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Social Support and Psychotherapy for Asian and Pacific Islanders with HIV/AIDS

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Abstract

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MA, Binghamton University, 2005

BS, Binghamton University, 2004

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

HIV/AIDS rates among Asian and Pacific Islanders (APIs) have increased steadily in recent years. The Health Resources and Services Administration reported in 2011 that people living with HIV/AIDS experience psychiatric disorders at a rate 4 to 8 times higher than the general population, with as many as 60% experiencing depression. Studies show that short-term psychotherapy reduces depression and anxiety in people with HIV/AIDS, and studies have indicated that patients have better health outcomes when they receive psychotherapy in conjunction with medical treatment. It is not known how social support relates to psychotherapy attendance or health outcomes as measured by CD4 and viral load among people who are APIs and have HIV/AIDS. APIs comprise a group that does not readily engage with mental health services, thus warranting focused research attention. The purpose of this quantitative, causal, comparative study was (a) to examine the psychotherapy attendance rates of APIs and non-APIs who have HIV/AIDS, and (b) to identify the impact of social support on attendance rates and health outcomes such as CD4 and viral load. The data collected from anonymous medical files at a community health center, 993 number of records reviewed, analyzing the data using descriptive and inferential statistics in order to identify factors that increase psychotherapy attendance rates of people who are APIs and have HIV/AIDS. The study findings demonstrated that non-APIs have higher psychotherapy attendance rates over time compared to APIs, regardless of social support from case workers for attending. Positive social change for this group indicates further examination of the meaning and outcomes for API under these circumstances, with recommendation for use of qualitative data gathering the perspectives of API themselves.

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Dedication

In memory of my beloved grandmother Ms. Kim Lo, for her devotion, endless support, and inspiration.

Acknowledgments

After an intensive period of over two years, writing this note of appreciation is the last piece on my dissertation. It has been a period of extraordinary learning for me, not only in the scientific arena, but also on a personal level. I would like to reflect on the people who have supported and guided me so much throughout this period.

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Chapter 1: Introduction

Introduction

The Centers for Disease Control and Prevention (CDC, 2012) has reported a steady increase in cases of HIV/AIDS in recent years among Asians and Pacific Islanders (APIs) living in the United States, indicating an increased need for medical and mental health services for this group. This population includes people from Japan, China, Taiwan, Southeast Asia, the Indian subcontinent, the Philippines, and other Pacific island nations. Specific cultural factors mitigate against APIs seeking and remaining in medical treatment and psychotherapy due to stigmas in Asian countries regarding HIV/AIDS (Kang, Rapkin, & DeAlmeida, 2006; Sue, Cheng, Saad, & Chu, 2012), as well as stigmas regarding mental disorders, and seeking help outside the API community. The result is that APIs seek mental health care less often than the general population (Leong, Kim, & Gupta, 2011), and also have a higher dropout rate from mental health care (Lin, 1994) than the general population. There is currently little data on the initial attendance in psychotherapy of people who are APIs and who have HIV/AIDS, or on their dropout rates (Kang et al., 2006; Sue et al., 2012) because previous researchers have targeted non-API populations. In this study, I worked to understand the factors that lead people who are APIs and who have HIV/AIDS to seek and remain in psychotherapy and whether APIs who do so have better health outcomes.

In Chapter 1, I provide a background of the study. This chapter includes the problem statement and justification for the need to conduct the study. I also provide a discussion of the purpose and significance of the study as well as the research methodology. Further, I present a discussion of the assumptions, limitations, delimitations, and terminologies used in the study. The chapter ends with a transition to Chapter 2 that includes a summary and a discussion of the organization of the remainder of the study.

Background

A limited selection of literature includes information on the attitudes of API cultures toward HIV/AIDS and psychotherapy (Hall, Hong, Zane, & Meyer, 2011; Kang et al., 2006; Leong et al., 2011; Miller, Yang, Hui, Choi, & Lim, 2011), and there has been minimal scholarly discussion of the relationship between social support and treatment adherence (including psychotherapy attendance) among APIs. Hall et al. (2011) emphasized the dependence of Asian individuals on their families, friends, and communities for resolving issues. Hall et al. (2011) reported that unlike European-American cultures, Asian cultures do not encourage direct communication with those outside the community. Kang et al. (2006) described the close communication within the API community, but showed that there is pressure on Asians with HIV/AIDS to not disclose their illness and to not seek medical or psychological treatment. These authors found that APIs who have been diagnosed with HIV/AIDS often suffer with depression and other psychological consequences, especially because they keep the consequences and complications of HIV/AIDS to themselves.

Asians are highly concerned with how they are perceived within and outside the community (Leong et al., 2011). Leong et al. (2011) and Miller et al. (2011) explored how acculturation impacts receptivity toward psychotherapy, finding that it has minimal impact on Asian college students. In addition, these researchers showed that the cultural fear of loss of face has a significant impact on attitudes toward seeking mental health care. In most cases, patients refuse to seek mental health care because of the negative perceptions of mental conditions. Moreover, patients often deny the existence of the mental condition and the need to seek treatment. Irvine et al. (2015) investigated the relationship between social support and the willingness of HIV/AIDS patients in the general population to comply with medical treatment. According to Irvine et al., social support is one of the key factors that encourage HIV/AIDS patients to seek and complete medical treatments. Mutchler et al. (2011), O'Laughlin, Wyatt, Kaaya, Bangsberg, and Ware (2012), and Westmaas, Bontemos, and Bauer (2010) concluded that social support, including that from family, friends, and case workers, helped increase treatment adherence and promote positive health behaviors among the general population with medical conditions other than HIV/AIDS.

Yeun, Baek, and Kim (2013) examined social cognitive theory (SCT) and health promotion behavior in API patients who were not diagnosed with HIV/AIDS. In sum, researchers have confirmed the links among (a) social support, (b) receptivity to mental health care and psychotherapy attendance, and (c) health outcomes as measured by CD4 and viral load. Moreover, these researchers have reported that specific characteristics of Asian cultures result in distinct attitudes and behaviors toward HIV/AIDS and to the idea of seeking and remaining in mental health care, and that those attitudes and behaviors differ from attitudes and behaviors in non-Asian cultures. Those findings show the need for specific attention to people who are APIs and who have HIV/AIDS.

Problem Statement

According to the Health Resources and Services Administration (2009), people living with HIV/AIDS experience some type of psychiatric disorder at a rate four to eight times higher than the general population, including as many as 60% who experience depression. Scholars have suggested that short-term psychotherapy (24 sessions or fewer) reduces depression and anxiety in HIV/AIDS patients (Himelhoch, Medoff, & Oyeniyi, 2007; Pobuda, Crothers, Goldblum, Dilley, & Koopman, 2008). Because psychiatric disorders are often a barrier to medical treatment adherence, scholars have indicated that HIV/AIDS patients who receive psychotherapy have better health outcomes. Positive health outcomes are measured through CD4 and viral load, and lead to a decrease in depression.

Social support is one of the factors that researchers have identified as leading people to seek and remain in psychotherapy (Irvine et al., 2015; Yeun et al., 2013). Moreover, social support generally promotes positive health outcomes, including higher treatment adherence rates (Irvine et al., 2015; Mutchler et al., 2011; O'Laughlin et al., 2012; Westmaas et al., 2010). It is therefore possible to draw a link between HIV/AIDS patients with social support and psychotherapy attendance to better medical outcomes. It is not known how social support relates to psychotherapy attendance or health outcomes as measured through CD4 and viral load among people in the United States who are APIs and who have HIV/AIDS.

Previous researchers have targeted non-API populations (Irvine et al., 2015) and some have touched upon API and psychotherapy (Kang et al., 2006; Sue et al., 2012), but there is a lack of research on people who are APIs and who have HIV/AIDS. It is imperative to focus on the API population due to that group’s potential cultural needs for an expanded approach for inclusion of social support in accessing assistance with mental health maintenance through their illness (Irvine et al., 2015). Therefore, in this study, I sought to expand existing studies on social support, psychotherapy, and HIV/AIDS patients to focus on the cultural background of APIs living in the United States.

Purpose of the Study

The purpose of this quantitative causal comparative study was to examine the psychotherapy attendance rates among APIs and non-APIs who have HIV/AIDS and psychotherapy attendance rates among APIs and non-APIs who have not been diagnosed with HIV/AIDS in order to identify the impact of social support on attendance rates and health outcomes such as CD4 and viral load. I employed a quantitative causal comparative study to identify relationships between identified variables. The independent variables were the population group membership of participants: (a) API patients who have HIV/AIDS, (b) APIs who have not been diagnosed with HIV/AIDS, (c) non-API patients who have HIV/AIDS, and (d) non-APIs who have not been diagnosed with HIV/AIDS. The dependent variables were the psychotherapy attendance rates and health outcomes such as CD4 and viral load. I collected the data from anonymous medical files of patients with HIV/AIDS at a community health center in New York City. I analyzed the data gathered in this study using descriptive and inferential statistics in order to identify factors that increase psychotherapy attendance of people who are APIs and have HIV/AIDS.

Research Question(s) and Hypotheses

I developed the following research questions (RQs) and hypotheses for this study:

RQ1: What are the differences in psychotherapy attendance rates over a one-year period among the following groups: (a) APIs who have HIV/AIDS patients; (b) APIs not diagnosed with HIV/AIDS; (c) non-APIs who have HIV/AIDS; and (d) non-APIs not diagnosed with HIV/AIDS?

$H_0 1_a$: Patients not diagnosed with HIV/AIDS have lower psychotherapy attendance rates over time compared to patients diagnosed with HIV/AIDS.

$H_1 1_a$: Patients diagnosed with HIV/AIDS have higher psychotherapy attendance rates over time compared to patients not diagnosed with HIV/AIDS.

$H_0 1_b$: APIs have lower psychotherapy attendance rates over time compared to non-APIs.

$H_1 1_b$: Non-APIs have higher psychotherapy attendance rates over time compared to APIs.

RQ2: What is the effect of social support (as measured by level of support given by case workers) on retention in psychotherapy in the following groups: (a) APIs who have HIV/AIDS; (b) APIs not diagnosed with HIV/AIDS; (c) non-APIs who have HIV/AIDS; and (d) non-APIs not diagnosed with HIV/AIDS?

$H_0 2_a$: Social support, as measured by level of support given by case workers, has no positive impact on retention in psychotherapy.

$H_1 2_a$: Social support, as measured by level of support given by case workers, has a positive impact on retention in psychotherapy.

RQ3: What are the differences in health outcomes, as measured through CD4 and viral load, in the following groups: (a) people who are APIs and who have HIV/AIDS; (b) APIs who have not been diagnosed with HIV/AIDS; (c) non-APIs who have HIV/AIDS; and (d) non-APIs who have not been diagnosed with HIV/AIDS?

H_03_a: Patients not diagnosed with HIV/AIDS have lower health outcomes, as measured through CD4 and viral load, compared to patients diagnosed with HIV/AIDS.

H_13_a: Patients diagnosed with HIV/AIDS have higher health outcomes, measured through CD4 and viral load, as compared to patients not diagnosed with HIV/AIDS.

H_03_b: APIs have lower health outcomes, as measured through CD4 and viral load, compared to non-APIs.

H_13_b: APIs have higher health outcomes, as measured through CD4 and viral load, compared to non-APIs.

Theoretical Framework

Bandura's (1989) social cognitive theory (SCT) provided a theoretical framework for this study of social support and its effects on treatment adherence and health outcomes. SCT focuses on how an individual's knowledge and experiences, which come from personal and environmental influences such as family and media, influence behavior (Yeun et al., 2013). One method for increasing initial psychotherapy attendance and decreasing dropout rates among people who are APIs and who have HIV/AIDS may be found in the social support component of Bandura's SCT. Individuals as well as groups continually strive to seek closeness with other individuals or groups to feel secure (Tasca, 2014; Yeun et al., 2013). Social support also has a significant impact on self-efficacy, or a person’s belief in his or her ability to succeed in certain situations. Self-efficacy is one of the key elements of SCT that motivates people to change their behavior (Longo, Lent, & Brown, 1992; Wood & Bandura, 1989). People who believe that behavior changes are possible have a better chance of making and maintaining changes (Longo et al., 1992).

Researchers have shown that social support can also lead to specific concrete behavioral changes -- including seeking and remaining in treatment -- especially for individuals with chronic disease (Longo et al., 1992; Shen, Edwards, Courtney, McDowell, & Wu, 2012). There is sufficient data to confirm that HIV/AIDS patients who have strong social and emotional support and bonds with other individuals and groups have significantly higher medical treatment adherence (Irvine et al., 2015; Li, Kuo, Hwang, & Hsu, 2012; Stubbs, Micek, Pfeiffer, Montoya, & Gloyd, 2009; Ushie & Jegede, 2012). It is possible that increased self-efficacy, impacted by this social support, is also a factor in treatment adherence.

Nature of the Study

In this quantitative study, I focused on how social support influences attendance rates in psychotherapy and consequently influences health outcomes among APIs who have HIV/AIDS in comparison with other groups. I used a non-experimental causal comparative research design to investigate whether relationships exist between the identified independent and dependent variables. The data collected for this study included patient demographics, diagnoses, adherence to medical and psychotherapy appointments, and information about access to social support contained in anonymous medical files of patients with HIV/AIDS at a New York community health center. Demographic information included patients' age, household income, gender, sexual orientation, and race. For RQ1, the dependent variable (DV) was psychotherapy attendance rate, and the independent variables (IV) were race and HIV/AIDS status. For RQ2, the DV was psychotherapy attendance rate, and the IVs were social support, race, and HIV/AIDS status. For RQ3, the DV was health outcomes as measured by CD4 and viral load, while the IVs were the different group memberships. I used descriptive statistics and inferential statistics to analyze the data. I calculated frequencies and percentages to describe the participants in the study. To answer the research questions, I performed factorial ANOVA, repeated-measures ANOVA, and multiple regression analysis, using a significance level of .05 for all analyses.

Definitions

I used the following definitions for key terms in this study:

Asians and Pacific Islanders (APIs): A population that includes people from Japan, China, Taiwan, Southeast Asia, the Indian subcontinent, the Philippines, and other Pacific island nations (Sue et al., 2012).

CD4 count: A measure of the number of CD4 cells, which is a type of white blood cell that fights infection, and is typically used to measure the health of HIV/AIDS patients (CDC, 2012).

HIV/AIDS patient: An individual with a chronic and potentially life-threatening disease caused by human immunodeficiency virus (CDC, 2012).

Psychotherapy: Treatment for mental health problems by psychiatrists, psychologists, or other mental health providers (Li et al., 2012).

Psychotherapy attendance rate: The number of days the patient is present during treatment divided by the number of total days of treatment (Li et al., 2012).

Social support: The perception that an individual is cared for and given support by the people or groups of individuals around him (Tasca, 2014). For the purpose of this study, this term will be defined as the presence of a case worker in psychotherapy. Access to a case worker in the data set is identified as whether the patient was assigned a case worker to provide support services including treatment adherence education and assistance with navigating through the health care system.

Viral load: The measure of the amount of HIV in the blood of a patient (CDC, 2012).

Assumptions

Leedy and Omrod (2010) define an assumption at the self-evident truth about the subject matter considered in this study. In this study, I assumed that the medical data files available at the community health center were accurate, updated, and sufficient to capture current conditions of APIs and non-APIs who have HIV/AIDS in the geographic area of New York City. The use of secondary data increased the validity of a study by ensuring that data was measured using a standard instrument. Another assumption was that APIs live in collectivistic cultural contexts, while non-APIs lived in more individualistic groups.

Scope and Delimitations

Leedy and Omrod (2010) define delimitations as the boundaries of research. My intent in this study was to examine the impact of social support and psychotherapy attendance rates of APIs on health outcomes such as CD4 and viral load. I limited the scope of this study to measuring social support given to people who are APIs and who have HIV/AIDS, and studying psychotherapy as a means to treat HIV/AIDS. This study was also delimited to API populations in New York City. I collected the study data from the city's only community health center, which made sure that the study's findings can be generalized to the total population of New York City. These results, however, may be different from other localities, cities or states within the United States. My use of an existing data source allowed me to collect all available data. Thus, I was able to capture a wide range of samples within the target population.

Limitations

Leedy and Omrod (2010) define limitations as weaknesses that may exist in any part of the research. One limitation in the research design was that this quantitative causal comparative study was focused on analyzing direct relationships between variables. The findings of this study only showed relationships between variables and do not show causality. This study did not include conclusions on the effectiveness of interventions. Further, I have only provided conclusions on social support based on data from the community health center reports. Another limitation of this study was that I only considered variables captured in the data reports of a community health center.

Significance

Through this study, I aimed to contribute to an under-researched area of possible connections among the factors of social support, attendance rates in psychotherapy, and health outcomes in a vulnerable population in which the HIV/AIDS infection rate is increasing and that may have unique sociocultural needs. My aim was to discover whether people who are APIs, have HIV/AIDS, and currently have social support have a higher rate of participation in psychotherapy along with comparatively better health outcomes. If the study confirms those better outcomes, those working in social services could identify ways of providing APIs with direct, culturally-appropriate social support with the goal of increasing their psychotherapy attendance and improving their health outcomes. The results of this study will benefit both APIs and non-APIs who have HIV/AIDS by providing a guide for potential programs that could be developed in order to strengthen social support within and outside the community. These programs may help encourage HIV/AIDS patients to seek medical treatment in order to combat the complications of their illness.

Summary

The CDC (2012) reported a steady increase in cases of HIV/AIDS in recent years among APIs living in the United States, indicating an increased need for medical and mental health services for this group. APIs as a whole seek mental health care less often than the general population (Leong et al., 2011) and have a higher dropout rate than the general population as well (Lin, 1994). The purpose of this quantitative causal comparative study was to examine the psychotherapy attendance rates among API and non-API HIV/AIDS patients and among APIs and non-APIs not diagnosed with HIV/AIDS in order to identify the impact of social support on attendance rates and health outcomes such as CD4 and viral load. I used a non-experimental causal comparative research design to investigate whether relationships exist between identified independent and dependent variables. The data collected for this study included patient demographics, diagnosis, adherence to medical and psychotherapy appointments, and access to social support contained in anonymous medical files of HIV/AIDS patients at a community health center. I analyzed the gathered data using descriptive and inferential statistics including factorial ANOVA, repeated measures ANOVA, and multiple regression analysis. In the next chapter, I will present a review of current literature on the study subject.

Chapter 2: Literature Review

Introduction

This chapter contains a review of the literature related to this study on the impact of social support on psychotherapy participation among APIs who have been diagnosed with HIV/AIDS. There has been little research on API cultures and their attitudes toward HIV/AIDS and psychotherapy (Hall et al., 2011; Kang et al., 2006; Leong et al., 2011; Miller et al., 2011). Further, there has been minimal scholarly discussion of the relationship between social support and treatment adherence (including psychotherapy attendance) among APIs.

Irvine et al. (2015) investigated the relationship between social support and the willingness of HIV/AIDS patients in the general population to comply with medical treatment. Mutchler et al. (2011), O'Laughlin et al. (2012), and Westmaas et al. (2010) showed that social support, including support from family, friends, and caseworkers, helps to increase treatment adherence and promote positive health behaviors among the general population with medical conditions other than HIV/AIDS. Yeun et al. (2013) examined SCT and health-promotion behavior in API patients who were not diagnosed with HIV/AIDS and found a positive correlation between treatment adherence and social support in the form of treatment education and self-management related to their illness. These and similar findings in the literature have confirmed the links among social support, receptivity to mental health care and psychotherapy attendance, and health outcomes. Moreover, researchers have found that specific characteristics of Asian cultures result in attitudes and behaviors toward HIV/AIDS and toward seeking and remaining in mental health care that are different from non-Asian cultures. Those findings show the need for specific attention to the API individuals who have been diagnosed with HIV/AIDS.

According to the Health Resources and Service Administration (2009), people living with HIV/AIDS experience some type of psychiatric disorder at a rate four to eight times higher than the general population, including as many as 60% who experience depression. Scholars have suggested that short-term psychotherapy (24 sessions or fewer) reduces depression and anxiety in HIV/AIDS patients (Himelhoch et al., 2007; Pobuda et al., 2008). Because psychiatric disorders are often a barrier to medical treatment adherenc, researchers have indicated that HIV/AIDS patients who receive psychotherapy have better health outcomes. Social support is one of the factors that researchers have identified as leading people to seek and remain in psychotherapy (Irvine et al., 2015; Yeun et al., 2013). Moreover, social support generally promotes positive health outcomes, including higher treatment adherence rates (Irvine et al., 2015; Mutchler et al., 2011; O'Laughlin et al., 2012; Westmaas et al., 2010). It is therefore possible to predict better medical outcomes for HIV/AIDS patients who have social support and who attend psychotherapy.

The CDC (2012) reported a steady increase in HIV/AIDS cases among APIs in recent years, indicating an increased need for medical and mental health services for this group. Specific cultural factors, however, often dissuade APIs from seeking and remaining in medical treatment and psychotherapy due to stigmas in Asian cultures regarding HIV/AIDS (Kang et al., 2006; Sue et al., 2012), regarding mental disorders, and regarding resistance to seeking help outside the API community. The result is that APIs seek mental health care less often (Leong et al., 2011) and have a higher dropout rate (Lin, 1994) than the general population. There is currently little data on the initial psychotherapy attendance or the psychotherapy dropout rates of API patients with HIV/AIDS (Kang et al., 2006; Sue et al., 2012).

In this chapter, I discuss my literature review strategy and then explain the recommended medical treatment for people with HIV/AIDs. I discuss social cognitive theory, including its background, the rationale and implications of it, and its relevance to my study. I review literature on depression, psychotherapy, and social support, and present operational definitions for the study. I conclude with a summary of the chapter in which I identify themes and gaps in literature and offer recommendations.

Literature Review Strategy

For this study, I conducted a search of the literature published from 1986 through 2015 and focused on APIs, HIV/AIDS, and psychotherapy participation. I gathered this literature through the Walden University library using a range of academic databases: CINAHL Plus with Full Text, ERIC, MEDLINE with Full Text, ProQuest Nursing and Allied Health Source, PsycARTICLES, and PsycINFO. My search included approved dissertations. I also conducted Internet searches using Bing, Google, and Google Scholar search engines, as well as a variety of governmental Internet resources including the CDC, the New York State Department of Health AIDS Institute, and the Health Resources and Service Administration. The Internet searches also included various organizations within the U.S. Department of Health and Human Services, such as the AIDS Info Project and the AIDS.gov website.

The literature search included the following key words and phrases*: Bandura's (1989) social cognitive theory (SCT) mental health treatment, HIV/AIDS treatment, Asian and Pacific Islanders, Asian and Pacific Islanders and mental health, psychotherapy attendance rate, psychotherapy dropout rate, social support,* and *treatment adherence*. The search continued with combinations of those key words and phrases mentioned above with *SCT* or *social support*. For example, I combined the key words *Asian and Pacific Islanders* and *mental health* with *social support*; *social cognitive theory* with *treatment adherence*; *HIV/AIDS treatment* with *social support*; and *psychotherapy attendance rate* with *Asian and Pacific Islanders*.

Recommended Medical Treatment for People with HIV/AIDS

The CDC (2014a) has recommended that individuals diagnosed with HIV/AIDS initiate antiretroviral therapy (ART) within three months of diagnosis, and visit their primary care physician at least every six months. The Panel on Antiretroviral Guidelines for Adults and Adolescents (PAGAA, 2015) of the U.S. Department of Health and Human Services (HHS, 2014) recommended that patients follow up with a physician within eight weeks and every three months thereafter, once ART is initiated, to monitor viral load suppression and CD4 counts, as well as to detect any drug resistance that could be harmful to the patient. The CDC (2014a) and HHS (PAGAA, 2015) have both stressed the importance of initiating ART at an early stage of diagnosis and stressed patient compliance with ART (a minimum 95% adherence) to extend the lifespan. Brown, Littlewood, and Vanable (2013) confirmed the necessity of 95% or higher treatment adherence because it is associated with optimal viral-load suppression and reduces the risk of disease progression.

HIV/AIDS is now considered a chronic illness similar to diabetes or hypertension, with longer life expectancy accompanying treatment adherence.; However, individuals diagnosed with HIV/AIDS often face mental health symptoms such as depression (Nokes et al., 2012) that can affect treatment adherence. The CDC (2014a) recommended that physicians monitor barriers such as depression that may interrupt treatment adherence. The HHS (2014) and Sin and DiMatteo (2014) have pointed out that HIV/AIDS patients are at increased risk of developing at least one psychiatric disorder, such as depression, that leads to low adherence. Low adherence or no treatment are likely to result in unsuppressed viral load and high CD4, which cause other opportunistic infections that can lead to death. When psychological issues are addressed, patients are more likely to adhere to ART (Sin & DiMatteo, 2014). Due to the prevalence of mental illness among HIV/AIDS patients, the AIDS Institute (2012) recommended that physicians conduct a mental health screening at every visit for depression, suicidal or violent ideation, sleep habits, and appetite. The institute also suggested that patients be assessed at least annually for cognitive function, psychosocial status, and alcohol and substance use to ensure early detection of possible barriers to HIV/AIDS treatment.

Bandura's (1989) Social Cognitive Theory (SCT)

According to Bandura's (1977) social learning theory, individual behavior is learned and changed through environmental influences (McLeod, 2011). For example, a child sees a teacher pick up toys and return them to the toy chest. Imitating the teacher, the child helps the teacher pick up the toys and returns them to the chest. The teacher says "What a good girl you are! Thank you!" The child experiences this response as rewarding, making it more likely that she will repeat the behavior due to the external positive reinforcement (McLeod, 2011). Both positive and negative reinforcement can lead to behavioral change (McLeod, 2011; Rosenstock, Strecher, & Becker, 1988). Social learning theory was later relabeled social cognitive theory (SCT) to focus on the individual's expectancies and incentives (Rosenstock et al., 1988).

SCT describes three categories of behavior consequences, called *expectancies*, that individuals anticipate and respond to: environmental cues, outcome, and self-efficacy (Rosenstock et al., 1988, p. 177). The first expectancy, environmental cues, influence behavior by teaching individuals how events connect to each other. The second expectancy, outcome, is based on how the individual's behavior impacts the end result, which leads him/her to anticipate the response to an action. The third expectancy, self-efficacy, is the individual's confidence in being able to complete the assigned task or change in behavior (Rosenstock et al., 1988). SCT also points to incentives or reinforcement—such as improved physical appearance or health status—that contribute to the value people place on outcomes, serving as motivation to complete a task or change behavior (Dilorio et al., 2009; Rosenstock et al., 1988). In the next section, I explain why I used this theory for my study.

Rationale for SCT

SCT is pertinent to understanding health behaviors, because the identified expectancies influence a patient's efforts to improve health. Individuals' perceptions of their ability to adopt certain behaviors such as treatment compliance (self-efficacy), the environmental support available to them to do that, and the outcome of their behavior influences their decisions and behaviors..

Outcome expectancy is an important source of motivation and incentive in decision-making and task completion (Bandura, 1989). People commit to behavioral changes based on their perception of the possible outcomes of their actions (Bandura, 1989). For example, if they perceive positive outcomes from attending psychotherapy, such as feeling more empowered in their life, they may be less likely to drop out of therapy. Longo et al. (1992) found that, depending on treatment type and setting, psychotherapy dropout rates range from 20% to 60%, and that at least 25% do not return after the initial appointment. In their study, when 104 participants were informed about the treatment process and the possible benefits from it, 85% (n = 88) continued with the psychotherapy sessions. The authors suggested that strengthening outcome expectations can have a positive impact on treatment adherence.

Bandura (1989) noted that thoughts often affect behavior, especially the individual's perception of self-efficacy for accomplishing a task or making changes. Bandura argued that individuals' judgments of their capabilities can be either "self-hindering or self-enhancing" (p. 60). How they evaluate their capabilities is very important, "because acting on misjudgments of personal efficacy can produce adverse consequences, [while] accurate appraisal of one’s own capabilities has considerable functional value” (Bandura, 1989, p. 59). Individuals who are not equipped with skill sets that help them cope with life or who are filled with self-doubts often have low self-efficacy, which may lead to difficulties in adapting or making changes (Bandura, 1989).

Bandura (1989) defined self-efficacy as the ability of an individual to succeed in accomplishing a certain task. Johnson et al. (2007) confirmed that self-efficacy is an important component in health behavior and has a strong connection to treatment adherence. These researchers used the Adherence Self-Efficacy Scale (ASES) to measure self-efficacy for HIV treatment adherence, and found that individuals with high ASES scores experienced lower depression and had better problem-solving skills, resulting in higher adherence to medical treatment. Individuals with low self-efficacy, however, were less likely to attend medical appointments or follow up with treatment, which might result in more emergency room visits. In the next section, I discuss the effects of using SCT in relation to treatment for HIV/AIDS.

Implications of SCT for Treatment Adherence

SCT suggests that personal experiences, knowledge, and environment have an impact on an individual’s behavior (Dilorio et al., 2009; Yeun et al., 2013). Those three factors can influence a person’s feelings of self-efficacy and influence the person’s adherence to treatment. Dilorio et al. (2009) suggested that individuals with strong self-efficacy are likely to succeed at difficult tasks such as changing their behavior due to their perseverance. Zebracki and Drotar (2004) conducted a study on children and adolescents ages 7 to 17 who were diagnosed with asthma. The study focused on outcome expectancy and self-efficacy in relation to treatment adherence. The researchers found that those with high self-efficacy were more compliant with asthma treatment compared to those with low self-efficacy. They also found that children and adolescents with overly optimistic outcome expectancies were likely to have low treatment adherence and present with worse asthma symptoms, confirming the relationship between self-efficacy and health outcomes.

A number of studies have examined ART adherence and self-efficacy. Dilorio et al. (2009) examined several studies of ART adherence and found that they showed that "higher levels of self-efficacy correspond to higher rates of ART adherence" (Dilorio et al., 2009, p. 11). On the other hand, those with low self-efficacy were likely to have demoralizing ideation that led to low ART adherence (Dilorio et al., 2009). Dilorio et al. (2009), Zbracki and Drotar (2004), and Yeun et al. (2013) confirmed that individuals with high self-efficacy have better treatment compliance rates.

Relation of SCT to the Current Study

Bandura's (1989) social cognitive theory provides a theoretical framework for the study of social support and its effects on treatment adherence and health outcomes. SCT explains how behavior is influenced by an individual's knowledge and experiences that come from personal and environmental influences such as family and the media (Yeun et al., 2013). One method for increasing initial psychotherapy attendance and decreasing psychotherapy dropout rates in APIs who have HIV/AIDS may be found in the social support component of Bandura's SCT. Individuals and groups continually strive to seek closeness with other individuals or groups to feel secure (Tasca, 2014; Yeun et al., 2013).

Social support also has a significant impact on self-efficacy, one of the key elements of SCT that motivates people to change their behavior (Longo et al., 1992; Wood & Bandura, 1989). Researchers shown that social support can also lead to specific concrete behavioral changes, including seeking and remaining in treatment, especially for individuals with chronic disease (Longo et al., 1992; Shen et al., 2012). There is sufficient data in the literature to confirm that HIV/AIDS patients who have strong social and emotional support and bonds with other individuals and with groups have significantly higher medical treatment adherence (Irvine et al., 2015; Li et al., 2012; Stubbs et al., 2009; Ushie & Jegede, 2012). It is possible that increased self-efficacy, positively impacted by this social support, is also a factor in treatment adherence.

Current Empirical Literature Relevant to Research Questions

The psychiatric disorders commonly experienced by individuals with HIV include psychotic disorders, mood disorders, sleep disorders, and personality disorders, which could be pre-existing or develop after diagnosis (Health Resources and Service AdministrationA, 2011). Suicidal ideation is usually reported within 6 months from the time of diagnosis (Glass, 1988). The psychological problems experienced by individuals with HIV are a result of shame, humiliation, guilt, stigmatization, fear, embarrassment, and anger about having HIV/AIDS. These can manifest in different areas of a patient's life. The literature review of the study presented in the succeeding sections will discuss the important issues of psychotherapy, depression, and social support for individuals diagnosed with HIV. To better understand HIV patients in terms of how they approach their condition, I will review perceptions of HIV/AID and the attitudes toward its treatment.

Attitudes toward Treatment of HIV/AIDS

There are many factors that contribute to individuals with HIV seeking medical care or avoiding treatment (Oppenheimer, 2008). These are often affected by the emotional problems of the individuals, as well as the substances they use. Turner-Cobb et al. (2002) found that individuals who are well-adjusted to chronic illness such as HIV/AIDs were those who did not deny their illness, and decided instead to cope with it and with the stressors that come along with their diagnosis. Some of the coping mechanisms include receiving positive social support, participating in peer support groups, seeking mental health services, implementing help from caseworkers, seeking information to manage the virus, following medication regimens, implementing the help caretakers to help with daily activities, and seeking organizational support (Turner-Cobb et al., 2002). Positive thinking or having a positive state of mind is also often related to better adjustment and coping (Folkman, 1997). Adherence to medication regimens increases adjustment to living with HIV/AIDS (Turner-Cobb et al., 2002).

Kim et al. (2007) found that the discontinuation of medication is prevalent among those who have an alcohol problem, as well as those who exhibit depressive symptoms without substance abuse. Another study found that a lack of confidence in the effectiveness of medication is one of the reasons for failing to consistently follow a medication regimen (Locher, Wayson, Pargament, & Duggan, 2007). The study participants indicated that they find the medication a constant reminder of their illness. Many also noted that the medications are time-consuming and energy-restricting.

Another factor affecting HIV treatment is patient-client relationship (Oppenheimer, 2008). A study of the factors determining adherence to treatment showed that patient perceptions of being valued and respected by the clinician, the ability of patients to discuss concerns with the clinician, and the level of trust and empowerment felt by the patient were the main predictors of whether patients continued with medical treatment (Molassiotis, Morris, & Trueman, 2007). Molassiotis et al. suggested that investing in communication techniques to improve relationships with patients may improve the maintenance of medical treatment.

DiMatteo (2004) stated that attitudes toward treatment and adherence to the treatment depend on a patient's acceptance of the diagnosis and ability to follow through with treatment recommendations. DiMateo found that asmuch as 40% of noncompliance to medical treatment may be due to the lack of practical and emotional support, such as health insurance and childcare. Among patients who lacked practical support, a noncompliance rate of 65% or more could be expected. The CDC (2014b) and Bhattacharya (2004) indicated that early access to medical care is critical in treating and preventing illness such as HIV/AIDS and depression.

Factors that negatively affect adherence to treatment include feelings of fear, pain, fatigue, and social isolation (Oppenheimer, 2008). Based on the information from the Stanford Patient Education Research Center (SPERC), individuals with HIV identified many concerns regarding educational and emotional support. Some of these issues include the following:

1. deficits in their knowledge about how to integrate medication regimens into their daily schedules;
2. questions about how the best ways to deal with frustration, fatigue, and pain management;
3. fear of the implications of the illness;
4. concerns about how to communicate effectively with family, friends and health professionals;
5. a need for nutritional support;
6. a need to understand how to plan for advanced directives; and
7. a need for knowledge about how to evaluate both symptoms and new or alternative treatments. (Oppenheimer, 2008, p.17)

The SPERC emphasized the significance of social support and its impact onn achieving the goals of the educational curriculum and support system (HIV/AIDS Education, Prevention, and Services Programs, 2007). Patient attitudes are affected by how the patient views the medical diagnosis.

Perception of Medical Diagnosis among API

A patient's perception of a medical diagnosis or illness can impact self-efficacy and subsequently treatment adherence (Bean, Cundy, & Petrie, 2007). Donkin et al. (2006) found that even when health education is provided to API individuals, they continue to actively search for confirmatory evidence to support their preexisting beliefs because the information given to them may cause discomfort or go against their beliefs. These researchers suggested that perceptions of illness are often based on beliefs that are influenced by family, culture, and past experiences. Bhattacharya (2004) found that this is especially true in Asian communities. A few studies focused on the perception of Asians and Pacific Islanders on mental health and health concerns.

Bean et al. (2007) conducted a study on perception of Type-2 diabetes among 259 patients in South Asia, the Pacific Islands, and Europe. The researchers used the Brief Illness Perceptions Questionnaires to measure participants' perceptions of their medical diagnoses. The researchers found that fewer Pacific Islanders and South Asians accepted their diagnosis compared to Europeans, and they often perceived the illness to be less serious, which led to minimal or no compliance with treatment. With respect to mental health, APIs often refer to physical symptoms such as headache or eye pain rather than depression, or speak about behavioral problems instead of psychiatric problems (Greenwood, Hussain, Burns, & Raphael, 2000). Hatfield, Mohamad, Rahim, and Tanweer (1996) explored perceptions and treatment of mental health among 106 API patients in England, of whom 100 identified as Muslim. Hatfield et al. found that API males have a more positive view of Western treatment than females, but tend to favor Eastern treatments such as herbal medicine or acupuncture.

Bhattacharya (2004) argued that APIs are unwilling to seek medical care or that they delay the process until an advanced stage of illness because of barriers in health literacy, the stigma of the illness, or financial burden. Hall et al. (2011) emphasized the dependence of Asianindividuals on their family, friends, and community for resolving issues. Hall et al. reported that unlike European andAmerican cultures, Asian cultures do not encourage direct communication with those outside the community. Kang et al. (2006) described close communication among those within the API community, but noted community pressure on Asians with HIV/AIDS to not disclose their illness and to not seek medical or psychological treatment. Bhattacharya (2004) pointed out that South Asians are especially encouraged to seek Eastern medical care such as herbal medicine and to visit religious healers before accessing Western medicine. Kang et al. (2006) found that APIs who have been diagnosed with HIV/AIDS often suffer from depression and other psychological consequences. Following these sections on attitude and perception of individuals, the review will cover depression as it relates to medical condition/diagnosis.

Depression

Mental illness and depression are prevalent in individuals who have been diagnosed with HIV/AIDS (Beer et al., 2009; Knowlton et al., 2010). Depression symptoms and mental health care status among individuals with HIV/AIDS are common factors that contribute to missing health care appointments (Uphold & Mkanta, 2005). Uphold and Mkanta cite depression is the second leading cause of hospitalization among HIV patients, and report that depression symptoms can affect the motivation of a patient to pursue medical care and continue with regular visits to clinics or hospitals.

Psychological disturbance is harmful to individuals with HIV. Leserman et al. (1999) noted that greater depressive symptoms, increases in stressful life events, and low social support accelerates the progress of AIDS. Vedhara, ott, Bradbeer and Davidson

(2007) identified emotional distress as a significant predictor of disease progression. The results of their study align with the earlier findings of Burack et al. (1993) that there is greater decline in CD4 counts of depressed HIV patients compared with those who are not depressed. These results indicated that depressive symptoms, in interaction with life adversity, predict a decline in the percentage of CD4 cells. Evans et al. (1997) noted that having a major depressive disorder reduced the number of natural killer cells. Pessimism was related to depressed mood, to lower numbers of helper T-cells, and to lower levels of natural killer cell activity (Segerstrom, Taylor, Kemeny, & Fahey, 1998).

There are many barriers that keep patients with HIV from seeking medical care. For example, the stigma of HIV may keep individuals from taking immediate steps to be tested. Such individuals have low self-esteem and poor antiretroviral compliance and experience depression, anxiety, or hopelessness (Zukoski & Thorbum, 2009). The barriers to medical care experienced by individuals with HIV may result in health gaps linked to co-occurring mental and substance abuse disorders (Bradford, Coleman, & Cunningham, 2007).

Definition of Depression

Depression is a disease with a number of “core” symptoms. Symptoms may include a lowering of mood to the extent that would be considered abnormal, as well as a loss of interest in or decrease in enjoyment of normally pleasurable activities (Mugford, 2002).

In order to adhere to the depression criteria laid out by the International Statistical Classification of Diseases and Related Health Problems, Tenth Edition (ICD-10), two of those core symptoms need to be present for at least two weeks. There are other symptoms that could help confirm the diagnosis of depression (Mugford, 2002), including feelings of guilt, changes in sleep patterns, loss of confidence, poor concentration, thoughts of suicide, appetite changes, and agitation or retardation.

There are different levels of depression. Mild depression is present when there four symptoms from the list, moderate depression should have at least six symptoms present, and having eight symptoms present would indicate severe depression (Mugford, 2002).

Depression and HIV

A depressed mood is very common in individuals with HIV/AIDS – in fact, it is the most common neuropsychiatric complaint of individuals with HIV/AIDS who seek psychiatric evaluation (Halman, 2001). Depression is also one of the major factors linked to a decreased quality of life in patients with HIV/AIDS. A severe or major depression could lead to suicide in HIV patients, as major depression is considered a primary risk factor for suicide (Fawcett et al., 1990; Rundell et al., 1992). According to Mayne, Vittinghoff, Chesney, Barrett, and Coates (1996) and Evans et al. (1997), the decreased survival of individuals with HIV disease and decreased immunological function has been linked to major depression. The following sections will discuss the approaches to treatment in relation to HIV.

Psychotherapy

There is clear evidence of psychotherapy's role in the management of HIV disease. Clinical experience and some systematic studies have proposed that psychotherapy alone or psychotherapy combined with antidepressant drug therapy can result to significant benefits in treating HIV patients (Perry, 1994). Brouillette and Citron (1997) argued that “Given the nature of this illness and the stresses associated with it, psychotherapy should be an integral part of psychiatric care for someone living with HIV” (p. 57).

Over the years, psychotherapy has taken a more significance place in the management of chronic illnesses. Healthcare providers have reported improved clinical outcomes for patients whose psychological well-being is addressed as part of the treatment (Irvine et al., 2015; Kim, Zane, & Blozis, 2012). The growing number of clinical trials that examine quality of life outcome measures serves as evidence that there is an increase in the attention provided to the psychosocial aspects of health care.

Psychotherapy has the ability to enhance the stress management skills and coping mechanisms of individuals with HIV/AIDS (Astin, 1997; Balter & Unger, 1997). It has been used with a variety of models to help manage the stress of individuals with HIV and help them cope with their psychosocial issues (Mugford, 2002). Psychotherapy is believed to be beneficial to patients with HIV who responded well to the new highly active anti-retroviral therapies (HAART; Farber & McDaniel, 1999). Psychotherapy can help patients to explore changing self-perceptions and role definitions, balance hope and concern about the future, and cope with possible survivor guilt. Psychotherapy is also beneficial even to those who did not respond well to HAART, because it can help patients process the “loss of hope, anxiety, sadness, grief and anger associated with a sense of being without options at a time when the HIV/AIDS community is optimistic about survivability" (Farber & McDaniel, 1999, p. 177).

Sue, McKinney, and Allen (1976) investigated community health centers to identify the dropout rates for psychotherapy attendance. Among the 2,551 cases included in the study, 40.8% failed to follow through after their initial intake session. Those results are echoed in the study by Wierzbicki and Pekarnik (1993), which found especially high dropout rates for HIV patients in psychiatric clinics. Forty-five percent of the patients who had initial sessions did not return, while 50% of the patients referred to the clinic did not show up.

Yalom (1997) pointed out that the last decade of the 20th century has seen an increasingde-stigmatization of psychotherapy, and an increasing in its role: Yalom writes: "Psychotherapy was becoming more mainstream, more available, and more acceptable to larger segments of the American public" (p. 9). Yalom has also pointed out the increasing intolerance of the harmful long-term effects of trauma, the growing demand for the public to be able to access counselling facilities, and provisions in health care plan that provide for adequate counselling services (Yalom, 1997, p. 10). Professional experts in the field of psychotherapy are stressing the need for an increased role for psychotherapy in the management of chronic diseases (Gabbard, 1994; Shea, 1998; Yalom, 1997).

Definition of Psychotherapy

Psychotherapy has several definitions, depending on the conceptual framework and the theorist. The definitions that will be provided are from the texts *Standards and Guidelines for the Psychotherapies* (Cameron, Ennis, & Deadman, 1998) and

Psychodynamic Psychiatry in Clinical Practice, *The DSM-IV Edition* (Gabbard, 1994). Wolberg (1977), after reviewing several definitions of psychotherapy, provided the following definition:

> Psychotherapy is the treatment, by psychological means, of problems of an emotional nature in which a trained person deliberately establishes a professional relationship with the patient with the object of (1) removing, modifying, or retarding existing symptoms, (2) mediating disturbed patterns of behavior, and (3) promoting positive personality and development (p. 3).

The Canadian Psychiatric Association (CPA) and the Ontario Hospital Insurance Plan provided an incomplete definition. The problem with this definition is the emphasis on who delivers psychotherapy. The CPA indicated that it should be delivered by a physician and not just a “suitably trained person” as often indicated in general frameworks. For Bloye and Davies (1999), psychotherapy is a treatment during which psychological symptoms are managed through a professional relationship between a patient and a therapist in order to influence and alter the feelings, cognition, and behavior of the patient.

Landau (1986) identified the role of a “suitably trained person” in providing psychotherapy. This definition does not limit the use of psychotherapy by including just a physician as therapist:

> Any form of treatment for mental disorders or emotional disturbances in which a suitably trained person establishes a professional relationship with an identified patient for the purpose of removing or modifying symptoms of the disorder, or of

> promoting character growth and development so as to strengthen the patient's ability to cope with the problems of living. The relationship established between patient and therapist is used to influence the patient to unlearn old, maladaptive patterns and to learn and test new approaches. Psychotherapy includes guidance, counselling, psychoanalysis, behavior therapy, conditioning, hypnotherapy, and all other forms of treatment in which the major technique employed is communication, rather than drugs or other somatic agents (p. 2348).

Types of Psychotherapies

This section discusses the different types of psychotherapies in order to provide an overview on the approaches used on patients when providing them psychotherapy. It allows the readers to have an understanding on the ways thathow the different types of therapies are applied to patients. In this section, I will also discuss the approach that is most applicable to HIV patients.

Cognitive behavioral therapy (CBT). This type of therapy is focused on identifying dysfunctional cognitive structures that maintain unrealistic thoughts and images in specific situations. The perception of events facilitates the response and determines the quality of adaptation. The treatment is focused on assisting patients to recognize perceptual and cognitive errors, become more realistic in perceiving external problems and assist them to cope with more realistic perceived situations (Antony & Swinson, 1998). The primary goal of this therapy is to alter or remove existing maladaptive behaviors and replace them with new adaptive behaviors by helping patients acquire these new adaptive behaviors (Antony & Swinson, 1998). The change in the thoughts and behaviors of patients are believed to be the instrument of change in CBT. These changes are believed to result in decreased stress and more effective interactions with others.

This type of psychotherapy is most commonly used for stress management with individuals who have HIV. It is anchored in problem-focused activities that include the following:

1. problem-solving techniques (e.g., learning how to go from point A to point B by the shortest, least painful means);
2. assertive behaviors (e.g., standing up for one's rights, expressing one's needs, and operating with effective communication skills); and
3. seeking out help from external sources for information (e.g., approaching other members of an individual's network of family or friends for help with a difficult situation; Edwards, 2000, p. 47)

Psychodynamic psychotherapy. Psychodynamic psychotherapy is expressed through five core concepts: the influence of early-childhood experiences on current adult functioning; the power of unconscious functioning in human behavior; the reliance on ego defenses; repetition compulsion; and transference (Book, 1998). This type of therapy works on an expressive-supportive continuum. The primary goal of this kind of psychotherapy is to increase the understanding of internal conflicts, deficits, and defensive compromises of the patient. This method seeks to increase awareness, which could result in both symptom relief as well as personality change.

Experiential psychotherapy. This type of psychotherapy aims to share feelings and experiences in a non-authoritarian and empathic environment (Freebury, Ennis, Rideout, & Wright, 1998). This kind of therapy is primarily ahistorical, with emphasis on the "here and now" experience. The strategies used for this therapy include abreaction empathy, identification, sharing, imitation, and confrontation.

Of the three types of psychotherapy detailed above, cognitive behavior therapy most directly applies to the population of this study since there is a need to assist HIV patients in coping with their situation. New adaptive behaviors need to be created, and existing behaviors need to be removed, in order to effectively help patients cope with and adapt to their situation.

Psychodynamic therapy, with its goal of bringing the mind to consciousness, also relates to the study population since the approach helps patients discover and understand their real feelings so that they can address and resolve them. Patients face the reality of their situations and can then accept and process the situations as the therapy breaks down defenses like denial and projection.

Experiential psychotherapy is not as related to the population of the study due to the approach and the nature of this kind of therapy. The approach for experiential is on the "here and now" experience, which is not as applicable to patients with HIV.

Psychotherapy and HIV

Those involved in treating patients with HIV/AIDS commonly report symptoms of mood disturbances in their patients (Brouillette & Citron, 1997). Individuals with HIV/AIDS may experience different neuropsychiatric symptoms such as anxiety, suicidal ideation, irritability, insomnia, and a depressed mood (Halman, 2001). Yalom (1997) reported that being diagnosed with HIV infection is likely to result in a strong emotional reaction from the patient. The diagnosis can raise previously unresolved concerns and even bring up historical traumas. Living with HIV/AIDS means that the individual faces a series of crises that may overwhelm them and their coping ability. Yalom (1997) also indicated that patients who have had previous psychiatric symptoms are more likely to experience symptoms after HIV infection.

HIV has different effects on different individuals. One of the many outcomes of the diseases is a repetitive cycle of denial and hopelessness, as patients experience cyclical changes in both physical and psychological condition from good health to poor health and back again (Ostrow, 1997). As Ostrow pointed out, “There is an inherent affective instability that comes with HIV infection and with attempts to gain control over its seemingly inevitable encroachment.” (1997, p. 34).

Patients with HIV experience many declines in their health and mental sharpness, in their social networks, and in their autonomy and economic security (Mugford, 2002). These losses oftentimes happen simultaneously or in rapid succession, which results in decreased psychological well-being (Ostrow, 1997). Those who manage individuals with HIV/AIDS observe demoralization in the patients (Treisman, Angelino, & Hutton, 2001). Demoralization is an exaggerated grief state where the patient has persistent feeling of sadness, hopeless or low mood that hinders their usual activities. This is different from depression, because it is not a brain disease and does not respond to antidepressant medication, but does respond to psychotherapy (Mugford, 2002).

Psychotherapy Participation by APIs

An individual’s ethnicity is a somewhat consistent predictor of attrition in psychotherapy programs (Nevid, Javier, & Moulton, 1996). Researchers have found that individuals with HIV from ethnic minorities were less compliant about attending medical appointments (Catz, McClure, Jones, & Brantley, 1996). Ethnicity has been identified in several studies as a significant factor in the duration of psychotherapy, and scholars have pointed out that ethnic minorities usually terminate their sessions early (Constantine, 2002; Maramba & Nagayama-Hall, 2002).

Providing culturally sensitive psychotherapy sessions that are meaningful and effective for patients can affect treatment adherence (Tseng, 2004). Asian communities are likely to view psychotherapy as “disgraceful” for themselves and their family and consider “talk therapy” to be “useless” (Tseng, 2004, p. 153). As a result, Asians are less likely to seek therapy. Bhattacharya (2004) added that racial and ethnic minority groups such as blacks and Asians have a much lower rate of accessing mental health care compared to caucasians. Researchers who performed studies using unspecified populations in outpatient settings found that, on average, between 30% and 40% of individuals referred to psychotherapy never show up for their appointment, and those who start treatment have an average dropout rate of 47% (Fenger, Mortensen, Poulsen, & Lau, 2011).

Leong et al. (2011) and Miller et al. (2011) explored how acculturation impacts receptivity toward psychotherapy, finding that it has minimal impact on Asian college students. In addition, these researchers showed that the cultural fear of loss of face has a significant impact on attitudes toward seeking mental health care. Fenger et al. (2011) also found that individuals who do not adhere to psychotherapy are likely to struggle with a lack of social support such as health education and health insurance. Social support was mentioned in this section as a factor in psychotherapy. In the next section, I will discuss social support in relation to HIV treatment and care.

Social Support

Social support is considered as an enabling factor for engaging in HIV care (Johnson et al., 2003). Researchers have noted that patients with HIV can benefit from social support to deal with their medical situation. The support received by patients with HIV helps them deal with and adjust to their disease (Ciambrone, 2002; Knowlton, Hua, & Latkin, 2005; Tsasis, 2000). Social support can help address and reduce depression and, anxiety, increase adherence to HIV-related treatments and medication, and improve quality of life (Cox, 2002; Knowlton et al., 2005).

Patients with HIV turn first to the network of social support that includes family and friends. For some individuals, social support from family and friends is not available because of geographic distance or because the patients have not disclosed the illness to family and friends (Serovich, Brucker, & Kimberly, 2000; Turner-Cobb et al., 2003). Some researchers have suggested that social support from hospice care workers and from home health nurses may actually have greater importance for patients infected with HIV than social support from family and friends (Tsasis, 2000).

It is important to identify the kinds of support that are most effective in helping patients. Based on literature, support comes in two varieties: formal and informal. Formal support consists of help provided through professional support systems such as health care and social service providers, while informal support consists of help provided by family, friends, and community organizations like the church (Waddel & Messeri, 2006). While family support is critical for a patient's motivation to enter medical care, the perceived and actual stigma evident in the patient's social and community environment often results in hesitation about asking and/or receiving support (Klitzman et al., 2004). As a result, non-family social support takes a more important role.

A good support system of family or friends may contribute to the willingness and motivation of a patient to sustaining their current health status by using available health care services (Fattal, Lampe, Barcelona, & Muzina, 2005). A study by Pillai, Kupprat, and Halkitis (2009) on the effect support has on accessing medical care showed that individuals who had somebody with them in the house reported higher scores in terms of access to care compared to those who lived alone. Cote, Godin, Garcia, Gagnon, and Rouleau (2008) and Mosack and Petroll (2009) indicated that individuals who receive support from spouses, significant others, or family members are more likely to continue with medical appointments and take their medications.

A qualitative study by Mosack and Petroll (2009) of individuals who had HIV and were in a committed relationship analyzed the importance of having someone with them during medical appointments. Based on the responses, including other individuals in their appointments and treatments yielded more positive results than negative ones. Patients reaped advantages including improved family health, improved information communication, strengthened relationships, and enhanced treatment outcomes. The involvement of other individuals in the treatment of a patient with HIV leads to better treatment plan compliance, as evident in consistent appointment attendance and medication adherence (Mosack & Petroll, 2009). The negative result of involving other individuals in a patient's medical appointment and treatment included the possibility of family members dominating discussions due to their anger, or focusing on topics such as mode of transmission. As a result, patients became more hesitant about discussing certain topics and tended to be less honest (Moscak & Petroll, 2009).

Social support from family members has a positive effect on the general health and well-being of patients with HIV/AIDS (Adams, King, & King, 1996). Family support increases active coping styles (Holahan & Moos, 1987), and encourages participation in positive health-related activities such as physical exercise (Sallis, 1999). The support from family members also lessens the difficulties such as depression that individuals with HIV/AIDS face (Terry, Mayocchi, & Hynes, 1996).

Higher levels of family support lead to increase in general informal involvement, possibly because the time and energy devoted to the family results inelevated motivation and in increased opportunities for reinforcement (Adams et al., 1996). Family involvement leads to family support, which translates to positive outcomes. Given the impact of family relations on job and life satisfaction, family involvement may also impact satisfaction with therapy and subsequent continuation of it (Nichols & Schwartz, 2001). There is also evidence that the involvement of family members in therapy can contribute to decline of attrition rates (Stanton & Shadish, 1997).

Fathers are less likely to be involved in the therapeutic venue, but their presence can result in critical implications for the effectiveness of therapy (Duhig, Phares, & Birkeland, 2002). Some scholars have noted that the involvement of fathers increases the probability of positive outcomes in psychotherapy (Gurman & Kniskem, 1981; Shapiro & Budman, 1973). One of the important results of father participation is that it can enhance maintenance and generalization of treatment gains (Duhig et al., 2002).

With the medical repercussions and stress among others that accompanies a diagnosis of HIV/AIDS, the presence of peer relationships and social support is critical (Rubenstein & Sorrentino, 2008). Social isolation can significantly impact individuals with HIV/AIDS. In patients with low social participation, CD4 cell count was lower, which suggests that social support has a positive impact on overall health (Persson, Gullberg, Hanson, Moestrup, & Ostergren, 1994).

Access to social support can be challenging for individuals with HIV, since family and friends usually have a hard time accepting and understanding the patient's situation (Rubenstein & Sorrentino, 2008). Because patients fear the reaction of others when they disclose that they have HIV, they are reluctant to disclose information and may avoid disclosure and social contact with family and friend, which results in reduced social support. This situation increases the feeling of isolation and shame for the individuals with HIV (Rubenstein & Sorrentino, 2008).

Summary and Conclusions

Themes Found and Overall Trends Found in the Literature

A number of previous researchers have supported the notion that API communities are insular and prefer to seek health care from within their own community (Hatfield et al., 1996; Leong et al., 2011). If they decide to seek mental health services, APIs are likely to have a higher dropout rate (Lin, 1994). Hatfield et al. (1996) and Irvine et al. (2015) argued that despite study findings that APIs are less likely to seek services, service providers should not operate under the assumption that APIs do not need help accessing and maintaining healthcare, including mental health treatment. Social cognitive theory shows that self-efficacy is correlated with more positive perceptions of illness (Bean et al., 2007), which in turn increases ART adherence among HIV/AIDS patients (Brown et al., 2013). Irvine et al. (2015) and DiMatteo (2004) found strong evidence for the idea that social support has a positive impact on treatment adherence.

Gaps in the Literature

A limited selection of literature provides information on API cultures and their attitudes toward HIV/AIDS and psychotherapy (Hall et al., 2011; Kang et al., 2006; Leong et al., 2011; Miller et al., 2011). There is little information addressing API perceptions of general medical treatment (Shen et al., 2012). There is limited discussion in existing literature of the relationship between social support from family, friends, and case workers and increased treatment adherence or promotion of positive health behaviors among the general population with medical conditions other than HIV/AIDS (Mutchler et al., 2011; O’Laughlin et al., 2012; Westmaas et al., 2010). In addition, there are few recent discussions of APIs who have been diagnosed with HIV/AIDS and their psychotherapy participation. Sufficient information supports a link between health education and HIV/AIDS treatment adherence in general (Irvine et al., 2015; Nokes et al., 2012). And literature on health education and treatment adherence has addressed the general population rather than Asians specifically.

In this current study, I examine the connections among social support, attendance rates in psychotherapy, and health outcomes in a vulnerable population in which the HIV/AIDS infection rate is increasing and that may have unique sociocultural needs. This study focuses specifically on APIs in the United States. The study determines whether APIs who have HIV/AIDS and have social support enjoy a higher rate of participation in psychotherapy and comparatively better health outcomes than those without social support.

Recommendations from the Literature on Future Research

Fenger et al. (2011) noted that, on average, between 30% and 40% of individuals referred for mental health services in a clinical setting did not follow up by setting an initial appointment, and those who started treatment had an average dropout rate of 47%. Because lack of social support is a major cause of dropping out of mental health services, future scholars should focus on social rather than psychological intervention to engage individuals in treatment (Fenger et al., 2011, p. 189).

Brown et al. (2013) indicated that SCT concepts such as self-efficacy and outcome expectancies have been helpful to understand the factors that promote ART treatment adherence. Additional research should focus on sustaining positive health behaviors. Because high self-efficacy has a positive impact on treatment adherence, interventions to improve self-efficacy should be further investigated and promoted (Longo et al., 1992; Zebracki & Drotar, 2004).

While Dilorio et al. (2009) found that social support has some impact on treatment adherence, the study did not focus on social support and therefore did not determine the extent of the impact. Irvine et al. (2015) conducted a study on care coordination services on and treatment adherence, finding that social support promoted ART treatment adherence, increased patients' satisfaction with ART, and reduced the stigma of the treatment. Dilorio et al. (2009) recommended interventions to improve social support and to improve treatment adherence. Because social support such as care coordination services is deemed useful for assisting HIV/AIDS patients in initiating and maintaining treatment, a longitudinal study should be conducted to confirm whether such support is helpful in encouring APIs who have HIV/AIDS to adhere to psychotherapy treatment (Irvine et al., 2015).

Literature that Challenges the Direction of this Study

Bhattacharya (2004) argued that SCT focuses on individual behavioral change with respect to treatment adherence, with no reference to specific cultures; thus, it may not be relevant to Asian cultures. Self-efficacy is the vital component of SCT for the individual to implement and maintain change, but Bhattacharya noted that the theory "lacks recognition of the interactions of factors at multiple level that may inhibit developing self-efficacy," such as family or cultural norms in API cultures (p. 110). While a number of researchers have found that the stigma of mental illness prevents APIs from accessing treatment (Kang et al., 2006; Sue et al., 2012), Greenwood et al. (2000) argued that mentally ill patients do not view stigma as a major issue impacting their decision to engage in care, and that they often receive sufficient support from family members to access and continue in mental health care.

Some scholars have suggested that API populations often seek out Eastern approaches, such as herbal medicine, rather than Western treatment. Greenwood et al. (2000) argued that, based on the qualitative study they conducted in England, Eastern medicines are popular among Asian patients, but should not be considered an alternative to Western treatment because they are ineffective with HIV/AIDS. API patients often use Eastern medicine as a complement to the Western treatment they are already undergoing (Greenwood et al., 2000). Zebracki and Drotar (2004) pointed out that although children and adolescents with high self-efficacy were able to solve problems related to their asthma treatment and follow through with treatment that was beneficial to them, those with overly optimistic outcome expectations were likely to have low treatment adherence and experience worsened asthma symptoms.

Importance of Current Study

A limited selection of literature provides information on API cultures and the attitudes within the cultures toward HIV/AIDS and psychotherapy (Hall et al., 2011; Kang et al., 2006; Leong et al., 2011; Miller et al., 2011), And some literature focuses on the relationship between social support and treatment adherence (including psychotherapy) among non-API populations. Howver, very few researchers have explored the relationship between social support and treatment adherence for APIs. Irvine et al. (2015) confirmed that the social support that results from access to care coordination services positively impacts the health outcome of patients with HIV/AIDs.

This study sought to contribute to the under-researched area of the possible relationship among the factors of social support, psychotherapy attendance rates, and health outcomes in the vulnerable API population in which the HIV/AIDS infection rate is increasing and that may have unique sociocultural needs. The study also explores differences between API and non-API patients. The aim of the study was to discover whether APIs who have HIV/AIDS and who currently have social support have a higher rate of participation in psychotherapy along with comparatively better health outcomes in comparison to non-API populations. In confirming those better outcomes, the study showed that social services could identify ways of providing APIs with direct, culturally appropriate social support that increases their psychotherapy attendance and improves their health outcomes.

In this quantitative study, I focused on how social support influences attendance rates in psychotherapy and, consequently, health outcomes among API patients diagnosed with HIV/AIDS in comparison to other groups. I collected and reviewed data pertaining to patient demographics, diagnosis, adherence to medical and psychotherapy appointments, and access to social support contained in anonymous medical files of HIV/AIDS patients at a community health center. Demographic information included age, household income, gender, sexual orientation, and ethnicity. Three main areas of research include: (a) the impact of HIV/AIDS status and ethnicity on psychotherapy adherence rate; (b) the impact of social support on psychotherapy retention rate; and (c) the impact of psychotherapy attendance on health outcomes. This quantitative analysis will help pinpoint whether social support can decrease the dropout rate in psychotherapy among API HIV/AIDS patients.

Chapter 3: Research Methodology

Introduction

The purpose of this quantitative causal comparative study was to examine the psychotherapy attendance rates among API and non-API patients with HIV/AIDS, as well as API and non-API individuals not diagnosed with HIV/AIDS. I also aimed to identify the impact of social support on attendance rates and on health outcomes such as CD4 and viral load.

I employed a quantitative causal comparative design in this study to identify relationships between identified variables. The independent variables were the population group membership of participants (a) people who are APIs and who have HIV/AIDS; (b) APIs who are not diagnosed with HIV/AIDS; (c) non-APIs who have HIV/AIDS; and (d) non-APIs who are not diagnosed with HIV/AIDS. The dependent variables were the psychotherapy attendance rates, andthe health outcomes of CD4 and viral load. I collected data from the anonymous medical files of HIV/AIDS patients at a community health center in New York City. I analyzed the data gathered in this study using descriptive and inferential statistics in order to determine factors that increase psychotherapy attendance of APIs who have HIV/AIDS. I sought to address the following research questions and to test the following hypotheses:

RQ1: What are the differences in psychotherapy attendance rates over a one-year period among the following groups: (a) API patients who have HIV/AIDS; (b) APIs not diagnosed with HIV/AIDS; (c) non-APIs who have HIV/AIDS; and (d) non-APIs not diagnosed with HIV/AIDS?

$H_0 1_a$: Patients not diagnosed with HIV/AIDS have lower psychotherapy attendance rates over time compared to patients diagnosed with HIV/AIDS.

$H_1 1_a$: Patients diagnosed with HIV/AIDS have higher psychotherapy attendance rates over time compared to patients not diagnosed with HIV/AIDS.

$H_0 1_b$: APIs have lower psychotherapy attendance rates over time compared to non-APIs.

$H_1 1_b$: Non-APIs have higher psychotherapy attendance rates over time compared to APIs.

RQ2: What is the effect of social support (as measured by level of support given by case workers) on retention in psychotherapy in the following groups: (a) people who are APIs and who have HIV/AIDS; (b) APIs not diagnosed with HIV/AIDS; (c) non-APIs who have HIV/AIDS; and (d) non-APIs not diagnosed with HIV/AIDS?

$H_0 2_a$: Social support, as measured by level of support given by case workers, has no positive impact on retention in psychotherapy.

$H_1 2_a$: Social support, as measured by level of support given by case workers, has a positive impact on retention in psychotherapy.

RQ3: What are the differences in health outcomes, as measured through CD4 and viral load, in the following groups: (a) people who are APIs and who have HIV/AIDS; (b) APIs not diagnosed with HIV/AIDS; (c) non-APIs who have HIV/AIDS; and (d) non-APIs not diagnosed with HIV/AIDS?

$H_0 3_a$: Patients not diagnosed with HIV/AIDS have lower health outcomes, as measured through CD4 and viral load, compared to patients diagnosed with HIV/AIDS.

H_13_a: Patients diagnosed with HIV/AIDS have higher health outcomes, measured through CD4 and viral load, as compared to patients not diagnosed with HIV/AIDS.

H_03_b: APIs have lower health outcomes, as measured through CD4 and viral load, compared to non-APIs.

H_13_b: APIs have higher health outcomes, as measured through CD4 and viral load, compared to non-APIs.

Research Design and Rationale

I conducted this quantitative non-experimental causal comparative study to analyze the relationships among the variables of race, social support, and psychotherapy attendance rates. Among the identified groups, I compared the psychotherapy attendance rates and health outcomes as measured through CD4 count and viral load, as well as the relationship of social support with retention in psychotherapy. I employed a quantitative methodology in this study because the purpose was to explore potential relationships between variables (Babbie, 2012). A quantitative approach allows the researcher to use an objective measure of the constructs considered in a study (Bryman, 2012). Specifically, because I considered the medical condition of patients, I obtained standard medical measures using numeric values. For this purpose, a quantitative approach was more appropriate than a qualitative approach.

Furthermore, researchers use a causal comparative research design when aiming to determine the cause for, or the consequences of, existing differences in groups of individuals (Norris, Ross, & Schoonen, 2015). Causal comparative research involves comparing two or more groups to explain existing differences between them on the variables of interest, and then explaining the causes of these differences (Hoe & Hoare, 2012). In order to establish causality, the cause must proclaim its effect, or at least the direction of influence should be from cause to effect. Alternatively, changes in the causal factors, or independent variables, must influence changes in the effects, or dependent variables, but not vice versa (Norris et al., 2015). Because the purpose of this study was to examine not only the relationships but also the differences between the four different groups, this research method was appropriate.

A qualitative design was not appropriate, because a qualitative study gathers data that is textual in nature and used to identify and analyze themes describing the experiences of the participants, with whom the researcher is not personally involved (Smeyers, 2008). In qualitative methods, causality cannot be determined, and therefore, qualitative studies are exploratory and open-ended in nature (Johnson et al., 2003). Although I do not seek to identify causality between variables in this current study, I did not choose a qualitative method because the focus was not to identify variables open-endedly. My focus was on identifying relationships between variables, but qualitative methods are best to establish themes based on the lived experiences of participants (Brewer & Kuhn, 2010). Moreover, a qualitative study is focused on answering *how* and *why* questions, which provide subjective results based on the responses of interviewees.

Quantitative research is appropriate for measuring specific outcomes and theories, in that it involves formulating hypotheses, counting and measuring the outcome data, and using statistical analysis to obtain and verify a numeric set of data (Babbie, 2012). A quantitative approach allows for an objective measure of the variables considered in the study in order to test the potential relationships between such variables statistically.

Methodology

In this section, I discuss the target population, sampling plan techniques, and sample size calculation used in this study.

Population

The target population in this study was people living in the United States who are APIs and who have HIV/AIDS, and people living in the United States who are non-APIs and have HIV/AIDS. The population of APIs makes up less than 5% of the total U.S. population (CDC, 2015). In 2013, about 973 APIs in the United States were diagnosed with HIV/AIDS, of which 82% (n = 799) were males and 16% (n = 159) were females (CDC, 2015). I drew the sample for this study from a New York City community health center that provides medical treatment for API and non-API populations and served more than 2,000 clients in 2014.

Sampling and Sampling Procedures

I used secondary data in this study; therefore, it was possible to obtain all data points needed for this study. To ensure that sufficient data was gathered for the study, I calculated the minimum sample size through a power analysis. A power analysis considers the standard of 80% power to achieve statistical validity (Faul, Erdfelder, Buchner, & Lang, 2013). Statistical power refers to the likelihood of detecting, within a sample, a relationship that exists within the population (Cohn & Becker, 2003).

I considered several other factors such as effect size, statistical test, and significance level for this calculation. Typically, a medium effect size (denoted by *f*) is advisable for quantitative studies because it occupies the middle ground between being too strict and too lenient in determining the significance of relationship between variables (Berger, Bayarri, & Pericchi, 2013). I considered a medium effect size of 0.25, factorial ANOVA with at least four groups, and a significance level of .05. Based on these factors, at least 158 participants were necessary to achieve a power of 80%. Thus, I gathered 193 participants and considered all 193 patients as study participants.

Procedures for Recruitment, Participation, and Data Collection

The primary data sources were de-identified electronic medical records from the community health clinic. The clinic provides primary medical care to adults 18 and over, including specialty care and mental health treatment for HIV/AIDS patients in both API and non-API populations. The information in the records included (a) frequency of accessing medical care, (b) frequency of accessing psychotherapy, (c) age, (d) household income, (e) gender, (f) sexual orientation, (g) HIV status, (h) race, and (i) level of social support (case workers). I gathered the information from individual, de-identified records on a per-patient basis.

A goal of data collection was to avoid the exploitation of this potentially vulnerable population. Therefore, I did not interview or speak directly with API patients with HIV/AIDS. To protect the patients' confidential information and identities, I used subject identification numbers as identifiers rather than names (such as P01 for Participant 1). I was granted access to data from the administrators of the participating community health center in New York City, and my study was approved by Walden University's Institutional Review Board (IRB). The initial priority in this study was to gain approval from the IRB for a data usage agreement, so I sought met the requirements for IRB for approval from the data source. I signed a non-disclosure agreement to ensure that the data gathered from the community health centers was only used for the purpose of this study. After collecting all relevant data from the individual records of each patient, I input the data and prepared it for analysis in SPSS v21.0.

Operationalization of Constructs

Demographic Characteristics

I collected the demographic information of participants from their individual medical records. The demographic information included the following: (a) age; (b) household income; (c) gender; (d) sexual orientation; (e) HIV status; and (f) race. I considered these variables to be categorical in nature, and I input them based on identified numerical values. I categorized race as *API* or *non-API*, and categorized HIV status as *yes* (has HIV/AIDS) or *no* (does not have HIV/AIDS).

Social Support

In the patients' medical records, the access to social support is indicated by the level of support received by the patients from a case worker. I measured patients' levels of social support by using the records to identify whether there was a caseworker attending his or her needs. I considered this as a categorical variable in the data analyses as either *yes* (there is a case worker) or *no* (there is not a case worker).

Psychotherapy Attendance Rates

I calculated psychotherapy attendance rates based on the number of days the patient had attended psychotherapy and the total number of days scheduled over a year in 2015. I considered this measure as a continuous variable.

Health Outcomes

I measured the health outcomes of CD4 count and viral load using a standardized medical test. A normal CD4 cell count in an HIV-negative man is between 400 and 1600 per cubic millimeter of blood, while CD4 cell counts in HIV-negative women tend to be a little higher, between 500 and 1500. This particular blood test monitors different aspects of the infected patients, such as CD4, viral load, and resistance. The quantity of virus that individuals living with HIV have in their blood is referred to as the "viral load." When a person has very little of the virus, for example, they have an "undetectable" viral load. I also considered this construct as a continuous variable. According to the Presidential AIDS Advisory Panel Report (2001), CD4 count is used to examine the CD4 T-lymphocytes in the patient's blood. Because CD4 is negatively correlated with viral load, it is a strong indicator of the effectiveness of anti-retroviral therapy.

Data Analysis Plan

I analyzed the dataset using SPSS v21.0 with an alpha level (α) of 0.05 to determine significance levels. I used factorial ANOVA to test the first set of hypotheses, which aims to determine the differences in psychotherapy attendance rates over time among the following groups: (a) people who are APIs and have HIV/AIDS, (b) APIs not diagnosed with HIV/AIDS, (c) non-APIs who have HIV/AIDS, and (d) non-APIs not diagnosed with HIV/AIDS (George & Mallery, 2014). Similarly, I used factorial ANOVA to test the second set of hypotheses to determine the effect of social support, as measured by the level of support given by case workers, on retention in psychotherapy among the same four groups (Gravetter & Wallnau, 2009). Lastly, I used factorial ANOVA to test the third set of hypotheses to identify the differences in health outcomes, as measured by CD4 and viral load in these four groups.

Threats to Validity

I used secondary data as the data source of this study, which represents limited threats to validity. One important consideration in this study was the timeliness of data gathered. The timeliness of data affects the validity of the study because the results may already be irrelevant if the data is old. I used the most recent reports of health centers to the community health center in New York City. In addition, since the data collection was be done over time, the loss of subjects is inevitable. Thus, final data set may be reduced and may not exhibit the characteristics of the target population. Moreover, the information collected from the records may not be complete and may have been collected in different periods and thus the validity of each data point may be different from the others. As such, the findings of this study cannot be generalized to a larger population of API and non-API patients with HIV/AIDS patients.

Ethical Procedures

Although I used secondary data in this study, I considered human participants, making ethical considerations important factors of the study. To ensure confidentiality and anonymity of the participants, I omitted from data collection any identifiable information such as names and addresses. I also signed a non-disclosure agreement to ensure that all data gathered in this study was used solely for the purposes of this study. The approval of the IRB also strengthens the ethical considerations set in this study.

I stored all collected data in a password-protected computer accessible only by myself. I will safely store all collected data for five years beyond the completion of this study. Five years following completion of the study, I will destroy and delete all data with appropriate shredding programs such as Windows File Shredder.

Summary

In this study, I used a quantitative, non-experimental, causal comparative research design to examine the psychotherapy attendance rates among API HIV/AIDS patients. I identified the impact of social support on psychotherapy attendance rates and on health outcomes such as CD4 and viral load. The target population in this study was API patients with HIV/AIDS living within the United States, and non-API patients with HIV/AIDS living within the United States. Specifically, the samples were patients at a community health center in New York City.

I gathered secondary data from the community health center. The independent variables were the population group membership of participants to (a) people who are APIs and have HIV/AIDS, (b) APIs not diagnosed with HIV/AIDS, (c) non-APIs who have HIV/AIDS, and (d) non-APIs not diagnosed with HIV/AIDS. The dependent variables were the psychotherapy attendance rates as well as health outcomes such as CD4 and viral load. I analyzed the gathered data through descriptive and inferential statistics such as factorial ANOVA and repeated measures ANOVA. All data analysis considered a significance level of .05. In Chapter 4, I present the results obtained from the data collection, describing in detail the information obtained and the raw data collected for this study.

Chapter 4: Results and Analysis

Introduction

The purpose of this quantitative causal comparative study was to examine the psychotherapy attendance rates among APIs and non-API who have HIV/AIDS and APIs and non-APIs not diagnosed with HIV/AIDS, with the goal of identifying the impact of social support on attendance rates and on health outcomes such as CD4 and viral load. Chapter 4 includes the results of my data analysis using descriptive statistics and factorial ANOVA. I uased IBM SPSS Statistics Version 22 to conduct the data analysis. I developed the following research questions and hypotheses to guide this study:

RQ1: What are the differences in psychotherapy attendance rates over a one-year period among the following groups: (a) people who are APIs and have HIV/AIDS patients; (b) APIs not diagnosed with HIV/AIDS; (c) non-APIs who have HIV/AIDS; and (d) non-APIs not diagnosed with HIV/AIDS?

H_01_a: Patients not diagnosed with HIV/AIDS have lower psychotherapy attendance rates over time compared to patients diagnosed with HIV/AIDS.

H_11_a: Patients diagnosed with HIV/AIDS have higher psychotherapy attendance rates over time compared to patients not diagnosed with HIV/AIDS.

H_01_b: APIs have lower psychotherapy attendance rates over time compared to non-APIs.

H_11_b: Non-APIs have higher psychotherapy attendance rates over time compared to APIs.

RQ2: What is the effect of social support (as measured by level of support given by case workers) on retention in psychotherapy in the following groups: (a) people who are APIs and have HIV/AIDS; (b) APIs not diagnosed with HIV/AIDS; (c) non-APIs who have HIV/AIDS; and (d) non-APIs not diagnosed with HIV/AIDS?

$H_0 2_a$: Social support, as measured by level of support given by case workers, has no positive impact on retention in psychotherapy.

$H_1 2_a$: Social support, as measured by level of support given by case workers, has a positive impact on retention in psychotherapy.

RQ3: What are the differences in health outcomes, as measured through CD4 and viral load, in the following groups: (a) people who are APIs and have HIV/AIDS; (b) APIs not diagnosed with HIV/AIDS; (c) non-APIs who have HIV/AIDS; and (d) non-APIs not diagnosed with HIV/AIDS?

$H_0 3_a$: Patients not diagnosed with HIV/AIDS have lower health outcomes, as measured through CD4 and viral load, compared to patients diagnosed with HIV/AIDS.

$H_1 3_a$: Patients diagnosed with HIV/AIDS have higher health outcomes, measured through CD4 and viral load, as compared to patients not diagnosed with HIV/AIDS.

$H_0 3_b$: APIs have lower health outcomes, as measured through CD4 and viral load, compared to non-APIs.

$H_1 3_b$: APIs have higher health outcomes, as measured through CD4 and viral load, compared to non-APIs.

Demographic Information of the Sample

In Table 1 below, I show the demographic profile of sample subjects included in the study. I obtained the demographic information from individual medical records. The demographic information I gathered included the following: (a) age, (b) household income, (c) gender, (d) sexual orientation, (e) HIV status, and (f) race. The realized sample size was 993, representing API and non-API patients with HIV/AIDS, and API and non-API subjects who were HIV negative, and all of whom had scheduled mental health appointments.

Gender was divided as follows among the 993 study participants: 500 of them (50.4%) were male, 139 of them (14.0%) were female, 190 of them (19.1%) were transgender identifying as female, and 118 of them (11.9%) were transgender identifying as male. Participants ranged in age from 18 to 45 years old. In terms of age, 417 of the 993 study participants (42%) were between 25 and 34 years old. For sexual orientation, 409 of the 993 participants (41.2%) were gay. The majority of the participants (795 of them, or 76%) were non-API. For income range, 540 participants (54.4%) had income less than 100% of federal poverty level. A total of 609 participants (61.3%) had stable housing status. In terms of HIV status, 359 participants (36.2%) were HIV positive, and 277 of the participants (27.9%) had viral load suppressed. Almost all participants (989 of them, or 99.6%) had other illnesses. A majority of the 993 participants (736 of them, or 74.1%) had mental health diagnoses. Lastly, more than half of the participants (568 of them; or 57.2%) had social support from case workers.

Table 1. *Frequency and Percentage Summaries of Demographic Information (N=993)*

	Frequency	Percent
Age range		
18-24	139	14.0
25-34	417	42.0
35-44	214	21.6
45+	223	22.5
Gender		
Female	139	14.0
Male	500	50.4
Transgender identifying as female	190	19.1
Transgender identifying as male	118	11.9
GQ	46	4.6
Sexual orientation		
Straight or heterosexual	203	20.4
Gay	409	41.2
Lesbian	45	4.5
Queer	189	19.0
Bisexual	91	9.2
Other	53	5.3
Choose not to disclose	2	0.2
Missing	1	0.1
Race group		
Non-API	795	80.1
API	198	19.9
Income range		
Less than 100%	540	54.4
101-200%	186	18.7
201-300%	101	10.2
Greater than 301%	142	14.3
Housing status		
Contradicting	92	9.3
Homeless	113	11.4
Public	18	1.8
Stable	609	61.3
Unknown	160	16.1

(Continued on next page)

	Frequency	Percent
Housing status (cont'd)		
Missing	1	0.1
HIV status		
Negative	634	63.8
Positive	359	36.2
Viral Load suppressed		
No	716	72.1
Yes	277	27.9
Has other illness		
No	4	0.4
Yes	989	99.6
Mental health diagnosis		
No	257	25.9
Yes	736	74.1
Scheduled mental health appointment		
Yes	993	100.0
Social support (has case worker)		
No	425	42.8
Yes	568	57.2

Summary of Study Outcome Variables

Table 2 shows the psychotherapy attendance and health outcomes of CD4 count and viral load from a standardized medical test. For psychotherapy attendance, 993 out of the 993 samples had this data. The mean of psychotherapy appointments kept was 2.28 (*SD* = 2.21). The possible range of values for psychotherapy attendance was 1 to 15 appointments. This dependent variable had a positively skewed distribution (see histogram in Figure 1). Only 143 f the 993 participants had CD4 count data. The mean CD4 count was 641.85 (*SD* = 277.70). The possible range of values for CD4 count was 68 to 1,871. CD4 had a fairly symmetrical distribution indicating no large departure from normal distribution (see histogram in Figure 2). For the viral load data, values ranged from 1 to 825,234. The mean viral load was 8,587 (*SD* = 54,343.53). There were 153 (15.4%) of the participants who had a viral load of greater than 20 and not detected, while 56 of the participants (5.6%) had a viral load of greater than 20 and detected, and 31 of the participants (3.1%) had a viral load of greater than 20. Last viral load has a positively skewed distribution.

Table 2. *Descriptive Statistics Summaries of Values for Psychotherapy CD4 Counts, and Viral Load (N=993)*

	N	Minimum	Maximum	Mean	Std. deviation
Psychotherapy attendance rates (# of mental health appointments kept)	993	1	15	2.28	2.21
Last CD4	143	68	1871	641.85	277.70
Last viral load	336	1	825234	8587.00	54343.53

Figure 1. Histogram of Number of Mental Health Appointments Kept

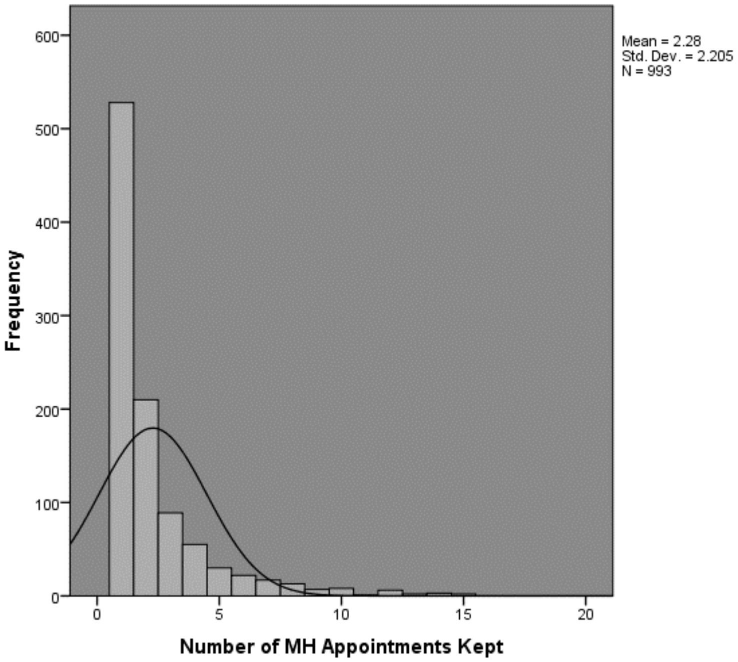
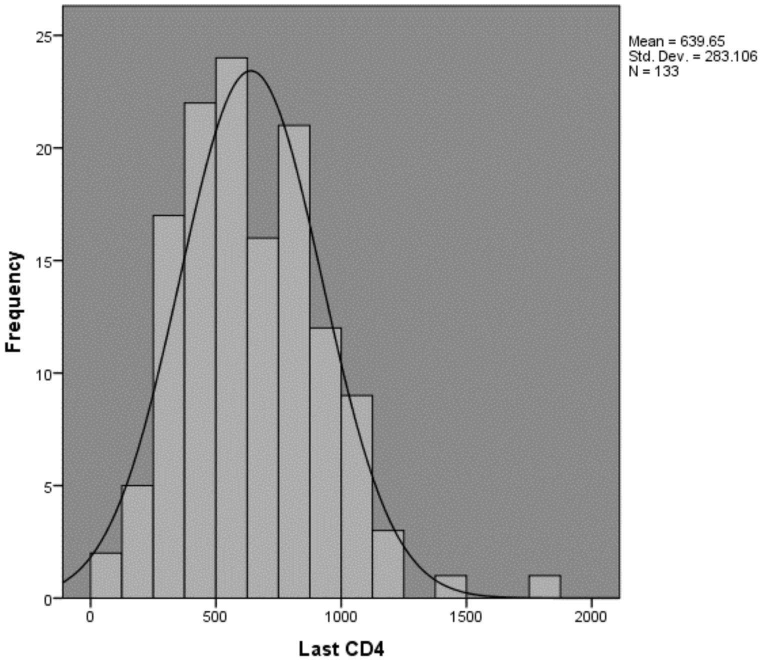


Figure 2. Histogram of Last CD4



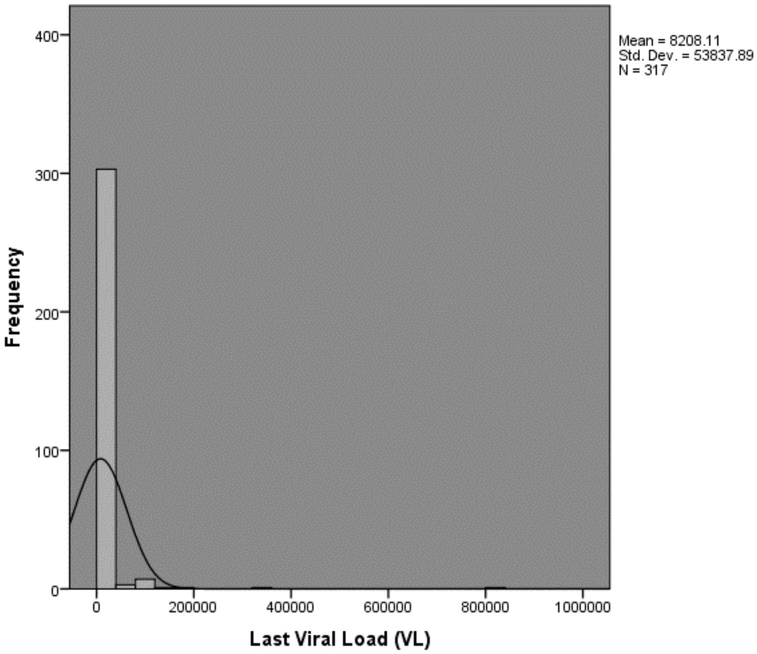


Figure 3. Histogram of Last Viral Load

Factorial ANOVA Results for RQ1

RQ1 and the associated hypotheses are presented below, followed by results of the associated statistical analyses.

RQ1: What are the differences in psychotherapy attendance rates over the period of a year among the following groups: (a) people who are APIs and have HIV/AIDS, (b) APIs not diagnosed with HIV/AIDS, (c) non-APIs who have HIV/AIDS, and (d) non-APIs not diagnosed with HIV/AIDS?

$H_0 1_a$: Patients not diagnosed with HIV/AIDS have lower psychotherapy attendance rates over time compared to patients diagnosed with HIV/AIDS.

$H_1 1_a$: Patients diagnosed with HIV/AIDS have higher psychotherapy attendance rates over time compared to patients not diagnosed with HIV/AIDS.

$H_0 1_b$: APIs have lower psychotherapy attendance rates over time compared to non-APIs.

$H_1 1_b$: Non-APIs have higher psychotherapy attendance rates over time compared to APIs.

I conducted a factorial ANOVA to answer RQ1. The independent variables were the population of participants by race and HIV status. The dependent variable was psychotherapy attendance rates. The factorial ANOVA included the main effects of race and HIV status, and also the interaction effects of race and HIV status on the psychotherapy attendance rates. Table 3 shows the factorial ANOVA results in terms of the between-subjects effects.

The results of the factorial ANOVA showed that psychotherapy attendance rates were not significantly different across race differences [$F(1, 993) = 1.28, p = 0.26$] and HIV status [$F(1, 993) = 0.00, p = 0.96$]. These were because the *p*-values were lower than the level of significance value of 0.05. This means that the psychotherapy attendance rates were not significantly different between those diagnosed with HIV/AIDS and those who were not diagnosed with HIV/AIDS. HIV status did not affect psychotherapy attendance rate. Also, the psychotherapy attendance rates were not significantly different between API and non-API participants. The interaction effect of race and HIV status on psychotherapy attendance rates [$F(1, 993) = 0.39, p = 0.53$] was not significant. This means that the psychotherapy attendance rates were not significantly different among the following groups: (a) people who are APIs and have HIV/AIDS, (b) APIs not diagnosed with HIV/AIDS, (c) non-APIs who have HIV/AIDS, and (d) non-APIs not diagnosed with HIV/AIDS. This indicates that after adjusting for differences in race groups, there is no significant difference in psychotherapy attendance rates between HIV positive and HIV negative subjects. I did not perform post hoc tests because the independent variables of race and HIV status had no significant relationship with psychotherapy attendance rates. With this result, the null hypothesis for RQ1 that “Patients not diagnosed with HIV/AIDS have lower psychotherapy attendance rates over time compared to patients diagnosed with HIV/AIDS” was not rejected based on the results of the factorial ANOVA.

Table 3. *Tests of Between-Subject Effects of Race and HIV Status on Psychotherapy Attendance Rates (N=993)*

Source	Type III sum of squares	df	Mean square	F	Sig.
Corrected Model	10.51	3	3.50	0.72	0.54
Intercept	2999.25	1	2999.25	616.47	0.00
Race group	6.25	1	6.25	1.28	0.26
HIV status	0.01	1	0.01	0.00	0.96
Race group * HIV status	1.92	1	1.92	0.39	0.53
Error	4811.66	989	4.87		
Total	9984.00	993			
Corrected total	4822.17	992			

Note. R squared = 0.002 (adjusted R squared = -0.001); dependent variable: psychotherapy attendance rates (number of mental health appointments kept)

Table 4. *Descriptive Statistics Results of Psychotherapy Attendance Rates by Race and HIV Status (N=993)*

Race group	HIV status	Mean	Std. deviation	N
Non-API	Negative	2.36	2.26	526
	Positive	2.26	2.23	269
	Total	2.32	2.25	795
API	Negative	2.05	1.87	108
	Positive	2.17	2.15	90
	Total	2.10	2.00	198
Total	Negative	2.31	2.20	634
	Positive	2.23	2.21	359
	Total	2.28	2.21	993

Factorial ANOVA Results for RQ2

RQ2 and the associated hypotheses are presented below. This is followed by the results of the statistical analysis I performed.

RQ2: What is the effect of social support, as measured by level of support given by case workers, on retention in psychotherapy in the following groups: (a) API patients with HIV/AIDS; (b) APIs not diagnosed with HIV/AIDS; (c) non-API patients who have HIV/AIDS; and (d) non-APIs not diagnosed with HIV/AIDS?

$H_0 2_a$: Social support, as measured by level of support given by case workers, has no positive impact on retention in psychotherapy.

$H_1 2_a$: Social support, as measured by level of support given by case workers, has a positive impact on retention in psychotherapy.

A factorial ANOVA was conducted to address RQ2. The independent variables were the population of participants by social support (or the level of support given by caseworkers), race, and HIV status. The dependent variable was psychotherapy attendance rates. The factorial ANOVA included the main effects of social support, race, and HIV status, and also the interaction effects of social support, race, and HIV status, on the psychotherapy attendance rates. Table 5 presents the factorial ANOVA results in terms of the between-subject effects.

The results of the factorial ANOVA showed that psychotherapy attendance rates were not significantly different across differences of the participants' social support [$F(1, 993) = 0.38$, $p = 0.54$]. This means that the psychotherapy attendance rates were not significantly different between those that had social support from caseworkers and those that did not. Support status does not show significant effect on psychotherapy attendance rate. In addition, the interaction effects of social support and HIV status ($F(1, 993) = 0.73$, $p = 0.39$]) and the interaction effects of social support and race [$F(1, 993) = 0.49$, $p = 0.48$] on psychotherapy attendance rates were not significant. This means that the psychotherapy attendance rates were not significantly different among the following groups: (a) HIV/AIDS patients with social support, (b) HIV/AIDS patients without social support, (c) patients not diagnosed with HIV/AIDS and with social support, and (d) patients not diagnosed with HIV/AIDS and without social support; and also were not significantly different among the following groups: (a) APIs with social support, (b) non-APIs without social support, (c) APIs with social support, and (d) non-APIs without social support.

Lastly, the three-way interaction effect of social support, race, and HIV status on psychotherapy attendance rates [F (2, 993) = 0.46, $p = 0.63$] was not significant. This means that the psychotherapy attendance rates were not significantly different among differences of social support or among the following groups: (a) people who are APIs and have HIV/AIDS, (b) APIs not diagnosed with HIV/AIDS, (c) non-APIs who have HIV/AIDS, and (d) non-APIs not diagnosed with HIV/AIDS. I did not perform post hoc tests since all the independent variables of social support, race, and HIV status did not have significant relationships with psychotherapy attendance rates. Instead, I conducted descriptive statistics analysis. With this result, the null hypothesis for RQ2 that "Social support, as measured by level of support given by case workers, has no positive impact on retention in psychotherapy" was not rejected based on the results of the factorial ANOVA.

Table 5. *Tests of Between-Subject Effects of Social Support, Race and HIV Status on Psychotherapy Attendance Rates (N=993)*

Source	Type III sum of squares	df	Mean square	F	Sig.
Corrected model	17.89[a]	7	2.56	0.52	0.82
Intercept	2937.53	1	2937.53	602.27	0.00
Social support	1.83	1	1.83	0.38	0.54
Race group	5.19	1	5.19	1.06	0.30
HIV status	0.02	1	0.02	0.00	0.95
Social support* HIV status	3.58	1	3.58	0.73	0.39
Social support * Race group	2.40	1	2.40	0.49	0.48
Social support * face group * HIV status	4.50	2	2.25	0.46	0.63
Error	4804.29	985	4.88		
Total	9984.00	993			
Corrected *tTotal*	4822.17	992			

Note. R squared = 0.004 (adjusted R squared = -0.003); dependent variable: psychotherapy attendance rates (number of mental health appointments kept)

Table 6. *Descriptive Statistics Results of Psychotherapy Attendance Rates by Social Support, Race, and HIV Status (N=993)*

Social support (has case worker)	Race group	HIV status	Mean	Std. deviation	N
No	Non-API	Negative	2.36	2.22	222
		Positive	2.23	2.20	120
		Total	2.32	2.21	342
	API	Negative	2.34	2.25	47
		Positive	2.14	2.13	36
		Total	2.25	2.19	83
	Total	Negative	2.36	2.22	269
		Positive	2.21	2.17	156
		Total	2.31	2.20	425

(continued on next page)

Social support (has case worker)	Race group	HIV status	Mean	Std. deviation	N
Yes	Non-API	Negative	2.36	2.30	304
		Positive	2.28	2.27	149
		Total	2.33	2.29	453
	API	Negative	1.82	1.50	61
		Positive	2.19	2.18	54
		Total	1.99	1.85	115
	Total	Negative	2.27	2.19	365
		Positive	2.25	2.24	203
		Total	2.26	2.21	568
Total	Non-API	Negative	2.36	2.26	526
		Positive	2.26	2.23	269
		Total	2.32	2.25	795
	API	Negative	2.05	1.87	108
		Positive	2.17	2.15	90
		Total	2.10	2.00	198
	Total	Negative	2.31	2.20	634
		Positive	2.23	2.21	359
		Total	2.28	2.21	993

Factorial ANOVA Results for RQ3

RQ3 and the associated hypotheses are presented below. This is followed by results of statistical analysis performed.

RQ3: What are the differences in health outcomes, as measured through CD4 and viral load, in the following groups: (a) API patients who have HIV/AIDS, (b) APIs not diagnosed with HIV/AIDS, (c) non-API patients who have HIV/AIDS, and (d) non-APIs not diagnosed with HIV/AIDS?

H_03_a: Patients not diagnosed with HIV/AIDS have lower health outcomes, as measured through CD4 and viral load, compared to patients diagnosed with HIV/AIDS.

H_13_a: Patients diagnosed with HIV/AIDS have higher health outcomes, measured through CD4 and viral load, as compared to patients not diagnosed with HIV/AIDS.

H_03_b: APIs have lower health outcomes, as measured through CD4 and viral load, compared to non-APIs.

H_13_b: APIs have higher health outcomes, as measured through CD4 and viral load, compared to non-APIs.

I conducted a factorial ANOVA to address RQ3. The independent variables were the population group participants by race and HIV status. The dependent variables were health outcomes of CD4 and viral load. The factorial ANOVA included the main effects of race and HIV status and also the interaction effects of race and HIV status on health outcomes. Two different factorial ANOVAs were conducted for each of the health outcomes.

First, Table 7 presents the factorial ANOVA results in terms of the between-subjects effects on the dependent variable of health outcomes of CD4 counts. The results of the factorial ANOVA showed that CD4 counts were significantly different across differences of race [F (1, 143) = 5.27, p = 0.02]. This was because the p-value was lower than the level of significance value of 0.05. This means that the CD4 counts were significantly different between API and non-API participants. I did not perform post hoc tests since the independent variable of race had fewer than three categorical groups. Instead, I conducted a mean comparison.

As can be seen in the descriptive statistics in Table 8, the CD4 counts of non-APIs (M = 674.03; SD = 288.61) was significantly greater than the CD4 counts APIs (M =

556.03; *SD* = 228.04). Also, the individual effect of HIV status and the interaction effect of race and HIV status on CD4 counts were not significant. This means that the CD4 counts were not significantly different among the following groups: (a) people who are APIs and have HIV/AIDS, (b) APIs not diagnosed with HIV/AIDS, (c) non-APIs who have HIV/AIDS, and (d) non-APIs not diagnosed with HIV/AIDS.

Table 7. *Tests of Between-Subject Effects of Race and HIV Status on Health Outcomes of CD4 Counts (N=143)*

Source	Type III sum of squares	Df	Mean square	F	Sig.
Corrected model	394956.728^a	1	394956.73	5.28	0.02*
Intercept	42915147.36	1	42915147.36	573.27	0.00*
Race group	394956.73	1	394956.73	5.28	0.02*
HIV status	0.00	0	.	.	.
Race group * HIV status	0.00	0	.	.	.
Error	10555267.89	141	74860.06		
Total	69861432.00	143			
Corrected total	10950224.62	142			

Note. * Significant at level of significance of 0.0g; R squared = 0.04 (adjusted R squared = 0.03); dependent variable: last CD4.

Table 8. *Descriptive Statistics Results of CD4 Counts by Race and HIV Status (N = 143)*

Race group	HIV status	Mean	Std. deviation	N
Non-API	Positive	674.03	288.61	104
	Total	674.03	288.61	104
API	Positive	556.03	228.04	39
	Total	556.03	228.04	39
Total	Positive	641.85	277.70	143
	Total	641.85	277.70	143

The CD4 variable showed no valid observations for HIV-negative cases, which means that a test for significance of difference in the CD4 variable across HIV status cannot be performed. Therefore, only comparison of viral load is done across HIV status categories using independent samples t-test. This is appropriate as positive and negative cases groups are independent, and the CD4 variable is continuous, with a symmetric distribution that doesn't significantly depart from normality. Also, sample size is large, so using the result of central limit theorem, the sampling distribution of the test statistic will be normal.

Table 9 below shows descriptive statistics for the CD4 variable across race groups along with associated *t*-test results. The API group had a mean CD 4 of 556.03 (*SD* = 228.04) while the non-API group had a mean CD4 of 674.03 (*SD* = 288.61). Results of Levene's test shows evidence for equality of variance assumption (*F* = 2.57, *p* = 0.11). Results of independent samples *t*-test indicates that null hypotheses of no significant difference in two groups must be rejected at 0.05 level of significance [*t*(141) = 2.30, *p* = 0.02]. Specifically, the API group had significantly lower mean CD4 compared to the non-API group.

Table 9. *Comparison of CD4 Between API and Non-API Groups*

Race group	N	Mean	Std. deviation	T	p
Non-API	104	674.03	288.61	2.30	0.02*
API	39	556.03	228.04		

Note. *Significant at level of significance of 0.05

Table 10 presents the factorial ANOVA results in terms of the between-subject effects on the dependent variable of the health outcome of viral load. The results of the factorial ANOVA showed that viral load was not significantly different across race differences [*F*(1, 336) = 0.08, p = *0.78]* and HIV status [*F*(1, 336) = 0.15, p = *0.70]).*

These were because the *p*-values were greater than the level of significance value of 0.05. This means that viral loads were not significantly different between those diagnosed with HIV/AIDS and those who were not diagnosed with HIV/AIDS; and between APIs and non-APIs. Also, the interaction effect of race and HIV status on viral load [*F*(1, 336) = 0.08, p = *0.78]* was not significant. This means that viral load was not significantly different among the following groups: (a) API patients who have HIV/AIDS, (b) APIs not diagnosed with HIV/AIDS, (c) non-API patients who have HIV/AIDS, and (d) non-APIs not diagnosed with HIV/AIDS. With the results of these factorial ANOVAs, the null hypothesis for RQ3a that "Patients not diagnosed with HIV/AIDS has lower health outcomes, as measured through CD4 and viral load, compared to patients diagnosed with HIV/AIDS" and null hypothesis for RQ3b that "APIs have lower health outcomes, as measured through CD4 and viral load, compared to non-APIs" were not rejected based on the results of the factorial ANOVA for CD4 counts.

Table 10. *Tests of Between-Subject Effects of Race and HIV Status on Health Outcomes of Viral Load (N = 336)*

Source	Type III sum of squares	df	Mean square	F	Sig.
Corrected model	6567391752.411	3	2189130584.14	0.74	0.53
Intercept	436702643.65	1	436702643.65	0.15	0.70
Race group	235752595.71	1	235752595.71	0.08	0.78
HIV status	435901270.71	1	435901270.71	0.15	0.70
Race group * HIV status	235752595.71	1	235752595.71	0.08	0.78
Error	982760933655.59	332	2960123294.14		
Total	1014103812592.00	336			
Corrected total	989328325408.00	335			

Note. R squared = 0.01 (adjusted R squared = 0.002); dependent variable: last viral load.

Since the distribution of viral load is extremely skewed, comparison of viral load distribution between HIV-positive and HIV-negative groups and between API and non-API groups is done using a non-parametric test for independent samples. The Mann Whitney U test is used to test the difference in viral load distribution between two groups.

Table 11 below summarizes results of comparison of viral load distribution across categories of HIV status and race group. There was significant difference in viral load across race groups (*U* = 9035, *Z* = -2.33, *p* = 0.02). APIs had higher viral load outcome compared to non-APIs. There was no significant difference in viral load distribution between HIV-positive and HIV-negative subjects (*U* = 1890, *Z* = -0.17, *p* = 0.86).

Table 11. *Comparison of Viral Load Across HIV Status and Race Groups*

Group		N	Mean rank	Sum of ranks	Mann Whitney U	Z	p
Race	Non-API	250	175.36	43840.00	9035	-2.33	0.02*
	API	86	148.56	12776.00			
	Total	336					
HIV status	Negative	12	164	1968.00	1890	-0.17	0.86
	Positive	324	168.67	54648.0			
	Total	336					

Note. *Significant at level of significance of 0.05

Summary

The purpose of this quantitative causal comparative study is to examine the psychotherapy attendance rates among APIs and non-APIs who have HIV/AIDS, and APIs and non-APIs not diagnosed with HIV/AIDS, and to identify the impact of social support on attendance rates and, further, on health outcomes such as CD4 and viral load.

This chapter presented the results and analysis of the factorial ANOVAs to address the research questions of the study.

- For RQ1, the factorial ANOVA results showed that patients diagnosed with HIV/AIDS do not have higher psychotherapy attendance rates over time compared to patients not diagnosed with HIV/AIDS; and non-APIs have higher psychotherapy attendance rates over time compared to APIs.
- For RQ2, the factorial ANOVA results showed that social support, as measured by level of support given by case workers, has no significant impact on retention in psychotherapy. CD4 counts for non-APIs were significantly greater than the CD4 counts for APIs. Independent sample *t*-test also showed that the API group had a significantly lower mean CD4 compared to the non-API group.
- For RQ3, the factorial ANOVA results showed that health outcomes, as measured through CD4 count, was significantly different across differences of race. CD4 counts of those non-APIs were significantly greater than the CD4 counts of APIs. However, CD4 count was not significantly different across differences of HIV status, and Mann Whitney U test results showed that APIs had higher viral load outcome compared to non-APIs.

Chapter 5 includes further discussion of the results presented in this chapter. Each of the results in each of the research questions was reviewed and the potential implications for each of the results is presented.

Chapter 5: Discussion and Recommendation

Introduction

The objective of this quantitative causal comparative study was to understand the relationships among psychotherapy attendance rates, social support to attendance rates and health outcomes such as CD4 and viral load, among API and non-API patients with HIV/AIDS. I used factorial ANOVA, descriptive analysis, and regression analysis to analyze the historical medical data of patients of a community health center in New York City. I used IBM SPSS Statistics Version 22 to conduct the data analysis.

I developed the following research questions and associated hypotheses for the study:

RQ1: What are the differences in psychotherapy attendance rates over a one-year period among the following groups: (a) API patients who have HIV/AIDS; (b) APIs not diagnosed with HIV/AIDS; (c) non-API patients who have HIV/AIDS; and (d) non-APIs not diagnosed with HIV/AIDS?

H_01_a: Patients not diagnosed with HIV/AIDS have lower psychotherapy attendance rates over time compared to patients diagnosed with HIV/AIDS.

H_11_a: Patients diagnosed with HIV/AIDS have higher psychotherapy attendance rates over time compared to patients not diagnosed with HIV/AIDS.

H_01_b: APIs have lower psychotherapy attendance rates over time compared to non-APIs.

H_11_b: Non-APIs have higher psychotherapy attendance rates over time compared to APIs.

RQ2: What is the effect of social support (as measured by level of support given by case workers) on retention in psychotherapy in the following groups: (a) API patients who have HIV/AIDS; (b) APIs not diagnosed with HIV/AIDS; (c) non-API patients who have HIV/AIDS; and (d) non-APIs not diagnosed with HIV/AIDS?

$H_0 2_a$: Social support, as measured by level of support given by case workers, has no positive impact on retention in psychotherapy.

$H_1 2_a$: Social support, as measured by level of support given by case workers, has a positive impact on retention in psychotherapy.

RQ3: What are the differences in health outcomes, as measured through CD4 and viral load, in the following groups: (a) people who are APIs and who have HIV/AIDS; (b) APIs not diagnosed with HIV/AIDS; (c) non-APIs who have HIV/AIDS; and (d) non-APIs not diagnosed with HIV/AIDS?

$H_0 3_a$: Patients not diagnosed with HIV/AIDS have lower health outcomes, as measured through CD4 and viral load, compared to patients diagnosed with HIV/AIDS.

$H_1 3_a$: Patients diagnosed with HIV/AIDS have higher health outcomes, measured through CD4 and viral load, as compared to patients not diagnosed with HIV/AIDS.

$H_0 3_b$: APIs have lower health outcomes, as measured through CD4 and viral load, compared to non-APIs.

$H_1 3_b$: APIs have higher health outcomes, as measured through CD4 and viral load, compared to non-APIs.

The results of the study showed the relationships among psychotherapy attendance rates, social support, and health outcomes for API and non-API patients with

HIV/AIDS. The following results showed statistically non-significant relationships: (a) patients diagnosed with HIV/AIDS do not have higher psychotherapy attendance rates over time compared to patients not diagnosed with HIV/AIDS, and non-APIs have higher psychotherapy attendance rates over time compared to APIs; (b) social support, as measured by level of support given by case workers, has no significant impact on retention in psychotherapy; and (c) health outcomes, as measured through CD4 count, was not significantly different across differences of race. These results indicate that the hypothesized significant impact of social support on psychotherapy attendance rates, as well as on health outcomes such as CD4 and viral load, for APIs and non-APIs who have HIV/AIDS cannot be generalized. That is, any reported difference in attendance rate or health outcomes is essentially attributed to chance owing to sampling.

This study is important for practitioners' understanding of the how APIs diagnosed with HIV/AIDS seek and respond to health care. The study contributes to the current body of literature on APIs and mental health by augmenting the understanding of API behaviors, with regards to mental healthcare. In addition, thes study offers significant insights for researchers and mental health care providers on the different factors that affect the behaviors of APIs.

Chapter 5 begins with a discussion of the results of the study in light of the literature presented in the previous chapters. In addition, I discuss the implications of the results and also identify the study's limitations. Finally, I offer recommendations for future studies.

Psychotherapy Attendance Rates Among API and Non-API Patients

I developed RQ1 to explore the differences in psychotherapy attendance rates among the following groups: (a) API patients who have HIV/AIDS, (b) APIs not diagnosed with HIV/AIDS, (c) non-API patients who have HIV/AIDS, and (d) non-APIs not diagnosed with HIV/AIDS. Specifically, I hypothesized that those who were diagnosed with HIV/AIDS have higher psychotherapy attendance rates than patients who were not diagnosed with HIV/AIDS. In addition, I expected non-API patients to have higher attendance rates over time than API patients.

The results of the analyses for RQ1 showed that there is no significant difference between API patients and non-API patients with regard to their attendance rates. However, based on the descriptive statistics, the samples size of non-API patients (*N* = 2263, 76%) was almost 3.1 times more than the sample size of API patients (*N* = 993, 24%), which showed the unequal distribution of the groups. Moreover, the mean difference showed that API patients had lower attendance rates than non-APIs, albeit not significantly lower. These results clearly indicate that the size or magnitude of the difference in mean attendance rates is not high enough to provide statistically significant results. There the difference in mean attendance rates is attributed to chance or sampling error.

Because of closed communication within the API community, APIs sometimes do not disclose mental illnesses or seek medical or psychological treatment (Kang et al., 2006). Unfortunately, researchers have found that this is a major factor for the high occurrence of depression and other psychological consequences among APIs (Kang et al., 2006). Kim et al. (2007) found that the discontinuation of medication is prevalent among those who have an alcohol problem, and also among those with depressive symptoms but without substance abuse. Another study showed that patient uncertainty regarding the effectiveness of medication is one of the reasons for inconsistent medication use (Locher, Wayson, Pargament, & Duggan, 2007). There were incongruences between the results of my study and the current literature, which warrant further exploration.

In summary, it is apparent that the main difference in attendance rates is affected by several factors other than the study variables. Adjusting for the effect of these variables could more precisely show differences in attendance rates attributed to study variables. Therefore, I recommend that subsequent researchers explore additional factors that may account for the differences in psychotherapy attendance rates..

Social Support among API and non-API Patients

With RQ2, I examined the effect of social support -- as measured by the level of support given by case workers -- on psychotherapy retention for the following groups: (a) API patients who have HIV/AIDS, (b) APIs not diagnosed with HIV/AIDS, (c) non-APIs who have HIV/AIDS, and (d) non-APIs not diagnosed with HIV/AIDS. Using Bandura's (1989) SCT, I hypothesized that social support would be associated with psychotherapy retention. Specifically, I hypothesized that social support would be positively related to retention in psychotherapy.

The results showed that psychotherapy attendance rates were not significantly different across the social support categories. Attendance rates were not different between those who had social support from case workers and those who did not. Psychotherapy attendance rates were not significantly different among the following groups: (a) HIV/AIDS patients with social support, (b) HIV/AIDS patients without social support, (c) patients not diagnosed with HIV/AIDS and with social support, and (d) patients not diagnosed with HIV/AIDS without social support. Neither were retention rates significantly different among the following groups: (a) APIs with social support, (b) non-APIs with social support, (c) APIs without social support, and (d) non-APIs patients without social support. Social support is one of the factors that researchers have identified as leading people to seek and remain in psychotherapy (Irvine et al., 2015; Yeun et al., 2013). Moreover, social support generally promotes positive health outcomes including higher treatment adherence rates (Irvine et al., 2015; Mutchler et al., 2011; O'Laughlin et al., 2012; Westmaas et al., 2010). On this premise, one might presume a link among the factors of HIV/AIDS diagnosis, social support, psychotherapy attendance, and better medical outcomes.

The results of this study are incongruent with the notion that social support increases attendance among API HIV/AIDS patients and decreases dropout rates. One possible explanation in this discrepancy is the importance of community among API cultures. API cultures discourage members from seeking mental health care because of shame and other culture-specific factors. To an extent, this negative outcome reflects the notion that psychiatric disorders are often a barrier to medical treatment adherence; thus, researchers have indicated that HIV/AIDS patients who receive psychotherapy have better health outcomes (Leong et al., 2011). Social support is one of the factors that researchers have identified as leading people to seek and remain in psychotherapy (Irvine et al., 2015; Yeun et al., 2013). In addition, API individuals are highly concerned with how they are perceived both within the community andwithout (Leong et al., 2011).

Further, this outcome is inconsistent with research focused on social support and adherence to medical treatment (Mutchler et al., 2011; O'Laughlin et al., 2012; Westmass et al., 2010). Previous researchers have proven that social support leads to positive behavioral changes among individuals with chronic diseases (Longo et al., 1992; Shen, Edwards, Courtney, McDowell, & Wu, 2012). Social support helps increase treatment adherence or promote positive behavioral changes among the general population, and receptivity to mental health care is linked to social support (Mutchler et al., 2011; O'Laughlin et al., 2012; Westmass et al., 2010). However, the outcome of this study reflects a limit to this link.

The concept of social support as defined in this study may not be what some patients would consider a close relationship. Research by Tasca (2014) and Yeun et al. (2013) indicate that feeling close with others is necessary for feeling secure. This study may not have accounted for a level of closeness with caretakers that would significantly impact the willingness of patients, both API and non-API alike, to stay in psychotherapy. Individuals always strive to seek closeness (Tasca, 2014; Yeun et al., 2013), but the level of intimacy could have been an important determinant on this dynamic. Researchers have found that strong emotional support and bonds with other individuals and other groups have positive correlation with high medical adherence (Irvine et al., 2015; Li et al., 2012; Stubbs et al., 2009; Ushie & Jegede, 2012). I recommend further studies on the impact of varying levels of closeness, emotional bond, and social support in order to understand the complexity of social relationships and their roles in psychotherapy retention and in the mental health response of individuals, especially APIs.

Another potential reason for the non-significant outcomes of this study is operationalization of the study's independent variable. In this study, the independent variable is taken as the categorical factor of social support. This is operationally defined as a binary variable with two categories based on whether the patient has an associated case worker or not. Having an associated case worker directly translates itself into actual support. Therefore, a more precise measure of quantifying the support as a variable in this study would be the level of support received. This can potentially direct future research studies, which should assess whether increases in levels of support are associated with positive changes in behavior. This study used the proxy binary variable as a "presence" or "absence" of case worker to operationalize the independent variable, as the historical data provided limited scope to define this variable. However, this researcher could not ascertain if the mere "presence" of a case worker equates to support for the patients. Thus, future researchers should use a more precise measurement of the level of support that patients receive in order to more effectively analyze the impact of support on attendance rates and behavior changes.

Health Outcomes among API and non-API patients

RQ3 explored the differences in health outcomes, as measured by CD4 and viral load, among the following groups: (a) API patients who have HIV/AIDS, (b) APIs not diagnosed with HIV/AIDS, (c) non-API patients who have HIV/AIDS, and (d) non-APIs not diagnosed with HIV/AIDS. I hypothesized that patients diagnosed with HIV/AIDS would have better health outcomes, measured through CD4 and viral load, as compared to patients not diagnosed with HIV/AIDS. I also hypothesized that APIs would have higher health outcomes, as measured through CD4 and viral load, compared to non-APIs.

The results did not show a significant difference in CD4 counts across the groups. This means that the CD4 counts were not significantly different between those with and without HIV/AIDS. The CD4 counts of non-API patients diagnosed HIV/AIDS or who had positive HIV status was not significantly greater than the CD4 counts of API patients diagnosed with HIV/AIDS or who had positive AID status.

The previous results show a non-significant difference across groups, but it must be noted that there are more historical cases of non-API patients than API patients diagnosed with HIV/AIDs. This implies that non-APIs tend to seek treatment more than APIs. The non-significant difference of CD4 counts between non-APIs and APIs is consistent with the findings that high CD4 is the likely result of low adherence or non-treatment of chronic illness (Sin & DiMatteo, 2014). This could also lead to other opportunistic infections and death. Psychological disturbance is harmful to individuals with HIV -- as Leserman et al. (1999) noted, AIDS progresses more rapidly due to greater depressive symptoms, more stressful life events, and less social support.

There are many factors that contribute to individuals with HIV seeking medical care or avoiding treatment (Oppenheimer, 2008). These are often affected by the emotional problems of the individuals, as well as the substances that they use. Turner-Cobb et al. (2002) found that individuals who are well-adjusted to chronic illness such as HIV/AIDs are those who do not deny their illness and decide instead to cope with it and with the stressors that attend the diagnosis. Emotional distress is a factor identified as a significant predictor of disease progression by Vedhara, Nott, Bradbeer and Davidson (1997). I expected that APIs diagnosed with HIV/AIDS would have higher CD4 counts, but I actually found that non-APIs with HIV/AIDS had significantly higher CD4 counts.

This outcome is theoretically inconsistent with the notion that having a major depressive disorder reduces the number of natural killer cells. Pessimism was related to depressed mood, lower numbers of helper T-cells, and lower levels of natural killer cell activity (Segerstrom, Taylor, Kemeny, & Fahey, 1998). Mental illnesses are prevalent among HIV/AIDS patients (AIDS Institute, 2012). On this premise, the higher CD4 counts among non-API patients with HIV/AIDS is practically understandable, and in fact, should be expected. However, as cited in the discussion of results for RQ1, the difference in health outcome variables is compared directly between groups without adjusting for confounding variables, as the historical data offered little scope to include control variables such as demographic, health, or occupational data. Adjusting for these factors could potentially extract precise differences between study groups in terms of health outcome variables. The fact that historical data did not provide any scope to include confounding variables is the major limitation of the study.

However, it is interesting to note that this result is also congruent to the common notion of APIs. Due to aculture characterized by tight communities, APIs are likely to view psychotherapy as “disgraceful” for themselves and their family and to consider “talk therapy” to be “useless” (Tseng, 2004, p. 153). Therefore, APIs are less likely to seek therapy. Individuals who do not adhere to psychotherapy are likely to struggle with a lack of social supports such as health education and health insurance (Fenger et al., 2011). And API patients refuse to seek mental health care due to loss of face and negative perceptions about mental health issues (Fenger et al., 2011). This result warrants further exploration, because basing these assumptions on historical data limits the theorizing for other factors. I recommend expanding on the results of this study to explore additional factors that determine API behavior with regard to seeking mental health care.

In summary, this study offered explanation for the differences between APIs and non-APIs with regard to their care-seeking behaviors, based on historical data. Neither social support, as defined by Irvine et al. (2015), nor psychotherapy retention were found to have significant differences across the groups. Moreover, the results did not show significant differences in CD4 counts between non-API and API patients diagnosed with HIV/AIDS. Statistical methods used to analyze the data did not include control variables to extract precise results due to non-availability of necessary data, which proved to be a limitation for the study. I discuss the implications of the study results in the next section.

Implications

The current study offered an initial baseline for future studies with regard to the behaviors of APIs in comparison to non-APIs. Bandura’s (1989) SCT states that individual behavior is learned and changed through environmental influences (McLeod, 2011), and social support is one factor that enables behavior changes. I sought to provide evidence on the importance of social support in the behaviors of cultural groups and their collective behaviors regarding mental health care – an important concept especially for therapists and researchers. Culture-specific factors must be taken into consideration in improving and creating psychotherapy and treatments for cultural groups. For example, Donkin et al. (2006) found that even when health education is provided to APIs, they continue to actively search for evidence that confirms their preexisting beliefs because the health information given to them may cause discomfort or go against their beliefs. These researchers suggested that perceptions of illness are often based on beliefs that are influenced by family, culture, and past experiences. Bhattacharya (2004) found that this is especially true in Asian communities. A few studies (e.g., Hatfield et al., 1996, and Leong et al., 2011) focused on the perception of APIs on mental health and health concerns, which demonstrates the importance of considering and understanding the culture of an individual when undergoing psychotherapy.

This study contributes to the body of literature on APIs and their mental health-seeking behaviors. The main research gap was a scarcity in the theorization and nuancing of the experiences of APIs in comparison to those of non-APIs. The purpose was to provide evidence on the relationship between social support and psychotherapy adherence among APIs, but there is still a need for further studies to understand the specific determinants of API behaviors with regards to mental health.

Yeun, Baek, and Kim (2013) examined SCT and health promotion behavior in API patients who were not diagnosed with HIV/AIDS. There are also studies that demonstrated links among social support, receptivity to mental health care, psychotherapy attendance, and health outcomes as measured by CD4 and viral load (Irvine et al., 2015; Yeun et al., 2013). These links could be specific characteristics of Asian cultures that result in culture-specific attitudes and behaviors toward HIV/AIDS and that foster ideas about seeking and remaining in mental health care that differ from the ideas characteristic of non-Asian cultures (Irvine et al., 2015; Yeun et al., 2013). These findings show the need for specific attention to people who are APIs and who have HIV/AIDS.

Previous researchers have targeted non-API populations (Irvine et al., 2015), and some have touched on APIs and psychotherapy (Kang et al., 2006; Sue et al., 2012), but there is a lack of research on people who are APIs and who have HIV/AIDS. It is imperative to focus on the API population due to its potential cultural needs for an expanded approach for using improved social support to encourage API access to mental health assistance maintenance through their illness (Irvine et al., 2015). In this study, I aimed to expand existing studies on social support, psychotherapy, and HIV/AIDS patients, focusing the study specifically on the cultural background of APIs living in the United States.

For hospitals and nursing facilities, the outcome of this study helps practitioners to understand the experiences of APIs who have HIV/AIDS and to understand the culture-specific factors that affect their behaviors. This study seeks to contribute to the under-researched area of the possible relationship among social support, psychotherapy attendance rates, and health outcomes in a vulnerable population in which the HIV/AIDS infection rate is increasing and that may have unique sociocultural needs. Hospitals and care facilities must take advantage of the shifting paradigms of mental health care. Further improvement of care treatments and support systems would help to decrease dropout rates and increase retention in mental health care. Using social relationships as a means to support psychotherapy retention would prove beneficial not only for hospitals, but also for the patients themselves.

The results of the study also demonstrated the importance of record keeping as a means of properly planning the services to be offered to patients. Meticulous data collection was shown to be quite critical in determining the strategies to develop services and programs that could help patients with HIV/AIDs. Funding for the population could be obtained through sufficient data, thereby allowing researchers and practitioners to develop appropriate and effective programs for patients.

Moreover, the results of this study provide an idea of how social support can be a major factor in determining not only the psychotherapy retention of APIs diagnosed with HIV/AIDS, but more importantly, in understanding how social relationships affect the intrapersonal and interpersonal processes of those individuals. In the next section, I discuss the limitations of the study based on the current literature on social support, psychotherapy, and APIs.

Limitations

Despites the benefits previously mentioned, the results of the study must also be interpreted in light of its limitations. One important factor is that the data used for this study was purely historical. The use of historical data comes with the assumption that all of the reports are held as truth, and that the reports capture the general conditions of the API and non-API patients with HIV/AIDS. However, this limits the data collected for analysis, and, consequently, limits the depth of analysis that can be done on the data. This current study can only use ANOVA or comparisons between APIs and non-APIs. The lack of depth in terms of the richness of the historical data could have confounded the results. Moreover, other research designs would not have been conceptually fit.

Although heterogeneity of sample groups is present, the study lacks generalizability in the sense that the differences were weak or not significant. Moreover, the use of historical data did not account for the confounding variables that were present. To address this, a mixed method could have been used to further understand the nuances of the experiences of APIs who have been diagnosed with HIV/AIDs.

In relation to sampling, it cannot be said that extraneous variables and confounds were controlled, or that procedure was uniform. Thus, several random and uncontrolled factors could possibly have affected the results of the study. In assessing the factors that may have influenced the results, the confines of this study should also be taken into consideration, such as the demographic characteristics of the sample population, time constraints, and the richness of historical data collected. These confounding variables may have affected the results of the study. Moreover, the data came from the perspective of care personnel, and not from the perspective of the API and non-API patients. This factor alone limited the level of analysis that could be applied to the data. Future studies could consider the perceptions and personal experiences of APIs who have HIV/AIDS using other methodologies that can gather more subjective and specific data such as interviews or surveys.

Another issue relating to generalizability is the fact that the data for the study was obtained from historical data from a single community health center. The results of the study were only derived from the limited field of data available, and thus, cannot be easily applied to other contexts. Many interesting results came from the study, but because of the weakness of the differences found, the data cannot be interpreted broadly. For example, the lower rate of psychotherapy attendance for APIs diagnosed with HIV/AIDS in comparison to that of non-APIs could have implications for the social support given to API patients, but the difference, albeit insignificant, also shows a divergence between this study and results of previous studies focusing on the psychotherapy attendance of APIs and social cognitive theory. This could be addressed in future studies by considering the extraneous factors and revising the research design used.

In relation to this, another limitation included the insufficient data to draw the relationships among different factors. Historical data were obtained to determine the importance of social support for patients with HIV/AIDs, and while this allowed the researcher to look into patterns based on patient information, it was insufficient for determining whether these relationships have empirical bearing. To address this, future researchers could employ a qualitative approach to explore the lived experiences of patients with HIV/AIDs and to determine the impact of social support in that context.

Another study limitation was the scarcity of research involving APIs diagnosed with HIV/AIDS. Although social support and social cognitive theory are two topics with a rich body of literature, their application in the context of APIs diagnosed with HIV/AIDS still lacks substantiated evidence. For one thing, it was difficult to contextualize the results with the experiences of APIs because of the limited data from previous research. There is minimal discussion in the literature of the relationship between social support and treatment adherence (including psychotherapy attendance) among APIs. Hall et al. (2011) characterized APIs as showing a high dependence on their families, friends, and communities for resolving issues. In contrast, Kang et al. (2006) described the close communication within the API community, but showed that there is pressure on Asians with HIV/AIDS to conceal their illness and to avoid medical or psychological treatment. I recommend that future studies explore in greater detail the ways that experiences differ among APIs, and also between APIs and other groups. It would be advantageous to identify the social relationships and processes that occur within the groups and between the individuals so that the discrepancies in the previous studies could be explained.

Recommendations for Future Research

In light of the limitations presented above, I recommend the following:

1. It is important to understand the cultural parameters that affect the health-seeking behaviors of API patients. Thus, I recommend that future research focus on cultural studies, and specifically on the factors that influences the perceptions and behaviors of minority groups.
2. Future studies should explore the role of social support in the health care-seeking behaviors of minority groups. This will help therapists and health care practitioners provide and implement evidence-based strategies for practice.
3. Future studies could use other types of research design to address the scarcity in the literature that focuses on the experiences of APIs and mental health.

4. I recommend that between-group analyses be undertaken in order to have a deeper understanding of the contextual differences between API and non-API patients.
5. Demographics must be taken into consideration, especially in social psychological studies that focus on social processes and relationships between variables and in a cultural group.
6. It is important to examine the experiences of care providers so that the perspectives of the APIs can be reconciled with the lived experiences of the care providers.
7. It would be advantageous to learn more about the experiences of APIs who have been diagnosed with HIV/AIDS in light of the stigma that these patients experience from society. To address this, I recommend that future researchers use qualitative methods to explore the lived experiences and discursive meanings that APIs derive from their individual experiences.
8. I recommend that future researchers examine the stressors of care providers and patients in order to improve treatment strategies and psychotherapy;
9. Future studies could explore other dimensions of social cognitive theory within the context of APIs who have been diagnosed with HIV/AIDS.

Summary and Conclusion

The purpose of this quantitative causal comparative study was to understand the impact of social support on psychotherapy attendance rates, as well as on health outcomes such as CD4 and viral load, among API and non-API patients with HIV/AIDS.

I used factorial ANOVA, descriptive analysis, and regression analysis to analyze the historical medical data of HIV/AIDS patients of a community health center in New York City.

Results of the study showed that patients diagnosed with HIV/AIDS do not have higher psychotherapy attendance rates over time compared to patients not diagnosed with HIV/AIDS, and showed that non-APIs have higher psychotherapy attendance rates over time compared to APIs. In addition, social support, as measured by the presence of case workers, has no significant impact on retention in psychotherapy for either API patients or for non-API patients. Moreover, health outcomes, as measured through CD4 count, was not significantly different across differences of race. The results showed that there was no difference regarding the health outcomes of APIs and non-APIs with regards to viral load. I recommend future studies using qualitative methods in order to identify more nuanced differences in the experiences of people who are APIs and have been diagnosed with HIV/AIDS.

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