reason, it is strongly suggested that the results of this study not be generalized and that further research be completed in the area of depression and HIV. It is hoped that this study provides a basic framework to provide future researchers with a knowledge base in the area of HIV and depression and,
especially, for counselors to develop a greater understanding of the needs of clients with HIV.
References


Mental Health Services Administration, Center for Substance Abuse Treatment: Rockville, MD.


Appendix A
Human Subjects Review Board Revised Approval Notification
TO: Joan Duggan, M.D.  
UT Department of Medicine

FROM: Roland Skeel, M.D., Chair  
Deepak Malhotra, M.D., Vice Chair  
Gregory Siegel, R.Ph., J.D., Chair Designee  
UT Biomedical Institutional Review Board

SIGNED: [Signature]  
DATE: __/__/2010

SUBJECT: IRB # 106723  
TITLE: The Use of the Beck Depression Inventory-II and the Patient Health Questionnaire-9 with Persons Diagnosed with HIV/AIDS

On 01/13/2010, the Amendment listed below was reviewed and approved by the Chair of the University of Toledo Institutional Review Board via the expedited mechanism. The Chair noted that enrollment continues at this site and that a signed and dated Adult Research Subject Information Form remains required prior to an individual taking part in this research. This action will be reported to the committee at its meeting on 01/21/2010.

Items Available for Review:
- IRB Application Requesting Expedited Review of Amendment (UT Reference #6667)
  - Add Michelle Coutcher and Susan Carter as study personnel
- Current IRB Approved Protocol (assigned version date 09/03/2009)
- Current IRB Approved Adult Research Subject Information Form (version date 12/18/2009)

This amendment is approved until the expiration date listed below, unless the IRB notifies you otherwise.

Only the most recent IRB approved Adult Research Subject Information Form listed above may be used when enrolling participants into this research.

AMENDMENT APPROVAL DATE: 01/13/2010  
EXPIRATION DATE: 12/17/2010

Please read the following attachment detailing Principal Investigator responsibilities.

IRB Determination Letter  Page 1 of 1  106723 Duggan
Appendix B

Cover Letter
Dear Patient:

Thank you for helping us with this survey about HIV and depression. Your participation in this research is, of course, voluntary. You are being asked to fill in the answers on the next few pages about your background and your experiences. Your answers are anonymous (we won’t know who you are based on your answers). Please refrain from writing your name or making any other marks that may identify you on any of the surveys. We hope that by your honest answers, we can figure out how to help people with HIV who may be depressed or feeling sad. As a “thank you” for your time and effort, we are enclosing a $5.00 gift card to a local store (whether you finish the survey or not). Your participation should take about fifteen to thirty minutes.

For this research, we will compare two surveys that are commonly used to measure depression. You have already completed one survey as part of a medical routine. With your permission, we would like to use a copy of this document for our research purposes. None of your identifying information will be on this copy. You will also be asked to complete a short survey about depression and a questionnaire about you and your experiences. We will be comparing those surveys to learn more about how well they measure depression. We will also be looking at other factors that are related to depression in persons with HIV.

This survey probably won’t help you directly, but hopefully it will help us in the long run to understand more about depression and people with HIV. If any of the questions upset you or if you have more questions about depression, you can reach Dr. Joan Duggan at 419-383-4000. If you have questions about this study, you may also contact the committee chairperson, Dr. Kathleen Salyers, at the University of Toledo’s College of Counselor Education and Supervision at 419-530-2718. If you have questions about your rights as a research participant, you may contact Dr. Roland Skeel in the Department for Human Research Protections at 419-383-6796.

Thank you in advance for your help!

Sincerely yours,

Joan Duggan, MD, Professor
Medicine and Physiology & Molecular Medicine Division, Infectious Diseases

Jennifer Seymour, MA/Doctoral Candidate
Department of Counselor Education and Supervision
Appendix C
Informed Consent Form
ADULT RESEARCH SUBJECT - INFORMED CONSENT FORM

The Use of the Beck Depression Inventory- II and the Patient Health Questionnaire-9 with Persons Diagnosed with HIV/AIDS

Principal Investigator: Joan Duggan, MD, Professor, Medicine and Physiology & Molecular Medicine Division, Infectious Diseases, 419-383-4328
Jennifer Seymour, MA, PC, Doctoral Candidate, 440-415-3435

Purpose: You are invited to participate in the research project entitled, The Use of the Beck Depression Inventory- II and the Patient Health Questionnaire-9 with Persons Diagnosed with HIV/AIDS, which is being conducted at The University of Toledo Medical Center under the direction of Dr. Joan Duggan and Kathleen Salyers, Ph.D. The purpose of this study is to investigate the relationship between depression and HIV/AIDS and to learn more about the surveys used to measure depression.

Description of Procedures: This research will take place at the University of Toledo Medical Center Infectious Diseases Clinic from November 2009 through December 2010. You will be asked to complete two surveys (A Demographic Questionnaire and the Beck Depression Inventory-II). Also, with your permission, we would like to look at a copy of the Patient Health Questionnaire that you already completed. Your answers will be confidential and anonymous. Your participation will take about fifteen to thirty minutes. After you have completed your surveys, someone will be happy to answer any questions that you might have. As a thank you for your time in completing this survey, a $5.00 gift certificate to a local store is included in the envelope with the surveys.

Instruments:

Beck Depression Inventory-II
This survey contains 21 items. For each of the 21 items, there are four statements. Please read each of the items carefully and pick the statement that best describes how you have been feeling for the past two weeks and today. Then circle the number next to the statement you picked.

Demographic Questionnaire
The survey contains three sections. Section One collects demographic information. It has a total of 10 items. Section Two asks about information about your HIV diagnosis. It contains four items. Section Three asks about your experiences with stigma, depression, self-harm, medical care, and support. In this section, you are also encouraged to write out your thoughts or elaborate on your answers. There are nine items in section three.
**Potential Risks:** There are minimal risks to participation in this study. Answering the survey (or participating in the survey) might cause you to feel upset or anxious. If so, you may stop at any time. If you would like to talk to someone about these feelings, someone is available to discuss these issues with you.

**Potential Benefits:** If you choose to participate in this research, you will not benefit directly from this study, but you may benefit from knowing that your involvement could help others. The investigator anticipates that this research will be helpful and beneficial to others. This knowledge is anticipated to be a benefit to people living with HIV and depression and could be helpful for people in the counseling and mental health professions. As a thank you for your time in completing this survey, a $5.00 gift certificate to a local store is included in the envelope with the surveys.

**Confidentiality:** All of your responses will be anonymous (we won’t know who you are based on your answers). You won’t be asked to include your name or any other identifying information on the surveys. The researchers will make every effort to prevent anyone who is not on the research team from knowing that you provided this information, or what that information is.

**Voluntary Participation:** You will not be penalized should you refuse to participate in this study. You may decide to quit the survey at any time, with no penalty or negative consequences to you.

**Contact Information:** Before you decide to accept this invitation to take part in this study, you may ask any questions that you might have. If you have any questions at any time before, during or after your participation, or experience any distress as a result of this research, you may contact Dr. Joan Duggan at 419-383-4000. If you have questions beyond those answered by the research team about your rights as a research subject or if you feel as though you have sustained research-related injuries, please feel free to contact the Chairperson of the Biomedical Institutional Review Board, Roland Skeel, M.D., in the Department for Human Research Protections office on the Health Science Campus in the CCE Building, Room 0106 at (419) 383-6796.

You are making a decision whether or not to participate in this research study. Your participation in this study indicates that you have read the information provided above, you have had all your questions answered, and you have decided to take part in this research.
Appendix D
Adult Research Subject Information Form
ADULT RESEARCH SUBJECT INFORMATION FORM

The Use of the Beck Depression Inventory-II and the Patient Health Questionnaire-9 with Persons Diagnosed with HIV/AIDS

Principal Investigator: Joan Duggan, MD, Professor, Medicine and Physiology & Molecular Medicine Division, Infectious Diseases, 419-383-4328
Jennifer Seymour, MA, PC, Doctoral Candidate, 440-415-3435

Purpose: You are invited to participate in the research project entitled, The Use of the Beck Depression Inventory-II and the Patient Health Questionnaire-9 with Persons Diagnosed with HIV/AIDS, which is being conducted at The University of Toledo Medical Center under the direction of Dr. Joan Duggan and Kathleen Salyers, Ph.D. The purpose of this study is to investigate the relationship between depression and HIV/AIDS and to learn more about the surveys used to measure depression.

Description of Procedures: This research will take place at the University of Toledo Medical Center Infectious Diseases Clinic from November 2009 through December 2010. You will be asked to complete two surveys (A Demographic Questionnaire and the Beck Depression Inventory-II). Also, with your permission, we would like to look at a copy of the Patient Health Questionnaire that you already completed. Your answers will be confidential and anonymous. Your participation will take about fifteen to thirty minutes. After you have completed your surveys, someone will be happy to answer any questions that you might have. As a thank you for your time in completing this survey, a $5.00 gift certificate to a local store is included in the envelope with the surveys.

Instruments:

Demographic Questionnaire
The survey contains three sections. Section One collects demographic information. It has a total of 10 items. Section Two asks about information about your HIV diagnosis. It contains four items. Section Three asks about your experiences with stigma, depression, self-harm, medical care, and support. In this section, you are also encouraged to write out your thoughts or elaborate on your answers. There are nine items in section three.

Potential Risks: There are minimal risks to participation in this study. Answering the survey (or participating in the survey) might cause you to feel upset or anxious. If so, you may stop at any time. If you would like to talk to someone about these feelings, someone is available to discuss these issues with you.
**Potential Benefits:** If you choose to participate in this research, you will not benefit directly from this study, but you may benefit from knowing that your involvement could help others. The investigator anticipates that this research will be helpful and beneficial to others. This knowledge is anticipated to be a benefit to people living with HIV and depression and could be helpful for people in the counseling and mental health professions.

**Confidentiality:** All of your responses will be anonymous (we won’t know who you are based on your answers). You won’t be asked to include your name or any other identifying information on the surveys. The researchers will make every effort to prevent anyone who is not on the research team from knowing that you provided this information, or what that information is.

**Voluntary Participation:** You will not be penalized should you refuse to participate in this study. You may decide to quit the survey at any time, with no penalty or negative consequences to you.

**Contact Information:** Before you decide to accept this invitation to take part in this study, you may ask any questions that you might have. If you have any questions at any time before, during or after your participation, or experience any distress as a result of this research, you may contact Dr. Joan Duggan at 419-383-4000. If you have questions beyond those answered by the research team about your rights as a research subject or if you feel as though you have sustained research-related injuries, please feel free to contact the Chairperson of the Biomedical Institutional Review Board, Roland Skeel, M.D., in the Department for Human Research Protections office on the Health Science Campus in the CCE Building, Room 0106 at (419) 383-6796.

You are making a decision whether or not to participate in this research study. Your participation in this study indicates that you have read the information provided above, you have had all your questions answered, and you have decided to take part in this research.
Appendix E

Approval Letter to Use the Patient Health Questionnaire-9
RE: Permission Request for PHQ-9
Kurt Kroenke [kkroenke@regenstrief.org]
Sent: Monday, November 02, 2009 7:37 PM
To: Seymour, Jennifer
Cc: Donna Burgett [dburgett@regenstrief.org]
Attachments: PHQ plus Instructions (Feb-1.doc) (225 KB)

You have permission for all the requests below. Attached is a document on PHQ including PHQ-9

Kurt Kroenke, MD
Professor of Medicine, Indiana University
Regenstrief Institute, 5th Floor
1050 Wishard Blvd
Indianapolis, IN 46202
Phone: 317-630-7447 (Donna Burgett)
Fax: 317-630-6611
E-mail: kkroenke@regenstrief.org

From: Seymour, Jennifer [mailto:Jennifer.Seymour@rockets.utoledo.edu]
Sent: Monday, November 02, 2009 10:38 AM
To: kkroenke@regenstrief.org
Cc: Seymour, Jennifer
Subject: Permission Request for PHQ-9

Dear Dr. Kroenke,

I am a Doctoral Candidate at the University of Toledo, currently working on my dissertation entitled, "The Use of the Beck Depression Inventory- II and the Patient Health Questionnaire-9 with Persons Diagnosed with HIV/AIDS."

The research is presently unfunded and I am hoping to collect between 100-200 study participants. I am contacting you in hopes that you can point me in the right direction in regards to requesting permission (in writing/email) to use the PHQ-9 for my study and provide a sample of the PHQ-9 in my Appendix section of my dissertation.

In addition, I am also requesting to print the PHQ-9 on duplicate carbon-copy paper.

Any direction you could provide, would be greatly appreciated.

Thank you for your time,

Jennifer Seymour
Doctoral Candidate
The University of Toledo
Counselor Education and School Psychology
phone: 440-415-3435
e-mail: Jennifer.Seymour@rockets.utoledo.edu
Appendix F

Approval Letter to Use the Beck Depression Inventory-II
RE: Permission Requests
Seymour, Jennifer
Sent: Monday, November 02, 2009 1:29 PM
To: HAS-SAT Shared Dist. and Licensing [pas.Licensing@pearson.com]
Cc: Seymour, Jennifer

Dear Mr. Schryver,

I appreciate your time in this matter. Thank you for granting permission for this accommodation and assisting me in this stage of my research.

Thank you,

Jennifer Seymour
Doctoral Candidate
The University of Toledo
Counselor Education and School Psychology
Phone: 419-415-3435
Email: Jennifer.Seymour@rockets.utoledo.edu

From: HAS-SAT Shared Dist. and Licensing [pas.Licensing@pearson.com]
Sent: Monday, November 02, 2009 12:24 PM
To: Seymour, Jennifer
Subject: RE: Permission Requests

Dear Mrs. Seymour,

I have received your request and I offer the following comments.

As long as you are using the paper/pencil test administrations form for which you qualified for and purchased from Pearson, the modifications you describe may be considered as a fair use accommodation for your test subjects and Pearson has no objection to the use as you describe.

As far as the Patient Health Questionnaire, that is not our product and we are unable to grant permission for it. An internet search discovered the complete questionnaire and it appears to be available as open-source material for which no additional permission is needed. I noted that it was developed by individuals employed by Pfizer pharmaceuticals in 1999.

Good luck with your research.

Bill Schryver
William (Bill) Schryver
Permissions Specialist
Clinical Assessment
Pearson
19500 Bulverde Rd
San Antonio, TX 78259-3701
Tel. 210-339-5345 or 800-228-0752 Ext 5345
Fax. 210-339-5601
pas.licensing@pearson.com
From: jennifer.seymour@rocks.utoledo.edu [mailto:jennifer.seymour@rocks.utoledo.edu]
Sent: Mon 11/2/2009 9:12 AM
To: HAS-SAT Shared Dist. and Licensing; HAIWEBADMIN (HAS-SAT)
Subject: Permission Requests

The following is feedback submitted via the Contact Us page on the PearsonAssessments.com Website:

Contact Information

Name: Mrs Jennifer M Seymour
Position / Title: Doctoral Candidate
Company Name: The University of Toledo
Email Address: jennifer.seymour@rocks.utoledo.edu
Address: 3901 Pepperwood Ct.
City, State, Zip: Sylvania, Ohio, 43560
Country/Region: US
Telephone: 440-415-3435
Fax:

Legal Department/Permission Requests

Title of publication: Dissertation entitled, "The Use of the Beck Depression Inventory- II and the Patient Health Questionnaire-9 with Persons Diagnosed with HIV/AIDS"
Edition: N/A
Author, if available: Jennifer Seymour
Copyright Date:

Brief description of your request:
Per the University of Toledo's Institutional Review Board and the hospital where data collection will occur, I am requesting to conceal (white-out/black-out with a sticker) the portion of the cover page which asks for demographic information. If granted permission, I would conceal only the portion of the page which asks for Name, Occupation, Marital Status, Education, Age, and Sex. The instructions, test items, as well as, the BDI-II logo would remain intact. Since I am working with a protected class of people (persons with HIV/AIDS) I am attempting to avoid any possible collection of HIPAA-protected information. By concealing this portion of the cover page, I would be better able to protect potential participants from completing this identifying information.

Specific list of materials to reproduce:
N/A

Number of subjects/copies needed per year:
100-300

Name of responsible party: Self
Inclusive Dates:
Adaptation and/or format changes required:
I am requesting permission to conceal the portion of the BDI-II cover page which asks for Name, Occupation, Marital Status, Education, Age, and Sex. This portion would be concealed by either a black or white sticker. The BDI-II logo, instructions, and all test items would remain in tact.

Is this request for permission to translate?
No
Is this request for permission to use materials in a book?
No

Request to Translate - Section II

Name of Language:
Purpose of Translation:

Name and qualifications of the individual(s) who will be conducting the translations:

Name and qualifications of a separate individual who will back-translate the materials for our review:

Qualifications of all individuals who will use the translated materials:

Where will the test be used?

How do you intend to ensure test security?

How do you intend to track the number of reproductions for reporting to us for billing purposes?

Additional Comments:

Publishing Information - Section III

Title of your publication: Dissertation entitled, "The Use of the Beck Depression Inventory- II and the Patient Health Questionnaire-9 with Persons Diagnosed with HIV/AIDS"

Type of media (i.e., CD-ROM, print, etc.)

Publisher:

Approximate date of publication:

Additional Comments:
Appendix G

The Beck Depression Inventory-II
**Instructions:** This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

<table>
<thead>
<tr>
<th>1. Sadness</th>
<th>6. Punishment Feelings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I do not feel sad.</td>
<td>0 I don't feel I am being punished.</td>
</tr>
<tr>
<td>1 I feel sad much of the time.</td>
<td>1 I feel I may be punished.</td>
</tr>
<tr>
<td>2 I am sad all the time.</td>
<td>2 I expect to be punished.</td>
</tr>
<tr>
<td>3 I am so sad or unhappy that I can't stand it.</td>
<td>3 I feel I am being punished.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Pessimism</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I am not discouraged about my future.</td>
</tr>
<tr>
<td>1 I feel more discouraged about my future than I used to be.</td>
</tr>
<tr>
<td>2 I do not expect things to work out for me.</td>
</tr>
<tr>
<td>3 I feel my future is hopeless and will only get worse.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Past Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I do not feel like a failure.</td>
</tr>
<tr>
<td>1 I have failed more than I should have.</td>
</tr>
<tr>
<td>2 As I look back, I see a lot of failures.</td>
</tr>
<tr>
<td>3 I feel I am a total failure as a person.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Loss of Pleasure</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I get as much pleasure as I ever did from the things I enjoy.</td>
</tr>
<tr>
<td>1 I don't enjoy things as much as I used to.</td>
</tr>
<tr>
<td>2 I get very little pleasure from the things I used to enjoy.</td>
</tr>
<tr>
<td>3 I can't get any pleasure from the things I used to enjoy.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Guilty Feelings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I don't feel particularly guilty.</td>
</tr>
<tr>
<td>1 I feel guilty over many things I have done or should have done.</td>
</tr>
<tr>
<td>2 I feel quite guilty most of the time.</td>
</tr>
<tr>
<td>3 I feel guilty all of the time.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7. Self-Dislike</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I feel the same about myself as ever.</td>
</tr>
<tr>
<td>1 I have lost confidence in myself.</td>
</tr>
<tr>
<td>2 I am disappointed in myself.</td>
</tr>
<tr>
<td>3 I dislike myself.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. Self-Criticalness</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I don't criticize or blame myself more than usual.</td>
</tr>
<tr>
<td>1 I am more critical of myself than I used to be.</td>
</tr>
<tr>
<td>2 I criticize myself for all of my faults.</td>
</tr>
<tr>
<td>3 I blame myself for everything bad that happens.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9. Suicidal Thoughts or Wishes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I don't have any thoughts of killing myself.</td>
</tr>
<tr>
<td>1 I have thoughts of killing myself, but I would not carry them out.</td>
</tr>
<tr>
<td>2 I would like to kill myself.</td>
</tr>
<tr>
<td>3 I would kill myself if I had the chance.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10. Crying</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I don't cry any more than I used to.</td>
</tr>
<tr>
<td>1 I cry more than I used to.</td>
</tr>
<tr>
<td>2 I cry over every little thing.</td>
</tr>
<tr>
<td>3 I feel like crying, but I can't.</td>
</tr>
</tbody>
</table>
11. Agitation
0 I am no more restless or wound up than usual.
1 I feel more restless or wound up than usual.
2 I am so restless or agitated that it's hard to stay still.
3 I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest
0 I have not lost interest in other people or activities.
1 I am less interested in other people or things than before.
2 I have lost most of my interest in other people or things.
3 It's hard to get interested in anything.

13. Indecisiveness
0 I make decisions about as well as ever.
1 I find it more difficult to make decisions than usual.
2 I have much greater difficulty in making decisions than I used to.
3 I have trouble making any decisions.

14. Worthlessness
0 I do not feel I am worthless.
1 I don't consider myself as worthwhile and useful as I used to.
2 I feel more worthless as compared to other people.
3 I feel utterly worthless.

15. Loss of Energy
0 I have as much energy as ever.
1 I have less energy than I used to have.
2 I don't have enough energy to do very much.
3 I don't have enough energy to do anything.

16. Changes in Sleeping Pattern
0 I have not experienced any change in my sleeping pattern.
1a I sleep somewhat more than usual.
1b I sleep somewhat less than usual.
2a I sleep a lot more than usual.
2b I sleep a lot less than usual.
3a I sleep most of the day.
3b I wake up 1–2 hours early and can't get back to sleep.

17. Irritability
0 I am no more irritable than usual.
1 I am more irritable than usual.
2 I am much more irritable than usual.
3 I am irritable all the time.

18. Changes in Appetite
0 I have not experienced any change in my appetite.
1a My appetite is somewhat less than usual.
1b My appetite is somewhat greater than usual.
2a My appetite is much less than before.
2b My appetite is much greater than usual.
3a I have no appetite at all.
3b I crave food all the time.

19. Concentration Difficulty
0 I can concentrate as well as ever.
1 I can't concentrate as well as usual.
2 It's hard to keep my mind on anything for very long.
3 I find I can't concentrate on anything.

20. Tiredness or Fatigue
0 I am no more tired or fatigued than usual.
1 I get more tired or fatigued more easily than usual.
2 I am too tired or fatigued to do a lot of the things I used to do.
3 I am too tired or fatigued to do most of the things I used to do.

21. Loss of Interest in Sex
0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.
Appendix H

The Patient Health Questionnaire-9
# PHQ-9

**Over the last 2 weeks, how often have you been bothered by any of the following problems?**

*(Use “✔” to indicate your answer)*

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Several days</th>
<th>More than half the days</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Little interest or pleasure in doing things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Feeling down, depressed, or hopeless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Trouble falling or staying asleep, or sleeping too much</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Feeling tired or having little energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Poor appetite or overeating</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Trouble concentrating on things, such as reading the newspaper or watching television</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Thoughts that you would be better off dead or of hurting yourself in some way</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

*(For office coding: Total Score = ___ + ___ + ___)*

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

<table>
<thead>
<tr>
<th>Not difficult at all</th>
<th>Somewhat difficult</th>
<th>Very difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

From the Primary Care Evaluation of Mental Disorders Patient Health Questionnaire (PRIME-MD PHQ). The PHQ was developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues. For research information, contact Dr. Spitzer at rl8@columbia.edu.

PRIME-MD® is a trademark of Pfizer Inc. Copyright © 1999 Pfizer Inc. All rights reserved. Reproduced with permission.
Appendix I
Patient Health Questionnaire-9 Scoring Sheet
**PHQ-9 Scores and Proposed Treatment Actions** *

* From Kroenke K, Spitzer RL, Psychiatric Annals 2002;32:509-521

<table>
<thead>
<tr>
<th>PHQ-9 Score</th>
<th>Depression Severity</th>
<th>Proposed Treatment Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 4</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>5 – 9</td>
<td>Mild</td>
<td>Watchful waiting; repeat PHQ-9 at follow-up</td>
</tr>
<tr>
<td>10 – 14</td>
<td>Moderate</td>
<td>Treatment plan, considering counseling, follow-up and/or pharmacotherapy</td>
</tr>
<tr>
<td>15 – 19</td>
<td>Moderately Severe</td>
<td>Immediate initiation of pharmacotherapy and/or psychotherapy</td>
</tr>
<tr>
<td>20 – 27</td>
<td>Severe</td>
<td>Immediate initiation of pharmacotherapy and, if severe impairment or poor response to therapy, expedited referral to a mental health specialist for psychotherapy and/or collaborative management</td>
</tr>
</tbody>
</table>
Appendix J
The Demographic Questionnaire and Survey Form
Demographic Questionnaire

1. Demographic Information

<table>
<thead>
<tr>
<th>Sex:</th>
<th>Male</th>
<th>18-23</th>
<th>Married</th>
<th>Education:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>24-30</td>
<td>Married</td>
<td>Never Married</td>
<td>High school not completed</td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>Single</td>
<td></td>
<td>High school completed</td>
</tr>
<tr>
<td></td>
<td>41-50</td>
<td>Divorced</td>
<td></td>
<td>Some college</td>
</tr>
<tr>
<td></td>
<td>&gt;51</td>
<td>Partnership</td>
<td></td>
<td>Associate Degree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Widowed</td>
<td></td>
<td>College/University Degree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Employment:</th>
<th>Yearly Income:</th>
<th>Health Insurance:</th>
<th>Children:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full time</td>
<td>$10,000 or less</td>
<td>None</td>
<td>0</td>
</tr>
<tr>
<td>Part-time</td>
<td>$10,001-15,000</td>
<td>Medicaid/Medicare</td>
<td>1-2</td>
</tr>
<tr>
<td>Not employed</td>
<td>$15,001-30,000</td>
<td>Private Insurance</td>
<td>3 +</td>
</tr>
<tr>
<td></td>
<td>$30,001 or more</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race:</th>
<th>Current Living Arrangements:</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, Non-Hispanic</td>
<td>Your Own House or Apartment</td>
</tr>
<tr>
<td>Black, Non-Hispanic</td>
<td>Someone Else's House or Apartment</td>
</tr>
<tr>
<td>American Indian</td>
<td>Homeless</td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

2. Information regarding your HIV Infection

<table>
<thead>
<tr>
<th>Year of HIV diagnosis:</th>
<th>Mode of transmission (check all that apply):</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 2 years ago</td>
<td>Blood transfusion</td>
</tr>
<tr>
<td>2-5 years ago</td>
<td>Heterosexual contact</td>
</tr>
<tr>
<td>6-10 years ago</td>
<td>Homosexual contact</td>
</tr>
<tr>
<td>&gt; 10 years ago</td>
<td>Injection drug use</td>
</tr>
<tr>
<td></td>
<td>Not sure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What was your latest CD4 count (T cell)?</th>
<th>What was your lowest CD4 count (T cell) ever?</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 200</td>
<td>&lt; 200</td>
</tr>
<tr>
<td>200-500</td>
<td>200-500</td>
</tr>
<tr>
<td>&gt; 500</td>
<td>&gt; 500</td>
</tr>
</tbody>
</table>
3. Information regarding your experiences

a. Do you have friends and/or a support group of people who are aware of your diagnosis?
   Yes ____
   No ____
   Explain:

b. Prior to your HIV infection, were you ever diagnosed with depression?
   Yes ____
   No ____
   Explain:

c. Are you currently depressed?
   Yes ____
   No ____
   Explain:

d. Do you feel judged (or looked down upon) because of your HIV infection?
   Yes ____
   No ____
   Explain:
e. If you have told friends or family about your HIV infection, how would you describe their reaction?
Supportive ______  Not at all supportive ______
Mostly supportive ______  I have not told my family or friends ______

Explain:
________________________________________
________________________________________
________________________________________
________________________________________

f. What is your perception of the medical care you are receiving for your HIV treatment?
Excellent ______
Good ______
Fair ______
Poor ______

Explain:
________________________________________
________________________________________
________________________________________
________________________________________

g. Have you ever tried to take your own life by attempting to commit suicide?

Explain:
________________________________________
________________________________________
________________________________________
________________________________________

h. Have you had thoughts of killing yourself or taking your own life, but did not act on it?
Never ______
Rarely ______
Sometimes ______
Often ______
All of the time ______

________________________________________
________________________________________
________________________________________
________________________________________
i. Is there anything else you would like to add or think would be helpful for us to know that we didn't ask you?