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HIV-Positive Kenyan Women with a Disability: Social Support's Role in Treatment Seeking

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Walden University
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Abstract

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Dissertation Submitted in Partial Fulfilment

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Abstract

Understanding social support from the context of disabled women living in conditions of extreme poverty may be useful in the development of effective interventions to advocate for and improve their likelihood of engagement in HIV-related treatment services. Thus, the purpose of this cross-sectional survey study was to examine the relationship between social support and treatment seeking among a sample of HIV-positive Kenyan women with physical disabilities. Correlations were examined between an individual's source of social support (family, friend, significant other), type of social support (appraisal, tangible, self-esteem, belonging), and HIV-related treatment seeking. Age, marital status, income availability, and disability type, were used as control variables when the predictive power of source and type of social support was examined. Descriptive, correlation, and regression analyses did not support the study's overall hypothesis that social support (source and type) is related to HIV-related treatment seeking. Results showed that those who reported being blind or having a mobility disability were more likely than those that reported being deaf or having other disabilities to report that they sought HIV-related treatment, but they encountered barriers (i.e., financial, transportation) that created uncertainty for how long they would engage in HIV-related treatment. These results may lead to social change by providing information on seeking HIV-related treatment, which can encourage policies that may help those seeking treatment, as well as encourage future research.

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Chapter 1: Introduction to the Study

The purpose of this study was to examine the correlations between social support and HIV-related treatment seeking among a sample of HIV-positive Kenyan women with a preexisting physical disability (blind, deaf, mobility, other). The research aimed to identify whether there is a specific source of social support (family, friend, or significant other) or type of social support (tangible, appraisal, self-esteem, belonging) that is associated with HIV-related treatment seeking among this at-risk population. Understanding how social support factors into the lives of women living with HIV, coupled with a status of disability, may be useful in the development of effective interventions that advocate for social support and related social networks to increase engagement in HIV-related treatments (Christakis & Fowler, 2009; Dahlem et al., 1991; Glanz et al., 2015).

Study Background

Demographic and Political Factors in Kenya

An overview of the national demographic and political factors is provided to give the reader a greater understanding of the context in which Kenyan women live. The nation of Kenya rests in the eastern sub-Saharan region of Africa, with a population of approximately 47 million (Central Intelligence Agency [CIA], 2017). There are densely populated regions in the west along the Lake Victoria shoreline, in the capital region of Nairobi, and along the Indian Ocean, with a high Muslim populous (CIA, 2017). Kenya is over 580,000 square miles and is surrounded by the Indian Ocean on the southeast, Somalia on the northeast, Ethiopia and Sudan to the north, Uganda to the west, and

Tanzania to the south (CIA, 2017). There are recurring drought and arid conditions throughout the interior which create conditions of flooding in the rainy seasons (CIA, 2017).

In 2007, political turmoil ensued as Kibaki's re-election incited riots in which 1,500 people were killed (CIA, 2017). Mediation led to a restoration of Odinga as prime minister, allowing for shared power which brought about constitutional reform, including the 2010 adoption of a new constitution with checks and balances for the executive powers (CIA, 2017; GAN Integrity, 2017). This led to a decentralization of authority that delegated power from the central government to the local or county level, a dispersion of health resources to 47 newly created counties, and the elimination of the position of prime minister (CIA, 2017; Williamson & Mulaki, 2015). In 2013, Uhuru Kenyatta was elected and sworn into office as president as the country continued to evolve politically (BBC News, 2017; CIA, 2017). Election turmoil again ensued with President Kenyatta finally being declared winner of the 2017 presidential election despite a supreme court ordered re-election (BBC News, 2017; CIA, 2017). Corruption continues to interfere with multiple levels of society, impacting the overall health and safety of the nation.

Women of Kenya, Living with HIV

The total life expectancy for the female population in Kenya is 65.8 years, compared to 81 years of age for females in the United States (Centers for Disease Control and Prevention [CDC], 2016; CIA, 2017). The infant mortality rate remains high with 37.1 deaths per 1,000 live births compared to 5.90 deaths per 1,000 live births in the United States (CDC, 2016; CIA, 2017). HIV/AIDS continues to drain the country's

resources, as approximately 1.5 million people live with this debilitating condition (CIA, 2017; Gardner, 2013; UNAIDS, 2017). The disease takes 36,000 lives annually and continues to deplete the low national health expenditure (5.6% gross domestic product; CIA, 2017). In addition, limited access to healthcare has led to increased risk of mortality due to complications of AIDS (CIA, 2017; National AIDS, 2012; UNAIDS, 2017).

Of those living with an HIV-positive status, women have been disproportionately affected (57%; National AIDS, 2012; Turan et al., 2011; UNAIDS, 2017). This could be due to relatively greater poverty among women in Kenya (Gardner, 2013; Kenya National Commission on Human Rights [KNCHR], 2014; UNAIDS, 2018). Furthermore, women are at higher risk of contracting HIV as the result of inadequate knowledge on safe-sex practices, limited availability of condoms, and health conditions that lead to suppressed immune responses (Abimanyi-Ochom, 2011; Allen, Carletti, Cull, Qian, Senbet, & Valenzuela, 2013; National AIDS, 2012; UNAIDS, 2017). Kenyan women are also at increased risk of contracting HIV due to interpersonal violence that places them at a disadvantage, which makes them less likely to encourage condom use by their partner or to insist on a partner's fidelity in the relationship (Abuya et al., 2012; Gardner, 2013; Onsomu et al., 2015). In addition, women with HIV/AIDS have greater risk for lost or low income due to health challenges or stigma associated with their positive HIV status or HIV-related disability (CIA, 2017; Mugoya et al., 2015; Turan et al., 2011; UNAIDS, 2017). Mortality rates have also increased in Kenyan women due to limited access to HIV-related treatment (CIA, 2017; UNAIDS, 2017; Turan et al., 2011).

Disability, gender, and HIV-positive status each come with associated stigma that exacerbate existing challenges and make it more difficult to overcome poverty, which is often associated with these factors (Abuya et al., 2012; CDC, 2014; Gardner, 2013; Turan et al., 2011; UNAIDS, 2017). Challenges related to gender, disability, and an HIV-positive status put Kenyan women with a physical disability and an HIV-positive status at increased risk of early mortality due to decreased health treatment seeking resulting from hopelessness, poverty, and limited accessibility (Abimanyi-Ochom, 2011; Abuya et al., 2012; Allen et al., 2013; Goodman et al., 2016; Khoury et al., 2015; Tun et al., 2016; Turan et al., 2011; UNAIDS, 2017). Therefore, the women who suffer from HIV may need more social support to overcome these challenges.

Social Support

Previous research has identified social support as a predictor of mental health status, adjusting for marital status, income availability, and disability type (Williams, 2013). Additionally, social support has been identified as a significant indicator for mental health and well-being among a sample of Kenyan women with disabilities (Dahlem et al., 1991; Diener et al., 1985; Kessler et al., 2010; Williams, 2013). Research on Kenyan women with disabilities and the relationships among need fulfillment, life satisfaction, and physical and mental health/well-being has shown significant correlations between the population's self-rating (using a Likert scale) of social support needs and their self-rating of life satisfaction (an indicator of subjective mental well-being). Further, with the K6+ Self-Report Measure for Mental Illness and the Satisfaction of Life Scale, a sample of 131 Kenyan women with disabilities provided responses on mental illness and

well-being (Dahlem et al., 1991; Kessler, et al., 2003; Kessler et al., 2010). Responses related to the K6+ Self-Report Measure for Mental Illness included answers to the following question: "During the last 30 days, about how often did you feel each of the following: nervous, hopeless, restless or fidgety, so depressed that nothing could cheer you up, that everything was an effort, worthless?" (Kessler et al., 2010; Williams, 2013). The Satisfaction of Life Scale uses self-evaluation to measure subjective (or perceived) well-being (Diener et al., 1985; Pavot & Diener, 1993; Williams, 2013). The statements that participants respond to included "In most ways, my life is close to ideal," "The conditions of my life are excellent," "I am satisfied with my life," "So far, I have gotten the important things I want in life," and "If I could live my life over, I would change almost nothing."

To investigate whether social support, specifically source and/or type of support, impacts HIV-related treatment seeking, the Williams's (2013) study was modified to conduct the current study among a population of Kenyan women with physical disability and HIV-positive status. Data were analyzed from HIV-positive Kenyan women meeting the study criteria of having a preexisting physical disability. This built on previous research that suggested an HIV-positive status can have a negative impact on treatment seeking (Gardner, 2013; Gitahi-Kamau et al., 2015; Onsomu et al., 2015). The purpose of the current study was to assess whether perceived social support (source or type) might be correlated with HIV-related treatment seeking in this at-risk population. The findings could provide researchers a greater understanding of how HIV-related treatment seeking is affected by perceived social support (source or type). Further, examination of age,

marital status, income availability, and disability type (blind, deaf, mobility, other) could provide a better understanding of how these factors might play a part in the prediction of HIV-related treatment seeking.

Statement of the Problem

Previous studies have confirmed that access to HIV-related treatment can be hindered by many factors such as domestic violence, money constraints, a lack of available services, and stigma (Allen et al., 2013; Onsomu et al., 2015; UNAIDS, 2017). Because women with a physical disability tend to experience several of these factors, it is often difficult for them to access services (Onsomu et al., 2015; Turan et al., 2011; United Nations, 2011; UNAIDS, 2017). The combination of disability and HIV-positive status leaves this at-risk population at a disadvantage when it comes to ease in seeking HIV-related treatment (Groce et al., 2013; Onsomu et al., 2015; UNAIDS, 2017). Although the determinants of HIV treatment-seeking have been studied, there is a gap in the research on how social support factors into access to treatment, especially among women living in poverty-stricken regions (CDC, 2014; Kamu et al., 2012; United Nations, 2011; UNAIDS, 2017). For example, little is known about how social support might act as a facilitator for HIV-related treatment seeking among HIV-positive Kenyan women with a preexisting disability (IRIN, 2014; Kamimura et al., 2013). Filling this gap could lead to future interventions and treatment programs.

Purpose of the Study

The purpose of this quantitative study was to assess adult HIV-positive Kenyan women (aged 18-64) with a physical disability (blind, deaf, mobility, other). First, to

explore a potential correlation between social support (source or type) and HIV-related treatment seeking. Second, to investigate whether the source of support (family, friend, or significant other) or type of support (tangible, appraisal, self-esteem, or belonging) was predictive of treatment seeking, when adjusted for age, marital status, income availability, and disability type.

Research Questions and Hypotheses

This study measured social support as follows: 1) scores for source social support included a source social support total score (family, friend, significant other combined score) and source social support each scores (family, friend, significant other individually scored) and 2) scores for type social support included a type social support total score (appraisal, tangible, self-esteem, belonging combined score) and type social support each scores (appraisal, tangible, self-esteem, belonging individually scored). The overall hypothesis was that there is a positive correlation between the independent variables of social support (source or type) and the dependent variable of HIV-related treatment seeking, as measured by the survey instrument developed for this study. This study will seek to answer the following research questions.

Research Question 1: Is there a significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score?

H_a1: There is a significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score.

$H_0$1: There is no significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score.

Research Question 2: Are there significant positive correlations between the source social support each scores (family, friend, significant other individually) and the HIV-related treatment seeking score?

H_a2: There are significant positive correlations between the source social support each scores (family, friend, significant other individually) and the HIV-related treatment seeking score.

$H_0$2: There are no significant positive correlations between the source social support each scores (family, friend, significant other individually) and the HIV-related treatment seeking score.

Research Question 3: Is there a significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type?

H_a3: There is a significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type.

$H_0$3: There is no significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment

seeking score when adjusting for age, marital status, income availability, and disability type.

Research Question 4: Are there significant positive correlations between the source social support each scores (family, friend, significant other individually) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type?

H_a4: There are significant positive correlations between the source social support each scores (friend, family, significant other individually) and the HIV-related treatment seeking scores when adjusting for age, marital status, income availability, and disability type.

$H_0 4$: There are no significant positive correlations between the source social support each scores (family, friend, significant other individually) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type.

Research Question 5: Is there a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score?

H_a5: There is a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score.

$H_0$5: There is no significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score.

Research Question 6: Are there significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score?

H_a6: There are significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score.

$H_0$6: There are no significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score.

Research Question 7: Is there a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type?

H_a7: There is a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type.

$H_0$7: There is no significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related

treatment seeking score when adjusting for age, marital status, income availability, and disability type.

Research Question 8: Are there significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type?

H_a8: There are significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type.

$H_0 8$: There are no significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type.

Theoretical Foundation

The current study will use social support theory, a framework comprised of three theoretical perspectives: stress and coping, social constructionist (i.e., social cognition), and relationship (Lakey & Cohen, 2000), to examine whether social support, either source or type, is predictive of HIV-related treatment seeking in this population (Lakey & Cohen, 2000).

Summary

The following chapter will describe the overall situation for Kenyan women in terms of their national background, HIV status, disability status, social support, and their HIV-related treatment seeking. Chapter 2 also provides a review of recent literature.

Chapter 2: Literature Review

Introduction

Disability in Kenya, Africa

The World Disability Report (2011) shows that 15% of the world population is comprised of people living with a disability (KNCHR, 2014). In Kenya there were approximately 1.7 million people living with a disability, comprising 4.6% of the overall population, though these figures could be low due to inefficiencies in reporting disability (KNCHR, 2014). Additionally, limited research on disability in the developing nations continues to be a problem, which has led major health organizations to increase attention on the issue (KNCHR, 2014; Opini, 2010; United Nations, 2011). The KNCHR, a national human rights institution, was established to promote and protect the human rights in Kenya, including those living with a disability (KNCHR, 2014). However, although Kenya's leadership has instituted laws and policies that support those with disabilities, there remains a gap between what is written and what is implemented (KNCHR, 2014; Opini, 2010; United Nations, 2011). This gap is widened when considering those living in extreme poverty with a physical disability (Groce et al., 2013; KNCHR, 2014).

Other key stakeholders have recognized the need to address environmental and structural factors that will reduce the disparity that prevents people with a disability from accessing needed services and support to acquire an adequate standard of living (Groce et al., 2013; KNCHR, 2014; Rohwerder, 2014; United Nations, 2011). In 2011, the United Nations Convention on the Rights of Persons with Disabilities placed a focus on

changing attitudes and beliefs held about poverty and disability through the passing of Article 28 (Rohwerder, 2014; United Nations, 2011). This article recognizes the rights of those living with a disability to an adequate standard of living and social protection (Rohwerder, 2014; United Nations, 2011).

With increased acceptance of the need for change that utilizes multilevel approaches, now could be the ideal time to focus on challenges for those living with a disability. Addressing disability has been framed using several models, including the inclusion (e.g., integration) versus seclusion (e.g., segregation) and the medical versus social models (Cobley, 2012; KNCHR, 2014). The inclusion (integration) model looks at integrating those with a disability into mainstream society, allowing them to live, work, and socialize with the general population. In contrast, the seclusion (segregation) model secludes those with a disability into a designated area. Here they generally live, work, and socialize together with limited access to mainstream culture (Cobley, 2012; KNCHR, 2014).

According to the medical model, disability is seen as a health issue that the individual must personally address. However, the social models focus on addressing disability from a multilevel approach (i.e., individual, interpersonal, community, governmental or policy; Cobley, 2012; Glanz et al., 2015). The qualitative research of Cobley (2012) analyzed and reported on information gathered from 10 case study participants across Kenya, collected during the summer of 2010. The researcher summarized that the segregation model is related to the medical model. These models approach disability from the individual and charity perspectives, which focus on

providing for the individual through provision given in the spirit of charity (Cobley, 2012). The inclusion model is more closely related to the social model, like the ecological model of health, which incorporates the individual, social, and governmental (i.e., policy) levels to address health concerns (Cobley, 2012; Glanz et al., 2015; Groce et al., 2013).

In addition to these models, one way to address poverty among persons living with a disability is to strengthen their economic empowerment (Cobley, 2012; KNCHR, 2014). This requires increased attention to multilevel approaches that ensure that there are structures to provide those with a disability greater financial stability (Cobley, 2012; KNCHR, 2014). Although the Kenyan government provides a cash transfer program for persons with a disability, it does not provide adequate funds to provide for daily needs (KNCHR, 2014; Rohwerder, 2014). Further, the program is not consistent and requires several months to years to get approved and established for the recipient (KNCHR, 2014). This difficulty in securing financial stability creates an increased burden for those living with a disability. In addition to a need for increased financial stability, the literature has supported a need for reduced stigmatization (KNCHR, 2014; Rohwerder, 2014; United Nations, 2011), because it often accompanies a lack of awareness on the rights of people with a disability (KNCHR, 2014).

Merging Disability and HIV-Positive Status

According to the authors of KNCHR (2014) the State is required to "provide health care of the same quality to persons with disabilities as to others" (KNCHR, 2014, p. 23), but there is little research to show to what degree needs are mainstreamed for those living with a disability (Groce et al., 2013; Njelesani et al., 2015; Rohwerder,

2014). For example, Njelesani et al. (2015) reported a triple burden for a sample of 21 Zambian people living with HIV/AIDS and a disability, who struggled with their disability, their need for work, and their HIV-positive status. Furthermore, many women who have accessed reproductive health services have reported being treated disrespectfully due to their disability status (KNCHR, 2014; Tanabe et al., 2015). Overall, women with a disability have reported poverty, lack of transportation, little to no modifications for disability (i.e., ramps, lower counters), and high cost of services as hinderances to accessing health care services (Cobley, 2012; KNCHR, 2014; Njelesani et al., 2015). Although men and women with disabilities are at similar increased risk of contracting HIV compared to the general population, women with disabilities are at a higher risk when compared to nondisabled men (DeBeaudrap et al., 2014). This further supports the gender inequalities that exist for women with a disability (Abuya et al., 2012; Gardner, 2013; KNCHR, 2014; Onsomu et al., 2015).

Social Support

Social support theory and the social network theory are two theories that relate to the independent study variables in this study, and each has been used throughout public health research (Glanz et al., 2015; Lakey & Cohen, 2000). As a construct, social support theory includes three theoretical perspectives: stress and coping, social constructionist (i.e., social cognition), and relationship (Lakey & Cohen, 2000). These constructs can be measured with a variety of survey tools. The current research study included Zimet et al.'s (1988) Multidimensional Scale of Perceived Social Support (MSPSS), a validated survey tool that has been used to measure an individual's source of support (family,

friends, significant other). The Interpersonal Support Evaluation List (ISEL) was used in its long-form, which is a 40-question survey instrument designed to assess perceived availability of four types of social support: appraisal, tangible, self-esteem, and belonging (Bauman et al., 2012; Lakey & Cohen, 2000; Mertz et al., 2014). Understanding which sources and types of social support are most effective in promoting HIV-related treatment seeking could help public health practitioners in their efforts to increase HIV-related treatment seeking by women with a disability.

Social support also relates to the broader community level, as social networks are formed. Social network theory has been used to examine a more complex approach that considers lasting change utilizing social support that is offered through these various relationship connections and through specific types of support (Bauman et al., 2012; Glanz et al., 2015; Liu et al., 2017). There are a multitude of social network types that can offer various types of social support (Christakis & Fowler, 2009), including those discussed in earlier literature (see Lakey & Cohen, 2000). Identifying utilized source and type of social support can help in the development of programs that promote treatment seeking using social networks (Christakis & Fowler, 2009; Glanz et al., 2015).

Source of social support. In 1988, social support was conceptualized using the MSPSS developed by Zimet et al. (1988). This model is used to ascertain perceived social support from one of three sources of support (family, friends, significant other) (Dahlem et al., 1991). The MSPSS is a validated research tool that has been used to assess levels of social support among various populations (Canty-Mitchell & Zimet, 2000; Dahlem et al., 1991; Hefner & Eisenberg, 2009; Williams, 2013; Zimet et al.,

1988). Similar questions to those asked on the MSPPS have been used to assess social support from various sources (Maman et al., 2014; Pichon et al., 2015; Sajjadi et al., 2015; Zimet et al., 1988).

Social support of family. Maman et al. (2014) conducted a qualitative in-depth interview study among 13 people living with HIV/AIDS (11 = female, 2 = male) in South Africa (Maman et al., 2014). They found that most often participants disclosed to a family member who helped them process their positive diagnosis and prepare them for disclosure to others (Maman et al., 2014). Participants reported the importance of gaining support of family, as it provided a sense of relief or freedom when they reached out to a family member for their initial disclosure (Maman et al., 2014). Reasons for not disclosing to family were related to fear of how the family members' health or emotion would be impacted by the disclosure (Maman et al., 2014). The researchers concluded that if individuals did not have the support of family, they might need help identifying other sources of social support (Maman et al., 2014).

Social support of family and friends. Pichon et al. (2015) reported that there was a positive relationship, identified in previous research, between social support of family and friends and health outcomes for those living with HIV (Pichon et al., 2015). Their study focused on exploring HIV medication adherence and support from family, friends, and church members. The study was conducted in partnership with Mid-South USA Ryan White Program clients who received antiretroviral treatment in the previous 12-month period (n = 216; Pichon et al., 2015). With 94% of participants reporting that they had disclosed their status to someone, stigma was not statistically significant in relation to

treatment adherence. However, respondents cited stigma related to their HIV status to statements such as, “thought other people were uncomfortable being with you” (43.1%) and “feared you would lose friends if they learned of your diagnosis” (39.8%; Pichon et al., 2015). Previous research conducted by George et al. (2009) revealed connections between social support and HIV treatment adherence (indicator of treatment seeking), but Pichon et al. (2015) did not find a significant connection when considering this variable (George et al., 2009; Pichon et al., 2015). Further investigation of the relationships between source of social support and HIV-related treatment seeking could yield findings that support or disprove significant connections between the variables in a unique population of HIV-positive women.

Social support of significant other. Social support from a significant other has also been found to be of importance; however, it is not always the case for disclosure of HIV status (Maman et al., 2014; Williams, 2013). Additionally, if a partner/spouse is not providing emotional or financial support, it can create additional stressors that negatively impact the relationship (KNCHR, 2014). When this happens, a woman might perceive a lack of social support from her significant other. Further, fear of stigma, retribution, or violence against her for her positive HIV status might reduce a woman’s tendency to disclose and engage her partner in her HIV-related treatment seeking (Abuya et al., 2012; KNCHR, 2014; Maman et al., 2014; Turan et al., 2011).

Many Kenyan families have trouble accepting a family member with a disability due to cultural stigmas that are still prevalent in their culture (KNCHR, 2014; United Nations, 2011). Adding an HIV-positive status could create greater distress in the family

can add to feelings of isolation between the disabled member and the non-disabled family members (KNCHR, 2014; United Nations, 2011). If the woman is also reluctant to reach out to a significant other, this could further isolate her from support that could potentially increase her HIV-related treatment seeking. Using the MSPSS to survey HIV-positive Kenyan women with disability will add to the present literature by providing researchers an opportunity to examine which sources of social support are most predictive of HIV-related treatment seeking.

Types of Social Support

The literature has shown that there are several types of social support (Bauman et al., 2012; Cohen, & Hoberman, 1983). Cohen and Hoberman (1983) conceptualized four types of support resources to include: 1), tangible or practical support; 2), appraisal or informational support; 3), esteem support; and 4), belonging support (Bauman et al., 2012; Lakey & Cohen, 2000). While many studies have utilized this model, the research findings of Bauman et al. (2012) revealed that among battered women, social support might be best assessed as a unidimensional construct versus a multidimensional one (Bauman et al., 2012). The researchers concluded that it might be the amount of perceived social support rather than the type of support available that makes a difference in help-seeking among this at-risk group of women (Bauman et al., 2012). Other research supports that specific types of support (appraisal, tangible, esteem, belonging) are found statistically related to mental health and health promoting behaviors, including treatment seeking and adherence (Beutel et al., 2017; Lakey & Cohen, 2000).

Tangible support. Tangible support is based on practical support (i.e., material aid, behavioral assistance) (Beutel et al., 2017; Lakey & Cohen, 2000). According to the research of Beutel et al. (2017), emotional-informational and tangible types of support are associated with levels of distress, physical and mental well-being, and health behaviors (Beutel et al., 2017). The study analysis utilized a 3-item subset and found no statistical correlation between having a partner and reported tangible support (Beutel et al., 2017). According to Beutel et al. (2017), those in a partnership were more likely to report emotional-informational support over tangible support. The authors projected in discussion that the relevance of emotional-informational and tangible support might have been explained by situational or inter-individual differences (Beutel et al., 2017). Understanding the connection between tangible support, source support, and HIV-related treatment seeking, among the current study population, could direct future interventions that promote tangible aid and assistance to increase HIV-related treatment.

Appraisal support. Lakey and Cohen (2000) reported on appraisal as the type of social support that is related to an individual's ability to interpret stressful situations in a less negative light (Lakey & Cohen, 2000). The authors describe two types of appraisal support: 1), primary, which judges whether an event is a threat; and 2), secondary, which is an evaluation of the availability of personal and social resources to cope with the event (Lakey & Cohen, 2000). The research of Mazzoni and Cicognani (2011) explored social support and health among patients with systemic lupus erythematosus, a severe autoimmune rheumatic disease (Mazzoni & Cicognani, 2011). The researchers used the ISEL instrument to measure social support and its relationship to disease activity, disease

damage, and quality of life. The findings revealed that appraisal support was associated with decreased disease activity. Further, Beutel et al. (2017) found no statistical relationship between support of a partner and tangible (material) support, but the findings did reveal a correlation between support of a partner and emotional-informational (that related to appraisal) support (Bauman et al., 2012; Beutel et al., 2017; Lakey & Cohen, 2000). Women with a disability have reported social support to assist in buffering stressful situations, such as those common to poverty, stigma, and decreased health (KNCHR, 2014). Therefore, examining perceived appraisal support as a predictor of treatment seeking offers information that might be useful for reducing disease activity by providing appropriate appraisal support that encourages HIV-related treatment seeking, if indicated.

Self-esteem and belonging support. The research of Sirri et al. (2011) revealed that self-esteem and belonging support were significant among long-term survivors of cardiac transplant (Sirri et al., 2011). Specifically, those with low levels of depression and reporting as married or living as married, showed significant association with increased ISEL self-esteem ($p=<0.001$ and $p=0.038$) and belonging support ($p=0.03$ and $p=0.008$; Sirri et al., 2011). Marriage and long-term commitment with a partner are not as common among Kenyan women with a disability versus those without disability (KNCHR, 2014). Including an assessment of potential interactions between the variables of self-esteem and belonging supports, source of social support, and their potential prediction on treatment seeking, could be enlightening for future interventions aimed to promote engagement in HIV-related treatment.

Treatment Seeking

There is a fair amount of research literature on sources and types of social support and how they might influence health or health behaviors, including that of treatment seeking (George et al., 2009; Kamau, Olson, Zipp, & Clark, 2012; Mazzoni, & Cicognani, 2011; Pichon et al., 2015). For example, the research of Mazzoni and Cicognani (2011) looked at social support and health among patients with systemic lupus erythematosus, finding a connection between social support and disease activity (Mazzoni, & Cicognani, 2011). In Pichon et al. (2015), of the 94% reported to have participated in HIV-ARV treatment in the previous year, 43% (n=74) reported that they received support or reminders for medication adherence and completed all doses over a 7-day period. This was in comparison to 57% (n=97) who did not report having support yet also completed all doses over a 7-day period (Pichon et al., 2015). In the latter study, the findings contradicted previous research findings that supported social support as a significant factor in treatment seeking and adherence (George et al., 2009; Pichon et al., 2015). In a meta-analysis of social support and HIV-related risk behaviors, the researchers reported that future work should focus on the connections between social support and HIV treatment and care (Qiao et al., 2014). Thus, further exploration of perceived social support (source and type) from others and HIV-related treatment seeking behaviors should be further initiated among high-risk populations, such as Kenyan women with disabilities. This could help to address the need for early engagement in HIV-related treatment as reported in Kako et al. (2013).

The conditions for Kenyan women with a disability are improving; however, challenges remain due to poverty and stigma related to their disability (KNCHR, 2014; Rohwerder, 2014; United Nations, 2011). This is further compounded by a positive HIV status that brings additional hardships (i.e., financial, health, stigma; Groce et al., 2013; KNCHR, 2014; Rohwerder, 2014; UNAIDS, 2017). Social support has been found useful in addressing issues related to disability and HIV/AIDS coping (George et al., 2009; Maman et al., 2014; Pichon et al., 2015; UNAIDS, 2017). However, the research is limited and has yet to examine the significance of source and type of social support on HIV-related treatment seeking among this vulnerable population. Utilizing established theoretical frameworks found in the research literature allows the current researcher to examine social support to ascertain information that builds on past research findings (Kako et al., 2013; Maman et al., 2014; Qiao et al., 2014; UNAIDS, 2017).

Summary

The following chapter describes how source and type social support were utilized for this research study. The details of the research questions and methodology used are discussed in detail with the study design, hypotheses and procedures delineated, and instrumentation descriptions provided.

Chapter 3: Research Method

Introduction

Uncertainty creates stress for those living with HIV (KNCHR, 2014; Sajjadi et al., 2015), especially when meaning cannot be determined for illness-related events. There are several factors that impact an individual's level of illness uncertainty, including complex treatment schedules, ambiguous symptoms, and fear of stigma related to the disease (Sajjadi et al., 2015). Social support (e.g., public networks, friends, and others) is a significant indicator of illness uncertainty related to HIV/AIDS outcomes (e.g. HIV-related disability, mortality; Sajjadi et al., 2015).

The purpose of the study was to examine how the perceived social support of HIV-positive Kenyan women with disabilities correlated with HIV-related treatment seeking. The study measured HIV-related treatment seeking using the following categories: those who never sought treatment or sought it but quit after less than 6 months; those who sought treatment but with barriers (finances, transportation); and those who have sought treatment and will continue to do so with no barriers reported. Using the MSPSS (Zimet et al., 1988) and the ISEL (Cohen, & Hoberman, 1983), the connections that exist among an individual's source social support (family, friend, significant other), type social support (appraisal, tangible, self-esteem, belonging), and HIV-related treatment seeking were examined. Then how social support (source or type) and HIV-related treatment seeking are influenced by age, marital status, income availability, and disability type (blind, deaf, mobility, other) was investigated. This study adds to the existing literature as the information may be used to offer insights on how to utilize

source (family, friend, significant other) or type (appraisal, tangible, self-esteem, belonging) of social support to best promote HIV-related treatment seeking among this at-risk population of women. Further, examination of age, marital status, income availability, and disability type (blind, deaf, mobility, other) and their relationship to HIV-related treatment seeking may add greater insight for predicting treatment-seeking engagement.

Study Design and Ethical Considerations

The study involved a cross-sectional survey design. The survey instrument was constructed with questions from a variety of existing social support instruments published by Zimet et al. (1988) and Cohen and Hoberman (1983). Each participant gave written consent before participating, as stipulated by the institutional review board (IRB #10-26-18-0445808). For surveying the population, there were two challenges with utilizing paper-pencil survey methodology in data collection. For instance, physical impairment can hinder some participants from completing the survey on their own. This can be alleviated by having assistants to support those individuals with a mobility impairment. The second challenge was in those with a visual impairment who need to have an assistant read each question and the list of responses and document the participant's response (Williams, 2013).

For the current study, participants who reported being blind or with a mobility impairment that prevented them from responding on their own were aided by the researcher, who manually recorded their responses on the survey. Another issue was a potential language barrier. English and Kiswahili are the primary languages of Kenya.

However, due to the additional expense and time required to translate the survey into Kiswahili, one of the inclusion requirements was that the participants had to communicate in English. Each of the data collection sites had participants who identified as deaf or hearing impaired. A Kenyan certified sign language interpreter aided the participant during the data collection process. Each woman who participated received a small incentive of personal hygiene products, valued between 8 and 12 USD. Participants were also provided travel reimbursement (300 Kenyan Schillings) to help with transportation to and from the data collection sites.

Research Questions and Hypotheses

This study measured social support as follows: 1) scores for source social support included a source social support total score (family, friend, significant other combined score) and source social support each scores (family, friend, significant other individually scored) and 2) scores for type social support included a type social support total score (appraisal, tangible, self-esteem, belonging combined score) and type social support each scores (appraisal, tangible, self-esteem, belonging individually scored). The overall hypothesis stated that there is a positive correlation between the independent variables of social support (source or type) and the dependent variable of HIV-related treatment seeking, as measured by the survey instrument developed for this study. This study will seek to answer the following research questions:

Research Question 1: Is there a significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related

treatment seeking score? This question will be answered by testing the following hypothesis:

H_a1: There is a significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score.

H_01: There is no significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score.

Research Question 2: Are there significant positive correlations between the source social support each scores (family, friend, significant other individually) and the HIV-related treatment seeking score? This question will be answered by testing the following hypothesis:

H_a2: There are significant positive correlations between the source social support each scores (family, friend, significant other individually) and the HIV-related treatment seeking score.

H_02: There are no significant positive correlations between the source social support each scores (family, friend, significant other individually) and the HIV-related treatment seeking score.

Research Question 3: Is there a significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and

disability type? This research question will be answered by examining the following hypothesis:

H_a3: There is a significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type.

H_03: There is no significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type.

Research Question 4: Are there significant positive correlations between the source social support each scores (family, friend, significant other individually) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type? This research question will be answered by examining the following hypothesis:

H_a4: There are significant positive correlations between the source social support each scores (friend, family, significant other individually) and the HIV-related treatment seeking scores when adjusting for age, marital status, income availability, and disability type.

H_04: There are no significant positive correlations between the source social support each scores (family, friend, significant other individually) and the HIV-related

treatment seeking score when adjusting for age, marital status, income availability, and disability type.

Research Question 5: Is there a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score? This question will be answered by testing the following hypothesis:

H_a5: There is a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score.

H_05: There is no significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score.

Research Question 6: Are there significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score? This question will be answered by testing the following hypotheses:

H_a: There are significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score.

H_06: There are no significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score.

Research Question 7: Is there a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type? This research question will be answered by examining the following hypothesis:

H_a7: There is a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type.

H_07: There is no significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type.

Research Question 8: Are there significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type? This research question will be answered by examining the following hypothesis:

H_a8: There are significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type.

$H_0$8: There are no significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type.

Methodology

Study Population and Sample

Participants in this study were selected using a convenience sampling technique of HIV-positive disabled women in Kenya. The participants represented various socioeconomic levels and came from provinces throughout Kenya, ranging from the East Coast Province to the Northwest Province. There were N = 83 consenting adult female participants in total. The first 46 participants were invited on behalf of the researcher by a Kenyan non-governmental organization, located in Gambogi, Kenya. They came from the Western counties of Kakamega and Vihiga. The second group of 31 participants came from the East Coast counties of Kilifi, Kwale, and Mombasa. Six of the 83 participants had to be excluded because they did not meet the inclusion criteria or did not choose to complete the study. The final sample was comprised of 77 participants who reported as being blind, deaf or hearing impaired, with mobility impairment, or other disability.

Instrumentation

The survey instrument for this study was a 61-question quantitative survey designed by the primary researcher. The survey consisted of four sections: demographic information, social support (source), social support (type), and HIV-related treatment seeking. Demographic inquiries related to age, county, marital status, income availability,

and disability type (blind, deaf, mobility, other). The study used the MSPSS to assess total source social support self-rating and each of three sources of social support (family, friends, significant other; Zimet et al., 1988). The ISEL multidimensional scale was used to assess the total type of social support self-rating and each of the four types of social support (appraisal, tangible, self-esteem, belonging) (Brookings, & Bolton, 1988; Cohen, & Hoberman, 1983). The HIV-related treatment seeking section examined whether participants had ever sought, or continued to obtain, treatment for their HIV-positive status.

Data variables and analyses. The demographics questions were those related to age, marital status, income availability, and disability type. County of residence and age were obtained through open-ended questions. Marital status was assessed with the statement, "I am…," with the participant choosing which category best fit their status: 1 = *single*, 2 = *married*, 3 = *divorced*, and 4 = *other*. Income availability was assessed with the question "Do you have a regular source of income?" with response categories 0 = *no regular income* and 1 = *regular source of income*, and an open-ended follow-up inquiry "If you have a regular income, about how much do you receive in a 30-day time (in Kenyan Shillings)?" Disability type was identified as one of the following: 1 = *blind*, 2 = *deaf or hearing impaired*, 3 = *mobility impairment*, or 4 = *other*.

Source social support. As reported in Williams (2013), the MSPSS (Zimet et al., 1988) is a previously validated research survey instrument comprised of 12 statements to which a respondent responds from 1 = *very strongly agree* to 7 = *very strongly disagree*. Using Cronbach's alpha of ≥.90, the instrument was shown to have internal reliability,

signifying that even with diverse samples, the instrument produced reliable data (Dahlem et al., 1991; Williams, 2013). The reliability, validity, and utility of this instrument were confirmed in Canty-Mitchell and Zimet (2000), when it was used to investigate the social support needs of a sample of 222 urban, largely African American, adolescents (Canty-Mitchell, & Zimet, 2000; Williams, 2013).

In this research study, using the MSPSS questionnaire, survey participants were asked to rate how they feel about each of twelve statements concerning social support on a scale from 1 = *very strongly agree* to 7 = *very strongly disagree*. In this study, source of social support total score, denoted SOCSPT, was a composite variable derived from three variables: family, friend, and significant other. For each of these three variables, the MSPSS questionnaire had four questions with responses ranging from 1 to 7 (i.e., Likert scale). Hence, the range of values for SOCSPT was 12 to 84, and the total score for each of these three variables (family, friend, significant other) ranged from 4 to 28, with higher scores representing less perceived support (Williams, 2013). The variable for social support provided from family members, denoted as SSFAM, was derived from participants' responses to four related statements: "My family really tries to help me," "I get the emotional help and support I need from my family," "I can talk about my problems with my family," and "My family is willing to help me make decisions." The variable for social support provided from friends, denoted as SSFR, was derived from four related statements: "My friends really try to help me," "I can count on my friends when things go wrong," "I have friends with whom I can share my joys and sorrows," and "I can talk about my problems with my friends." Lastly, the variable for social

support provided by a significant other, denoted as SSSO, was derived from the following four related statements: “There is a special person who is around when I am in need,” “There is a special person with whom I can share my joys and sorrows,” “I have a special person who is a real source of comfort to me,” “There is a special person in my life who cares about my feelings.”

Type social support. The ISEL is a multidimensional instrument that was designed to assess perceived availability of four types of social support (appraisal, tangible, self-esteem, and belonging; Bauman, Haag, Kaltman, & Dutton, 2012). The ISEL was utilized to assess an overall perceived social support measure, along with perceived availability of four distinct types of social support (Cohen & Hoberman, 1983). The subscale *appraisal* assessed the perceived availability of someone to talk to about one’s problems. The subscale *tangible* was used to measure perceived availability of material assistance (e.g., financial, material good). The *self-esteem* subscale assessed the degree of positivity of one’s relative self-image when comparing one’s self to others (Cohen & Hoberman, 1983). The subscale *belonging* assessed perceived availability of people with whom one can do things (Cohen & Hoberman, 1983).

This survey asked participants to rate how they feel about each of forty statements concerning type social support and belongingness on a scale from 1= *definitely false*, 2 = *probably false*, 3 = *probably true*, to 4 = *definitely true* (ISEL, n.d.). The instrument was used for a confirmatory factor analysis of the ISEL among 133 college students (Brookings & Bolton, 1988). The findings of the four-factor model revealed a rational fit to the data and the large correlations were indicative of a general, second-order social

support factor (Brookings & Bolton, 1988). When the instrument was scored as a unidimensional measure, it was determined that it might result in the loss of unique information within the four subscales (Brookings & Bolton, 1988). The findings supported following Cohen and Hoberman's procedure of analyzing ISEL for a total score and subscale scores (Brookings & Bolton, 1988; Cohen & Hoberman, 1983).

In this study, type of social support total score, denoted TYPSPT, was a composite variable derived from four variables: appraisal, tangible, self-esteem, and belonging. These four variables were denoted as SSAPP, SSTAN, SSEST, and SSBEL, respectively. For each of these four variables, the ISEL questionnaire, shown in Table 1, had ten questions with responses ranging from 1 to 4 (i.e. Likert scale). Half the items were positive statements about social relationships. For example, "There are several people that I trust to help solve my problems." The other half of the statements were presented as negative. For example, "I don't often get invited to do things with others." The negative statements were reverse coded for consistency in reporting the statistical findings. This means that the total for any one of these four variables ranged from 10-40 with higher scores representing more perceived support; the range of values for TYPSPT was 40-160.

Table 1

Type of Social Support Variables

Appraisal
There are several people that I trust to help solve my problems.
There is no one that I feel comfortable to talking about intimate personal problems.
There really is no one who can give me an objective view of how I'm handling my problems.
I feel that there is no one I can share my most private worries and fears with.
There is someone I can turn to for advice about handling problems with my family.
When I need suggestions on how to deal with a personal problem, I know someone I can turn to.
There is someone I could turn to for advice about making career plans or changing my job.
There really is no one I can trust to give me good financial advice.
If a family crisis arose, it would be difficult to find someone who could give me good advice about how to handle it.
The is at least one person I know whose advice I really trust.
Tangible
If I needed help fixing an appliance or repairing my car, there is someone who would help me.
If I needed a ride to the airport very early in the morning, I would have a hard time finding someone to take me.
If I were sick and needed someone (friend, family member, or acquaintance) to take me to the doctor, I would have trouble finding someone.
If I needed a place to stay for a week because of an emergency (for example, water or electricity out in my apartment or house), I could easily find someone who would put me up.
If I were sick, I could easily find someone to help me with my daily chores.
If I needed an emergency loan of $100, there is someone (friend, relative, or acquaintance) I could get it from.
If I had to go out of town for a few weeks, it would be difficult to find someone who would look after my house or apartment (the plants, pets, garden, etc.).
If I was stranded 10 miles from home, there is someone I could call who would come & get me.
It would be difficult to find someone who would lend me their car for a few hours.
If I needed some help in moving to a new house or apartment, I would have a hard time finding someone to help me.
Self-esteem
Most of my friends are more interesting than I am.
There is someone who takes pride in my accomplishments.
Most people I know think highly of me.
I think that my friends feel that I'm not very good at helping them solve their problems.
I am as good at doing things as most other people are.
In general, people do not have much confidence in me.
Most of my friends are more successful at making changes in their lives than I am.
I am more satisfied with my life than most people are with theirs.
I am closer to my friends than most other people are to theirs.
I have a hard time keeping pace with my friends.
Belonging
When I feel lonely, there are several people I can talk to.
I often meet or talk with family or friends.
I feel like I'm not always included by my circle of friends.
There are several different people I enjoy spending time with.
If I wanted to go on a trip for a day (e.g., to the mountains, beach, or country), I would have a hard time finding someone to go with me.
If I decide one afternoon that I would like to go to a movie that evening, I could easily find someone to go with me.
Most people I know do not enjoy the same things that I do.
I don't often get invited to do things with others.
If I wanted to have lunch with someone, I could easily find someone to join me.
No one I know would throw a birthday party for me.

Note. From Cohen and Hoberman (1983)

Treatment seeking. The dependent variable of HIV-related treatment seeking measured whether the participants sought or engaged in treatment services for their HIV-positive status. It was a categorical variable with scores ranging from 1-6 where the lowest score indicated that no HIV-related treatment was sought, and the highest score represented active HIV-related treatment seeking for participant's HIV-positive status. This categorical dependent variable had six designated categories. The question for HIV-related treatment seeking level was stated, "Have you sought treatment for your positive HIV status?" Participants selected from the following categories: 1= *No, I have never wanted to seek treatment for my positive HIV status*, 2 = *No, I wanted to seek treatment but was unable to*, 3 = *Yes, I sought treatment for a brief time (under six-months) but was unable to continue treatment*, 4 = *Yes, I am currently engaging in treatment, but am uncertain how long I can continue due to financial barriers*, *5 = Yes, I am currently engaging in treatment, but am uncertain how long I can continue because it is difficult to physically get to the treatment services*, and 6 = *Yes, I sought and will continue to engage in treatment for my positive HIV status*.

For simplicity in the final analyses, the HIV-related treatment seeking dependent variable was recoded to reflect (TRT0 = *no HIV-related treatment seeking*) or started HIV-related treatment and received for less than 6-months before ceasing. TRT1 = *currently engaged in HIV-related treatment, but unsure how long they will continue to engage in treatment due to barriers*. These barriers were identified as related to finances or transportation. And, TRT2 = *currently engaged in HIV-related treatment and will*

continue. In the latter category, barriers were not identified as a possible deterrent to HIV-related treatment seeking.

Data Analysis Plan and Potential Threat to Validity

This quantitative study utilized data collected during the period from mid-November to mid-December 2018. In accordance with Walden University's IRB requirements, data (written and electronic) are stored for five years in a secured manner. The study and confidential data collection processes were approved by Walden University's Institutional Review Board and followed standard guidelines for ethical research conduct. Each participant had the ability to opt out of the survey at any time and still received the small incentive for participation. A local social services agency was available for counseling, if needed.

The preliminary statistical analyses performed on the data were descriptive and correlational. Descriptive analyses included calculation of frequency, mean, and standard deviation. This provided an overview of the population by generating descriptive statistical information on the independent, dependent, and control variables. Potential significant positive correlations between the independent variables of source (family, friend, significant other) social support and the dependent variable of HIV-related treatment seeking were tested for using bivariate correlational testing to assess hypotheses #1 and #2. Type (tangible, appraisal, self-esteem, belonging) social support variables were tested for potential significant positive correlations with the dependent variable of HIV-related treatment seeking. These were analyzed using bivariate correlational testing to assess hypotheses #5 and #6.

To analyze whether the independent variables (source social support, type social support) were predictive of the dependent variable (HIV-related treatment seeking), more extensive multiple regression tests were used. Specifically, multiple regressions tests were performed to analyze which values of source social support and type social support were predictive of HIV-related treatment seeking. These tests were performed controlling for the demographic characteristics of age, marital status, income availability, and disability type. The multiple regression analysis was used to assess hypotheses #3, #4, #7 and #8. SPSS statistical analysis software was used in data analysis processes. The level of statistical significance was set at $p \leq 0.05$.

To determine the power of this study a power test was conducted using G*Power statistical software. A one-tailed multiple linear regression using random effects with 11 parameters, a population multiple correlation coefficient of 0.05, a null multiple correlation coefficient of 0, a probability of a Type I error of 0.05, and 95% power requires a minimum sample size of 1084. Given that there were only 77 study participants, the power was found to be .218.

Chapter 4: Results

Demographic Results

Of the 83 women participants, six were excluded from the analyses because they did not meet the criteria or chose not to complete the survey. The sample was drawn from those identifying their residence as either the East Coast (Kilifi, Kwale, Mombasa Counties) or Western (Kakamega, Vihiga Counties) regions. However, there were more participants residing in the Western region, which made up (59.7%; *n* = 46) of the sample. The age range was from 19 to 69 years old with a mean age of 39 years. The highest number of study participants (37.7%; *n* = 29) identified their marital status as *married*. In terms of earnings, only (36.4%; *n* = 28) reported having a regular income with the mean monthly amount of 1427.27 Kenyan Shillings, equivalent to approximately 14.02 US Dollars. Most of the study participants (63.6%; *n* = 49) reported *no regular income*. Of the final sample of 77 participants, (11.7%; *n* = 9) identified themselves as *blind*; (5.2%; *n* = 4) as *deaf or hearing impaired*; (64.9%; *n* = 50) as having a *mobility impairment*, and (17.2 %; *n* = 14) as having *other disability*. Many reporting other category for disability self-disclosed that they were epileptic. Of those surveyed, (16.9%; *n* = 13) reported being disabled at birth, whereas most (83.1%; *n* = 64) reported acquiring their disability later in life. Frequencies of the sample, including county of residence, marital status, availability of income, and disability type are included in Table 2.

Table 2

Frequency of Demographic Characteristics

	n	%
Region		
Western Province		
Kakamega County	11	14.3
Vihiga County	35	45.5
East Coast Province		
Kilifi County	9	11.7
Kwale County	11	14.3
Mombasa County	11	14.3
Marital status		
Single	26	33.8
Married	29	37.7
Divorced	13	16.9
Widowed	8	10.4
Living with partner	1	1.3
Regular income		
No	49	63.6
Yes	28	36.4
Disability type		
Blindness	9	11.7
Deaf/Hearing impaired	4	5.2
Mobility	50	64.9
Other	14	17.2
Disabled at birth		
No	64	83.1
Yes	13	16.9

Descriptive Results for Study Variables

The descriptive statistics for the study variables are displayed in Table 3. Source (family, friend, significant other) and type (tangible, appraisal, self-esteem, belonging) social support were recoded so lower scores reflected a lower perceived level of source social support and type social support. Higher scores reflected a greater level of perceived social support. Therefore, the mean of 44.31 and the median of 43 on the 84-point scale for source social support indicated that most participants reported a below average amount of satisfaction with the amount of source social support they received. Further, the mean of 89.06 and the median of 90 on the 160-point scale for type social support

indicated that majority of participants reported a below average amount of satisfaction with the type of social support they received. It was also noted that the HIV-related treatment seeking scores were worded such that lower scores (1-2) reflected no HIV-related treatment seeking. Conversely, scores of 3-6 indicated that the respondent was receiving HIV-related treatment. Most participants (n = 72) engaged in HIV-related treatment seeking compared to (n = 5) who did not seek HIV-related treatment. All correlational and regression tests were one-sided, testing for a positive significance. Therefore, reports of significance equate with a positive significance, and reports of not significant equate with no positive significance found.

Table 3

Descriptive Statistics for Study Variables

Variable N = 77	Mean	Standard Deviation	Theoretical Range	Actual Range
Source Social Support Total Score (SOCSPT)	44.31	16.62	12-84	16-80
Family support (SS-FAM)	14.57	7.97	4-28	4-28
Friend support (SS-FR)	12.17	7.25	4-28	4-27
Significant other support (SS-SO)	17.57	8.25	4-28	4-28
Type Social Support Total Score (TYPSPT)	89.06	21.64	40-160	56-133
Appraisal support (SSAPP)	24.78	8.35	10-40	11-40
Tangible support (SSTAN)	12.39	7.04	10-40	12-39
Self-esteem support (SSEST)	20.86	4.77	10-40	13-36
Belonging support (SSBEL)	22.09	5.31	10-40	14-34

Research Question 1

Hypotheses #1 addressed the first research question: Is there a significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score? Hypothesis 1 stated that there is

a significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score. Bivariate correlations showed no significant positive correlation between levels of source of social support total score (SOCSPT) and HIV-related treatment seeking. There was no significant positive correlation between social support total score (r = .033, *p* = .387) and no HIV-related treatment seeking (TRT0). There was also no significant positive correlation between social support total score (r = -.151, *p* = .095) and HIV-related treatment seeking with barriers (TRT1). Lastly, there was no significant positive correlation between social support total score (r = .131, *p* = .128) and HIV-related treatment seeking with no barriers (TRT2).

Research Question 2

Hypothesis #2 addressed the second research question: Are there significant positive correlations between the source social support each scores (family, friend, significant other individually) and the HIV-related treatment seeking score? Hypothesis #2 stated there are significant positive correlations between the source social support each scores (family, friend, significant other individually) and the HIV-related treatment seeking score. Bivariate correlations showed no significant positive correlation between levels of source social support each scores and HIV-related treatment seeking. There was no significant positive correlation between social support from family (SSFAM; r = -.012, *p* = .458); social support from a friend (SSFR; r = .008, *p* = .471); or social support from a significant other (SSSO; r = .072, *p* = .268) and the no HIV-related treatment seeking variable (TRT0). There was also no significant positive correlation between each

score of source support for social support from family (SSFAM; r = -.009, *p* = .470); social support from a friend (SSFR; r = -.055, *p* = .316); or social support from a significant other (SSSO; r = -.247, *p* = .015) and HIV-related treatment seeking with barriers (TRT1; finances, transportation) that could deter treatment engagement.

Bivariate correlations also show one significant positive correlation between levels of source social support each scores and the HIV-related treatment seeking with no barriers (TRT2). There was no significant positive correlation between source support each scores for support from family (SSFAM; r = .015, *p* = .450) or social support from a friend (SSFR; r = .050, *p* = .333) and HIV-related treatment seeking with no barriers. However, there was a significant positive correlation between social support from a significant other (SSSO; r = .206, *p* = .036) and HIV-related treatment seeking with no barriers.

Research Question 3

Hypothesis #3 addressed the third research question: Is there a significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type? Hypothesis #3 that stated there is a significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type. For this test, the HIV-related treatment seeking score was used as the dependent variable, and source social support total score was used as the independent variable. It is a multinomial model

in which HIV-related treatment seeking with no barriers (TRT2) was the reference level. The choice of HIV-related treatment seeking with no reported barriers was arbitrary and was selected by the statistical software (SPSS). Equivalent models can be obtained using other values of HIV-related treatment seeking as the reference level. Age, marital status, income, and disability type variables were included in the regression model as control variables. The results are shown in Tables 4 and 5.

As shown in Table 4, source social support total score (SOCSPT) had a beta score of .021 ($p = .587$) and was not positively significant at $p < 0.05$ level. Thus, it was not a significant positive predictor of no HIV-related treatment seeking (TRT0). This indicated that if individuals had a low or high level of source social support total score, they were not any more or less likely to not engage in HIV-related treatment seeking. Also noted was that age, marital status, income, and disability types were not significant positive predictors of no HIV-related treatment seeking.

Table 4

Source Social Support Total Score and Participant Demographics as Predictors of No HIV-Related Treatment Seeking

Predictor	β	SE	Sig.
Social support total score (SOCSPT)	.021	.039	.587
Age	-.046	.051	.367
Marital Status			
Divorced	2.716	1.886	.150
Living with a partner	-.284	.000	.
Married	-2.052	1.880	.275
Single	-1.624	1.863	.383
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	-1.549	1.397	.267
Disability Type			
Blind	18.793	1397.105	.989
Blind/Mobility	1.948	8804.307	1.000
Deaf	1.209	4080.281	1.000
Mobility	16.852	1397.104	.990
Other	0[b]	.	.

Note. SOCSPT=social support total score. The dependent variable was no HIV-related treatment seeking score (TRT0), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

As shown in Table 5, social support total score (SOCSPT) had a beta of -.029 (p = .129) and was not positively significant at the $p < 0.05$ level. Thus, social support total score was not a significant positive predictor of HIV-related treatment seeking with barriers (TRT1). This indicated that if individuals had either a low or high level of social support total score, they were not any more or less likely to engage in HIV-related treatment seeking with reported barriers (finances, transportation). Also noted was that age, marital status, and income were not significant positive predictors of HIV-related treatment seeking with reported barriers. However, disability type was found to be a significant positive predictor of HIV-related treatment seeking with reported barriers.

Specifically, being blind had a beta score of 3.246 (p = .008) and was positively significant at the $p < 0.05$ level. Also, having a mobility disability had a beta score of 1.810 (p = .048). This indicates that those individuals that reported being blind or having a mobility disability were significantly more likely to engage in HIV-related treatment seeking with reported barriers.

Table 5

Social Support Total Score and Participant Demographics as Predictors of HIV-Related Treatment Seeking with Barriers

Predictor	β	SE	Sig.
Social support total score (SOCSPT)	-.029	.019	.129
Age	-.019	.027	.494
Marital Status			
Divorced	2.667	1.392	.055
Living with a partner	17.091	3510.317	.996
Married	.468	1.049	.656
Single	.672	1.072	.531
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	.831	.642	.196
Disability Type			
Blind	3.246	1.227	.008
Blind/Mobility	-14.334	3609.469	.997
Deaf	-14.008	1695.186	.993
Mobility	1.810	.915	.048
Other	0[b]	.	.

Note. SOCSPT=social support total score. The dependent variable was HIV-related treatment seeking with barriers (TRT1), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

Research Question 4

Hypotheses #4 addressed the fourth research question: Are there significant positive correlations between source social support each scores (family, friend, significant other individually) and the HIV-related treatment seeking score when

adjusting for age, marital status, income availability, and disability type? Hypothesis #4 stated that there are significant positive correlations between the source social support each scores (friend, family, significant other individually) and the HIV-related treatment seeking scores when adjusting for age, marital status, income availability, and disability type. For this test, treatment seeking score was used as the dependent variable, and social support each score (family = SSFAM, friend = SSFR, significant other = SSSO) was used as an independent variable. It was a multinomial model in which HIV-related treatment seeking with no barriers (TRT2) was the reference level. Age, marital status, income, and disability type variables were included in the regression model as control variables. The test results are presented in Tables 6 through 11.

As shown in Table 6, social support from family (SSFAM) had a beta of .003 (p = .969) and was not positively significant at the $p < 0.05$ level. Thus, social support family score was not a significant positive predictor of HIV-related treatment seeking. This indicated that if individuals had either a low or high level of social support from family, they were not any less likely to engage in HIV-related treatment seeking. Also notable was that age, marital status, income, and disability type were not significant positive predictors of no HIV-related treatment seeking (TRT0).

Table 6

Social Support from Family and Participant Demographics as Predictors of No HIV-Related Treatment Seeking

Predictor	β	SE	Sig.
Social support from family (SSFAM)	.003	.079	.969
Age	-.043	.052	.404
Marital Status			
Divorced	2.362	1.862	.205
Living with a partner	-.236	.000	.
Married	-1.819	1.765	.303
Single	-1.415	1.786	.428
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	-1.515	1.381	.273
Disability Type			
Blind	18.353	1464.210	.990
Blind/Mobility	.540	8815.205	1.000
Deaf	.573	4193.446	1.000
Mobility	16.198	1464.209	.991
Other	0[b]	.	.

Note. SSFAM=social support from family score. The dependent variable was the no HIV-related treatment seeking score (TRT0), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

As shown in Table 7, social support from family score (SSFAM) had a beta of -.016 (p = .658) and was not positively significant at the $p < 0.05$ level. Thus, social support family score was not a significant positive predictor of HIV-related treatment seeking with barriers (finances, transportation; TRT1). This indicates that if individuals had either a low or high level of social support from family, they would not be any more or less likely to engage in HIV-related treatment seeking with barriers. Also notable is that age, marital status, and income were not significant positive predictors of HIV-related treatment seeking. Disability type was found to be a significant positive predictor of HIV-related treatment seeking. Specifically, being blind had a beta of 3.071 (p = .011)

and was positively significant at the $p < 0.05$ level. Further, having a mobility disability had a beta score of 1.865 ($p = .042$) and was positively significant at the $p < 0.05$. This indicates that those individuals that reported being blind or having a mobility disability were significantly more likely to engage in HIV-related treatment seeking with reported barriers.

Table 7

Social Support from Family and Participant Demographics as Predictors of HIV-Related Treatment Seeking with Barriers

Predictor	β	SE	Sig.
Social support from family (SSFAM)	-.016	.037	.658
Age	-.022	.027	.409
Marital Status			
Divorced	2.657	1.379	.054
Living with a partner	17.037	3510.317	.996
Married	.368	1.078	.733
Single	.648	1.095	.554
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	.862	.636	.175
Disability Type			
Blind	3.071	1.206	.011
Blind/Mobility	-13.559	36.09	.997
Deaf	-13.889	1765.368	.994
Mobility	1.865	.917	.042
Other	0[b]	.	.

Note. SSFAM=social support from family score. The dependent variable was HIV-related treatment seeking with barriers (TRT1), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

As shown in Table 8, social support from friend (SSFR) has a beta of -.008 ($p = .992$) and is not positively significant at the $p < 0.05$ level. Thus, social support friend score is not a significant positive predictor of no HIV-related treatment seeking (TRT0). This indicates that if individuals have either a low or high level of social support from

friend, they will be not be any more or less likely to engage in HIV-related treatment seeking. Also notable is that age, marital status, income, and disability type are not significant positive predictors of no HIV-related treatment seeking.

Table 8

Social Support from Friend and Participant Demographics as Predictors of No HIV-Related Treatment Seeking

Predictor	β	SE	Sig.
Social support from friend (SSFR)	-.008	.088	.992
Age	-.044	.051	.395
Marital Status			
Divorced	2.376	1.841	.197
Living with a partner	-.146	.000	.
Married	-1.809	1.741	.299
Single	-1.368	1.761	.437
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	-1.569	1.413	.267
Disability Type			
Blind	18.421	1452.457	.990
Blind/Mobility	.438	8813.260	1.000
Deaf	.561	4288.976	1.000
Mobility	16.184	1452.456	.991
Other	0[b]	.	.

Note. SSFR=social support from friend score. The dependent variable was no HIV-related treatment seeking score (TRT0), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

As shown in Table 9, social support from friend score (SSFR) had a beta of -.009 (p=.825) and was not positively significant at the $p < 0.05$ level. Thus, social support friend score was not a significant positive predictor of treatment seeking with reported barriers (finances, transportation) (TRT1). This indicated that if individuals had either a low or high level of friend support, they were not any more or less likely to engage in HIV-related treatment seeking with barriers. Also notable was that age, marital status,

and income were not significant positive predictors of HIV-related treatment seeking with barriers. Disability type was found to be a significant positive predictor of HIV-related treatment seeking with barriers. Specifically, being blind had a beta of 3.131 (p = .011) and was positively significant at the $p < 0.05$ level. Also, mobility had a beta score of 1.915 (p = .035) and was positively significant at the $p < 0.05$. This indicated that those individuals that reported being blind or having a mobility disability were significantly more likely to engage in HIV-related treatment seeking with barriers.

Table 9

Social Support from Friend and Participant Demographics as Predictors of HIV-Related Treatment Seeking with Barriers

Predictor	β	SE	Sig.
Social support from friend (SSFR)	-.009	.042	.825
Age	-.021	.027	.423
Marital Status			
Divorced	2.593	1.369	.058
Living with a partner	16.920	3510.317	.996
Married	.311	1.066	.770
Single	.605	1.089	.578
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	.788	.654	.228
Disability Type			
Blind	3.131	1.224	.011
Blind/Mobility	-13.484	3609.469	.997
Deaf	-13.801	1778.039	.994
Mobility	1.915	.908	.035
Other	0[b]	.	.

Note. SSFR=social support from friend score. The dependent variable was HIV-related treatment seeking with barriers (TRT1), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

As shown in Table 10, social support from significant other (SSSO) had a beta of .189 (p = .212) and was not positively significant at the $p < 0.05$ level. Thus, the social

support significant other score was not a significant positive predictor of no HIV-related treatment seeking (TRT0). This indicated that if individuals had either a low or high level of social support from a significant other, they were not any more or less likely to engage in no HIV-related treatment seeking. Also notable is that age, income, and disability type were not significant positive predictors of no HIV-related treatment seeking. However, marital status was found to be a significant positive predictor of no HIV-related treatment seeking. Specifically, being divorced had a beta of 4.498 (p = .048) and was positively significant at the $p < 0.05$ level. This indicated that those individuals that reported being divorced are significantly more likely to engage in no HIV-related treatment seeking.

Table 10

Social Support from Significant Other and Participant Demographics as Predictors of No HIV-Related Treatment Seeking

Predictor	β	SE	Sig.
Social support from significant other (SSSO)	.189	.151	.212
Age	-.081	.060	.178
Marital Status			
Divorced	4.498	2.273	.048
Living with a partner	2.018	.000	.
Married	-3.123	2.278	.170
Single	-2.820	2.311	.222
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	-2.774	1.857	.135
Disability Type			
Blind	21.589	1226.534	.986
Blind/Mobility	7.155	8778.857	.999
Deaf	4.589	3724.543	.999
Mobility	19.237	1226.531	.987
Other	0[b]	.	.

Note. SSSO=social support from significant other score. The dependent variable was no HIV-related treatment seeking score (TRT0), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

As shown in Table 11, the social support from significant other score (SSSO) has a beta of -.092 (p = .021) and was not positively significant at the $p < 0.05$ level. Thus, social support significant other score was not a significant positive predictor of HIV-related treatment seeking with barriers (finances, transportation; TRT1). This indicated that if individuals had either a low or high level of social support from a significant other, they were not any more or less likely to engage in HIV-related treatment seeking with barriers. Also notable was that age, marital status, and income were not significant positive predictors of HIV-related treatment seeking with barriers. Disability type was found to be a significant positive predictor of HIV-related treatment seeking with barriers. Specifically, being blind has a beta of 3.319 (p = .007) and was positively significant at the $p < 0.05$ level. Also, having a mobility disability had a beta score of 2.029 (p = .033) and is positively significant at the $p < 0.05$. This indicated that those individuals that reported being blind or having a mobility disability were significantly more likely to engage in HIV-related treatment seeking with barriers.

Table 11

Social Support from Significant Other and Participant Demographics as Predictors of HIV-Related Treatment Seeking with Barriers

Predictor	β	SE	Sig.
Social support from significant other (SSSO)	-.092	.040	.021
Age	-.013	.028	.639
Marital Status			
Divorced	2.486	1.434	.083
Living with a partner	16.239	3510.317	.996
Married	.502	1.063	.637
Single	.499	1.082	.645
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	1.029	.687	.134
Disability Type			
Blind	3.319	1.233	.007
Blind/Mobility	-14.511	3609.469	.997
Deaf	-14.293	1708.353	.993
Mobility	2.029	.950	.033
Other	0[b]	.	.

Note. SSSO=social support from significant other score. The dependent variable was HIV-related treatment seeking with barriers (TRT1), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

Research Question 5

Hypothesis #5 addressed the fifth research question: Is there a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score?

Hypothesis #5 stated that there is a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score. Bivariate correlations, as displayed in Table 16, show one significant positive correlation between levels of overall type of social support (TYPSPT) and HIV-related treatment seeking. There was no significant positive

correlation between type social support total score and the no HIV-related treatment seeking (TRT0) variable (r = .034, *p* = .386). There was no significant positive correlation between social support total score (r = -.476, *p* = .000) and the HIV-related treatment seeking with barriers (TRT1) variable. However, there was a significant positive correlation between type social support total score and the HIV-related treatment seeking with no barriers (TRT2) variable (r = .448, *p* = .000).

Research Question 6

Hypotheses #6 addressed the sixth research question: Are there significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score?

Hypothesis #6 stated that there are significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score. Bivariate correlations showed no significant positive correlation between type social support each score, including appraisal support (SSAPP; r = .020, *p* = .432); tangible support (SSTAN; r = -.035, *p* = .380); esteem support (SSEST; r = -.033, *p* = .489); or belonging support (SSBEL; r = .155, *p* = .089) and no HIV-related treatment seeking (TRT0).

Bivariate correlations showed no significant positive correlations between each score of type social support, including appraisal (SSAPP; r = -.509, *p* = .000); tangible (SSTAN; r = .436, *p* = .000); esteem (SSEST; r = -.356, *p* =.001); and belonging (SSBEL; r = -.242, *p* = .017) and HIV-related treatment seeking with barriers (finances, transportation; TRT1) that could deter continued treatment engagement.

There were significant positive correlations between each score of type support for appraisal (SSAPP; r = .487, *p* = .000); tangible (SSTAN; r = .443, *p* = .000); and esteem (SSEST; r = .349, *p* = .001) and HIV-related treatment seeking (TRT2). However, there was no significant positive correlation between belonging social support (SSBEL; r = .159, *p* = .084) and HIV-related treatment seeking with no barriers.

Research Question 7

Hypothesis #7 addressed the seventh research question: Is there a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type?

Hypothesis #7 stated that there is a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type. For this test, HIV-related treatment seeking score was used as the dependent variable, and type social support total score (TYPSPT) was used as the independent variable. Again, it is a multinomial model in which HIV-related treatment seeking with no barriers (TRT2) was the reference level. The choice of HIV-related treatment seeking with no barriers was arbitrary and was selected by the software (SPSS). It should be observed that equivalent models can be obtained using other values of HIV-related treatment seeking as the reference level. Age, marital status, income availability, and disability type variables were included in the regression model as control variables. The results are presented in Tables 12 and 13.

As shown in Table 12, type social support total score (TYPSPT) had a beta score of .003 (p = .932) and was not positively significant at $p < 0.05$ level. Thus, it is not a significant positive predictor of no HIV-related treatment seeking (TRT0). This indicated that if individuals had a low or high level of type social support total score, they were not any more or less likely to not engage in HIV-related treatment seeking. Also noted was that age, marital status, income, and disability types were not significant positive predictors of no HIV-related treatment seeking.

Table 12

Type Social Support Total Score and Participant Demographics as Predictors of No HIV-Related Treatment Seeking

Predictor	β	SE	Sig.
Type of social support total score (TYPSPT)	.003	.036	.932
Age	-.032	.053	.551
Marital Status			
Divorced	4.435	2.817	.115
Living with a partner	.092	.000	.
Married	-1.493	1.801	.407
Single	-1.177	1.792	.511
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	-1.370	1.434	.339
Disability Type			
Blind	20.349	1344.163	.988
Blind/Mobility	2.520	8796.061	1.000
Deaf	2.476	4331.867	1.000
Mobility	18.161	1344.160	.989
Other	0[b]	.	.

Note. TYPSPT=type social support total score. The dependent variable was no HIV-related treatment seeking score (TRT0), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

As shown in Table 13, type of social support total score (TYPSPT) had a beta score of -.073 (p = .000) and was not positively significant at < 0.05 level. Thus, it was

not a significant positive predictor of HIV-related treatment seeking with barriers (TRT1). This indicated that if individuals had a low or high level of type social support total score, they were not be any more or less likely to not engage in treatment seeking. Also noted is that age, marital status, and income were not significant positive predictors of HIV-related treatment seeking with barriers. Disability type was found to be a significant positive predictor of HIV-related treatment seeking. Specifically, being blind had a beta of 2.765 ($p = .031$) and was positively significant at the $p < 0.05$ level. Also, having a mobility disability had a beta score of 2.469 ($p = .019$) and was positively significant at the $p < 0.05$ level. This indicated that those individuals that reported being blind or having a mobility disability were significantly more likely to engage in HIV-related treatment seeking with barriers.

Table 13

Type Social Support Total Score and Participant Demographics as Predictors of HIV-Related Treatment Seeking with Barriers

Predictor	β	SE	Sig.
Type of social support total score (TYPSPT)	-.073	.021	.000
Age	-.014	.033	.671
Marital Status			
Divorced	3.812	2.383	.110
Living with a partner	15.141	3510.317	.997
Married	.233	1.102	.832
Single	.436	1.132	.700
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	1.252	.766	.102
Disability Type			
Blind	2.765	1.281	.031
Blind/Mobility	-13.533	3609.469	.997
Deaf	-13.818	1438.870	.992
Mobility	2.469	1.055	.019
Other	0[b]	.	.

Note. TYPSPT=type of social support total score. The dependent variable was HIV-related treatment seeking score (TRT1), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

Research Question 8

Hypotheses #8 addressed the eighth research question: Are there significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type?

Hypothesis #8 stated that there are significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type. For this test, HIV-related treatment seeking score

was used as the dependent variable, and type social support each score (appraisal = SSAPP, tangible = SSTAN, self-esteem = SSEST, belonging = SSBEL) was used as the independent variable. It is a multinomial model in which treatment seeking with no barriers (TRT2) was the reference level. In addition, age, marital status, income, and disability type variables were included in the regression model as control variables. The test results are presented in Tables 14 through 21.

As shown in Table 14, appraisal social support (SSAPP) had a beta of -.049 (p = .610) and was not positively significant at the $p < 0.05$ level. Thus, appraisal social support score was not a significant positive predictor of no HIV-related treatment seeking (TRT0). This indicated that if individuals had either a low or high level of appraisal social support, they were not any more or less likely to engage in HIV-related treatment seeking. Also notable was that age, marital status, income, and disability type were not significant positive predictors of HIV-related treatment seeking.

Table 14

Social Support Appraisal Score and Participant Demographics as Predictors of No HIV-Related Treatment Seeking

Predictor	β	SE	Sig.
Appraisal social support (SSAPP)	-.049	.096	.610
Age	-.035	.055	.521
Marital Status			
Divorced	3.855	2.772	.164
Living with a partner	-.660	.000	.
Married	-1.763	1.915	.357
Single	-1.359	1.959	.488
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	-1.420	1.444	.325
Disability Type			
Blind	19.429	1405.557	.989
Blind/Mobility	1.423	8805.652	1.000
Deaf	1.768	4488.207	1.000
Mobility	17.404	1405.555	.990
Other	0[b]		

Note. SSAPP=appraisal social support score. The dependent variable was no HIV-related treatment seeking (TRT0), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

As shown in Table 15, appraisal social support score (SSAPP) had a beta of -.208 (p = .000) and was not positively significant at the $p < 0.05$ level. Thus, appraisal social support score was not a significant positive predictor of HIV-related treatment seeking with barriers (finances, transportation; TRT1). This indicated that if individuals had either a low or high level of social support from a significant other, they were not any more or less likely to engage in HIV-related treatment seeking with barriers. Also notable was that age, marital status, and income were not significant positive predictors of HIV-related treatment seeking with barriers. Disability type was found to be a significant positive predictor of HIV-related treatment seeking. Specifically, being blind had a beta

of 2.958 (p = .023) and was positively significant at the $p < 0.05$ level. Also, having a mobility disability had a beta score of 2.352 (p = .027) and was positively significant at the $p < 0.05$. This indicated that those individuals that reported being blind or having a mobility disability were significantly more likely to engage in HIV-related treatment seeking with barriers (finances, transportation).

Table 15

Appraised Social Support and Participant Demographics as Predictors of HIV-Related Treatment Seeking with Barriers

Predictor	β	SE	Sig.
Appraisal social support score (SSAPP)	-.208	.056	.000
Age	-.22	.035	.528
Marital Status			
Divorced	3.271	2.161	.130
Living with a partner	14.954	3510.317	.997
Married	-.066	1.174	.955
Single	-.246	1.228	.841
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	1.040	.776	.180
Disability Type			
Blind	2.958	1.299	.023
Blind/Mobility	-13.673	3609.469	.997
Deaf	-14.618	1395.040	.992
Mobility	2.352	1.066	.027
Other	0[b]	.	.

Note. SSAPP=appraisal social support. The dependent variable was HIV-related treatment seeking with barriers (TRT1), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

As shown in Table 16, tangible social support (SSTAN) has a beta of -.027 (p = (p = .810) and was not positively significant at the $p < 0.05$ level. Thus, tangible social support score was not a significant positive predictor of no HIV-related treatment seeking (TRT0). This indicated that if individuals had either a low or high level of tangible social

support, they were not any more or less likely to engage in HIV-related treatment seeking. Also notable was that age, marital status, income, and disability type were not significant positive predictors of no HIV-related treatment seeking.

Table 16

Tangible Social Support and Participant Demographics as Predictors of No HIV-Related Treatment Seeking

Predictor	β	SE	Sig.
Tangible social support score (SSTAN)	-.027	.112	.810
Age	-.038	.052	.459
Marital Status			
Divorced	4.207	2.653	.113
Living with a partner	-.251	.000	.
Married	-1.783	1.751	.308
Single	-1.421	1.897	.454
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	-1.532	1.507	.309
Disability Type			
Blind	19.916	1368.982	.988
Blind/Mobility	2.078	8799.888	1.000
Deaf	2.224	4390.306	1.000
Mobility	17.795	1368.979	.990
Other	0[b]	.	.

Note. SSTAN=tangible social support score. The dependent variable was the no HIV-related treatment seeking score (TRT0), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

As shown in Table 17, tangible social support score (SSTAN) had a beta of -.225 (p = .001) and was not positively significant at the $p < 0.05$ level. Thus, tangible social support score was not a significant positive predictor of HIV-related treatment seeking with barriers (finances, transportation; TRT1). This indicated that if individuals had either a low or high level of tangible social support, they were not any more or less likely to engage in HIV-related treatment seeking with barriers. Also notable was that age,

marital status, and income were not significant positive predictors of HIV-related treatment seeking. Disability type was found to be a significant positive predictor of HIV-related treatment seeking with barriers. Specifically, being blind had a beta of 2.448 (p = .047) and was positively significant at the $p < 0.05$ level. Also, having a mobility disability had a beta score of 2.100 (p = .039) and was positively significant at the $p <$ 0.05. This indicated that those individuals that reported being blind or having a mobility disability were significantly more likely to engage in HIV-related treatment seeking with barriers (finances, transportation; TRT1).

Table 17

Tangible Social Support and Participant Demographics as Predictors of HIV-Related Treatment Seeking with Barriers

Predictor	β	SE	Sig.
Tangible social support score (SSTAN)	-.225	.066	.001
Age	-.019	.033	.551
Marital Status			
Divorced	4.592	2.389	.055
Living with a partner	16.555	3510.317	,996
Married	.653	1.169	.577
Single	1.273	1.199	.288
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	1.309	.753	.082
Disability Type			
Blind	2.448	1.231	.047
Blind/Mobility	-12.738	3609.469	.997
Deaf	-13.181	1508.537	.993
Mobility	2.100	1.015	.039
Other	0[b]		

Note. SSTAN=tangible social support. The dependent variable was HIV-related treatment seeking with barriers (TRT1), and the reference category was HIV-related treatment seeking with no barriers (TRT2).

As shown in Table 18, self-esteem social support (SSEST) had a beta of .044 (p = .766) and was not positively significant at the $p < 0.05$ level. Thus, self-esteem social support score was not a significant positive predictor of no HIV-related treatment seeking (TRT0). This indicated that if individuals had either a low or high level of self-esteem social support, they were not any more or less likely to engage in no HIV-related treatment seeking. Also notable is that age, marital status, income, and disability type were not significant positive predictors of no HIV-related treatment seeking.

Table 18

Self-Esteem Social Support and Participant Demographics as Predictors of No HIV-Related Treatment Seeking

Predictor	β	SE	Sig.
Self-esteem social support (SSEST)	.044	.146	.766
Age	-.040	.055	.461
Marital Status			
Divorced	3.569	2.309	.122
Living with a partner	.148	.000	.
Married	-1.767	1.849	.339
Single	-1.318	1.832	.472
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	-1.535	1.411	.277
Disability Type			
Blind	20.239	1327.340	.988
Blind/Mobility	2.496	8793.506	1.000
Deaf	2.226	4233.984	1.000
Mobility	17.946	1327.337	.989
Other	0[b]	.	.

Note. SSEST=self-esteem social support. The dependent variable was no HIV-related treatment seeking score (TRT0), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

As shown in Table 19, self-esteem social support score (SSEST) had a beta of -.190 (p = .011) and was not positively significant at the $p < 0.05$ level. Thus, self-esteem

social support score was not a significant positive predictor of HIV-related treatment seeking with reported barriers (finances, transportation; TRT1). This indicated that if individuals had either a low or high level of self-esteem support, they were not any more or less likely to engage in HIV-related treatment seeking with barriers. Also notable is that age, marital status, and income are not significant positive predictors of HIV-related treatment seeking. Disability type was found to be a significant positive predictor of HIV-related treatment seeking with barriers. Specifically, being blind had a beta of 2.709 (p = .029) and was positively significant at the $p < 0.05$ level. Also, having a mobility disability had a beta score of 1.847 (p = .042) and was positively significant at the $p <$ 0.05. This indicated that those individuals that reported being blind or having a mobility disability were significantly more likely to engage in HIV-related treatment seeking with barriers.

Table 19

Self-Esteem Social Support and Participant Demographics as Predictors of HIV-Related Treatment Seeking with Barriers

Predictor	β	SE	Sig.
Self-esteem social support score (SSEST)	-.190	.075	.011
Age	-.008	.030	.794
Marital Status			
Divorced	3.064	1.780	.085
Living with a partner	16.297	3510.317	.996
Married	.379	1.099	.730
Single	.790	1.118	.480
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	.809	.669	.226
Disability Type			
Blind	2.709	1.237	.029
Blind/Mobility	-14.017	3609.469	.997
Deaf	-13.786	1701.180	.994
Mobility	1.847	.908	.042
Other	0[b]		

Note. SSEST=self-esteem social support. The dependent variable was HIV-related treatment seeking with barriers (TRT1), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

As shown in Table 20, belonging social support (SSBEL) had a beta of .068 (p = .560) and was not positively significant at the $p < 0.05$ level. Thus, belonging social support score was not a significant positive predictor of no HIV-related treatment seeking (TRT0). This indicated that if individuals had either a low or high level of belonging social support, they were not any more or less likely to engage in no HIV-related treatment seeking. Also notable was that age, marital status, income, and disability type were not significant positive predictors of no HIV-related treatment seeking.

Table 20

Belonging Social Support and Participant Demographics as Predictors of No HIV-Related Treatment Seeking

Predictor	β	SE	Sig.
Belonging social support score (SSBEL)	.068	.117	.560
Age	-.043	.053	.416
Marital Status			
Divorced	2.688	2.022	.184
Living with a partner	.411	.000	.
Married	-1.602	1.878	.394
Single	-1.232	1.851	.506
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	-1.400	1.394	.315
Disability Type			
Blind	18.500	1414.838	.990
Blind/Mobility	1.215	8807.138	1.000
Deaf	.830	3896.245	1.000
Mobility	16.444	1414.837	.991
Other	0[b]	.	.

Note. SSBEL=belonging social support. The dependent variable was no HIV-related treatment seeking score (TRT0), and the reference category was HIV-related treatment-seeking with no barriers (TRT2).

As shown in Table 21, belonging social support score (SSBEL) had a beta of -.122 (p = .045) and was not positively significant at the $p < 0.05$ level. Thus, belonging social support score was not a significant positive predictor of HIV-related treatment seeking with barriers (finances, transportation; TRT1). This indicated that if individuals had either a low or high level of belonging social support, they were not any more or less likely to engage in treatment seeking with barriers. Also notable was that age, marital status, and income were not significant positive predictors of HIV-related treatment seeking. Disability type was found to be a significant positive predictor of HIV-related treatment seeking with barriers. Specifically, being blind had a beta of 3.054 (p = .012)

and was positively significant at the $p < 0.05$ level. Also, having a mobility disability had a beta score of 2.232 ($p = .016$) and was positively significant at the $p < 0.05$. This indicated that those individuals that reported being blind or having a mobility disability were significantly more likely to engage in HIV-related treatment seeking with barriers (finances, transportation).

Table 21

Belonging Social Support and Participant Demographics as Predictors of HIV-Related Treatment Seeking with Barriers

Predictor	β	SE	Sig.
Belonging social support score (SSBEL)	-.122	.061	.045
Age	-.015	.028	.587
Marital Status			
Divorced	2.709	1.432	.059
Living with a partner	15.978	3510.317	.996
Married	.305	1.040	.769
Single	.466	1.066	.662
Widow	0[b]	.	.
Income			
Yes, income available	0[b]	.	.
No, income available	.970	.658	.140
Disability Type			
Blind	3.054	1.213	.012
Blind/Mobility	-13.748	3609.469	.997
Deaf	-13.796	1631.105	.993
Mobility	2.232	.926	.016
Other	0[b]	.	.

Note. SSBEL=belonging social support. The dependent variable was HIV-related treatment seeking with barriers (TRT1), and the reference category was treatment-seeking with no barriers (TRT2).

Summary

The following chapter will discuss the findings, as well as implications and recommendations for future study. Understanding the situation for HIV-positive Kenyan women with disabilities, their perceived levels of social support, and their HIV-related

treatment seeking, is critical to the development and implementation of effective health education and promotion efforts among this at-risk population.

Chapter 5: Discussion, Conclusions, and Recommendations

Discussion of Findings

Demographic Information

Statistical analyses of the survey data provided demographic information regarding age, marital status, availability of income, and disability type of the study sample. The sample included a split between women living in the East Coast Province and the Western Province of Kenya. Most of the women identified themselves as married, with single as the second largest marital status reported. Similar research has also indicated a majority of Kenyan women with a disability reporting being married as well as limited to no income availability (Kabia et al., 2018). Though poverty has reduced in the past decades—10% of the world's population living on less than 1.90 USD per day in 2015 compared to 36% at the extreme poverty level in 1990 (World Bank Group, 2019)—researchers have not determined if this trend will also be found in at risk populations, such as HIV-positive women with a preexisting physical disability. For example, in the current study, 63.6% of the sample population reported no regular source of income. Only slightly over one-third of the participants indicated having a regular income, with average monthly earnings of 1427 Kenyan Shillings, equivalent to approximately 14 USD per month. Most lived significantly below the extreme poverty level of 1.90 USD daily income, placing this population at a financial disadvantage (World Bank Group, 2019; World Health Organization, 2010).

Regarding disability type in the current study, individuals who reported being blind or having a mobility disability were more likely to report HIV-related treatment

seeking with barriers (TRT1) than those reporting a hearing or other disability types. Examples of barriers were “difficulty with transportation” and “limited or lack of finances.” This finding supports past research reporting that an extreme level of poverty hinders women with disabilities when it comes to treatment seeking (Cobley, 2012; Gitahi-Kamau et al., 2015; KNCHR, 2014; Opini, 2010; United Nations, 2011). This further supports the need for interventions to support impoverished Kenyan HIV-positive women with a preexisting disability (Cobley, 2012; Gitahi-Kamau et al., 2015; KNCHR, 2014; Opini, 2010; United Nations, 2011).

Findings Related to Hypotheses

Correlational and regression analyses of the current survey data add to the previous research by failing to reject the null hypotheses of the study. Results showed no significant positive correlation between social support and HIV-related treatment seeking. In the course of testing these hypotheses, disability type correlated with treatment-seeking with reported barriers (finances, transportation; TRT1).

The correlational results rejected Hypothesis #1, which stated that there is a significant positive correlation between the source social support total score (family, friend, significant other combined; SOCSPT) and the HIV-related treatment seeking score. Therefore, there was no significant positive correlation between these two variables. This finding was similar to previous research in which source social support, from family or friend, did not have a significant impact on HIV-related medical adherence, a component of treatment seeking (Pichon et al., 2015). Support from friends

or family has been shown to be peripheral and related to daily living tasks and not specifically to treatment seeking (Pichon et al., 2015).

Hypothesis 2 stated that there are significant positive correlations between the source social support each scores (family, friend, significant other individually) and the HIV-treatment seeking score. Results showed no significant positive correlation between each score of source social support, from family (SSFAM), from friend (SSFR), or from significant other (SSSO) and the no HIV-related treatment seeking variable (TRT0) or the HIV-related treatment seeking with reported barriers (finances, transportation; TRT1) variable. This finding also supported the research of Pichon et al. (2015) in which family or friend support was not found as significant in relation to medical adherence, an aspect of treatment seeking. This finding also supported the research of George et al. (2009) in which formal networks (i.e., healthcare providers) instead of informal networks (i.e., family, friends) were found to be more critical for engagement in HIV-related treatment.

Despite the results for Hypothesis 2, the current study tests did reveal one significant positive correlation between levels of source social support (SSFAM, SSFR, SSSO) and the HIV-related treatment seeking with no potential barriers cited variable (TRT2). Though no significant relationship was found between family (SSFAM) or friend (SSFR) support and treatment seeking with no potential barriers cited, there was a significant positive relationship between social support from a significant other (SSSO) and treatment seeking with no potential barriers cited. This could be explained by common observations that those being married (or in a stable relationship) tend to

experience increased financial stability and a living situation in which the individual is more likely to have transportation available.

Hypothesis #3 stated that there is a significant positive correlation between the source social support total score (family, friend, significant other combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type. Before these control variables were considered, source social support (SOCSPT; family, friend, significant other combined) was not found to be a predictor of HIV-related treatment seeking. However, when the control variables were added, disability type (blind and mobility) was found to be predictive of HIV-related treatment seeking with reported barriers (finances, transportation; TRT1). This correlation was observed in the investigation of Hypotheses #3 and #4 and connections to the extent literature will be discussed in the summary for Hypothesis #4.

Hypotheses 4 stated that there are significant positive correlations between the source social support each scores (friend, family, significant other individually) and the HIV-related treatment seeking scores when adjusting for age, marital status, income availability, and disability type. Regression analyses between social support from family (SSFAM) or friend (SSFR) and no treatment seeking (TRT0) were conducted, and there was no association found. However, when family (SSFAM) or friend (SSFR) support and treatment seeking with reported barriers (TRT1) was tested, there was some significance found when the control variable for disability type was included in the model. Those who reported being blind or having a mobility disability were significantly more likely than those reporting a hearing or other disability to engage in treatment seeking with reported

barriers (financial, transportation; TRT1) that could impede their ability to engage in treatment services. This issue was explicitly addressed in prior research. For example, Maman et al. (2014) indicated that although some HIV-positive individuals found support of family to be helpful in disclosing their HIV status, some cited fear of disclosing to a family member as their disclosure might create added stress to the family. Adding challenges of disability (being blind or having a mobility impairment) with a lack of disclosure of HIV-positive status could reduce an individual's ability to access treatment and reduce the number of women seeking HIV-related treatment (Abuya et al., 2012; KNCHR, 2014; Maman et al., 2014; Turan et al., 2011). Therefore, continued studies to examine how family and friend support relates specifically to disability type might yield a better understanding of how these factors impact treatment seeking.

Additionally, regression analyses between social support from significant other (SSSO) and no treatment seeking (TRT0) showed no significant positive association. However, when control variables were included in the regression, marital status was found to be a significant predictor of no HIV-related treatment seeking. Those reporting being divorced were significantly more likely to not engage in HIV-related treatment seeking than those reporting being single, married, living with a partner, or widowed. This might be due to the additional stigma of being a divorced woman in Kenya (KNCHR, 2014; Onsomu et al., 2015), and the limited financial compensation as part of a divorce settlement (Onsomu et al., 2015).

Further, when support from a significant other (SSSO) and treatment seeking with reported barriers (TRT1) were tested, there was some significance found when disability

type was included in the model. Those who reported being blind or having a mobility disability were significantly more likely than those reporting a hearing or other disability to engage in treatment seeking with reported barriers. Although the review of the literature did not address this finding, if a woman lacks social support from her significant other due to fear of stigma, retribution, or violence against her for her positive HIV status, this might reduce her likelihood to disclose and involve her partner in her HIV-related treatment seeking (Abuya et al., 2012; KNCHR, 2014; Maman et al., 2014; Turan et al., 2011). This lack of involvement from a significant other might limit available resources (finances, transportation) that may otherwise help secure treatment access for those experiencing additional challenges related to being blind or having a mobility impairment.

Hypothesis #5 stated that there is a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score. There was no significant positive correlation between type social support total score (TYPSPT) and no HIV-related treatment seeking (TRT0) or HIV-related treatment seeking with reported barriers (finances, transportation; TRT1), yet there appeared to be a positive correlation between type social support total score and treatment seeking with no barriers (TRT2). The connection between type social support and HIV-related treatment seeking is discussed in the literature such as UNAIDS (2015), who presented multiple strategies that utilize specific types of social support to increase HIV-related treatment seeking and adherence to treatment. These strategies have been cited as effective in contributing to the reduction of AIDS worldwide (UNAIDS,

2015). Some of these strategies were observed as being available among the current research sample, which might have contributed to the positive correlation between type social support and treatment seeking. For example, tangible support in the form of reimbursement for transportation to and from nationally funded HIV-treatment programs might have reduced the number of participants who reported barriers to treatment seeking.

Further correlational testing revealed mixed results for Hypothesis #6. This hypothesis stated that there are significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score. Test results revealed that there was no significant positive correlation between the scores for appraisal (SSAPP), tangible (SSTAN), self-esteem (SSEST), or belonging (SSBEL) support and the no HIV-related treatment seeking variable (TRT0) or the HIV-related treatment seeking with reported barriers (finances, transportation; TRT1). However, there was a statistically significant positive correlation between each scores for appraisal (SSAPP), tangible (SSTAN), and self-esteem (SSEST) support and the treatment seeking with no barriers variable (TRT2). This finding revealed that if HIV-positive women with a disability have high levels of appraisal (perceived availability of someone to talk to about problems), have their tangible (material) needs met, or have high self-esteem when comparing themselves to others, they are more likely to seek HIV-related treatment without reported challenges of limited finances and difficulties with obtaining transportation. Focusing on these types of support (appraisal, tangible, self-esteem) may be more beneficial than focusing on

networks that promote belonging, as there was no statistically significant positive correlation between the score of belonging support (SSBEL) and the treatment seeking with no barriers variable (TRT2).

The finding for Hypothesis #6 was not consistent with those found in the literature. For example, in a cross-sectional study of 354 male and female Kenyans (aged 18-64) living with HIV, the findings revealed various connections between social support (that related to tangible, appraisal, self-esteem, and belonging) and coping self-efficacy (reported as a link to medical adherence) among persons living with HIV/AIDS (Kamu et al., 2012). The authors acknowledged a need for the creation of a social environment supportive of building coping self-efficacy in the population through the use of social support, including that related to tangible, appraisal, self-esteem, and belonging (Kamu et al., 2012). Subsequent research indicated that when Kenyan women with a physical disability do not have social support, they are at increased risk for poor access to healthcare, increased mental illness, and lower life satisfaction (Kamimura et al., 2013; Puterman et al., 2014; Williams, 2013). In the current study sample this was not necessarily true as social support was not positively significant except in the case of those reporting treatment seeking with no barriers. Whether or not a woman reported social support did not significantly impact her treatment seeking among all categories (TRT0, TRT1, and TRT2). Further, in Sirri et al. (2011), self-esteem and belonging support were both found as significant in the long-term survival of cardiac transplant patients as they found the support useful in their continued long-term medical care (suggestive of

treatment seeking). The research literature is inconsistent with the current study findings as *belonging support* was not found to be significant to HIV-related treatment seeking.

Hypothesis #7 stated that there is a significant positive correlation between the type social support total score (appraisal, tangible, self-esteem, belonging combined) and the HIV-related treatment seeking score when adjusting for age, marital status, income availability, and disability type. Type social support total score (TYPSPT) was not found to be a predictor of no treatment seeking (TRT0) or of treatment seeking with barriers reported (TRT1). This indicated that if one has a low or high level of type social support total score, they will not be any more or less likely to report no HIV-related treatment seeking or to report treatment seeking with barriers (finances, transportation). While age, marital status, income, and disability type were not significant positive predictors of no treatment seeking, disability type was found to be a significant positive predictor of treatment seeking with barriers reported. Specifically, those that reported being blind or having a mobility disability were significantly more likely to engage in treatment seeking with reported barriers, such as transportation or financial hardships, than those that reported being deaf or hearing impaired, or having a different disability. Similar to the finding of hypothesis #3, it appeared that it is not perceived social support that predicts treatment seeking, but rather disability type that factors into one's engagement in treatment seeking. This is discussed further in the summary of hypothesis #8.

Hypothesis #8 stated that there are significant positive correlations between the type social support each scores (appraisal, tangible, self-esteem, belonging individually) and the HIV-related treatment seeking score when adjusting for age, marital status,

income availability, and disability type. Regression analyses between appraisal support (SSAPP) and no treatment seeking (TRT0); tangible support (SSTAN) and no treatment seeking (TRT0); esteem support (SSEST) and no treatment seeking (TRT0); and belonging support (SSBEL) and no treatment seeking (TRT0) found no significant positive association. This was also true when the control variables of age, marital status, income, and disability type were added to the model. However, when appraisal support (SSAPP) and treatment seeking with reported barriers (finances, transportation) (TRT1); tangible support (SSTAN) and treatment seeking with reported barriers; esteem support (SSEST) and treatment seeking with reported barriers; and belonging support (SSBEL) and treatment seeking with reported barriers were tested, there was some significance found when the control variables were included. Age, marital status, and income were not significant predictors of treatment seeking with reported barriers, but disability type was. Specifically, those that reported being blind or having a mobility disability were significantly more likely to engage in treatment seeking with reported barriers that hindered treatment seeking compared to those that reported being deaf or hearing impaired or having a different disability. This finding supported the notion that it is not the type of support, but rather the type of disability that influences HIV-treatment seeking. These findings seem to contradict previous research that found a positive relationship between type of social support and treatment seeking (George et al., 2009; Kamu et al., 2012; Maman et al., 2014; Pichon et al., 2015; UNAIDS, 2017).

The research literature suggests that social support source (family, friend, significant other) and type (appraisal, tangible, self-esteem, belonging) could be

influential in treatment seeking (George et al., 2009; Kamu et al., 2012; Maman et al., 2014; Pichon et al., 2015; UNAIDS, 2015; UNAIDS, 2017). In the research of Maman et al. (2014), disclosure of HIV-positive status to a family member was helpful in coping with the diagnosis and prepared the individual to disclose to others. It may be the case that disclosure of an individual's HIV-positive status is a step towards treatment seeking, as an individual might be more inclined to seek HIV-related treatment with added support. In Pichon et al. (2015), the authors presented the idea that social support from friends and family is connected to medical adherence, an aspect of treatment seeking. However, the current research findings failed to make that connection, as support from family or friend was not significantly related to treatment seeking, a first step to medical adherence.

The findings of the current research study did not fully support the notion that social support has a positive relationship with HIV-related treatment seeking, as social support (both source and type) were not identified as predictors of active HIV-related treatment seeking in the current study sample. Type of physical disability was significantly associated with treatment seeking in the current study sample. When women reported being blind or having a mobility disability, they were more likely to report barriers to HIV-related treatment seeking. This was true for the source total score, source each score (family, friend, significant other) and type total score and type each score (appraisal, tangible, self-esteem, belonging).

Limitations and Implications

The current study sample participants were recruited by a local Kenyan non-governmental organization on behalf of the primary researcher. Some participants might have had connections to each other through local social groups (i.e., church, clinic, social support group). The participants did not identify as part of a specific formal or structured support system. Correlational and regression findings in the data collected from this sample of impoverished, HIV-positive Kenyan women with disabilities did not support the overall hypothesis that there is a positive correlation between social support (source or type) and HIV-related treatment seeking, as measured by the survey instrument developed for this study. These findings could be attributed to the Kenyan government increasing access to subsidized and/or free HIV-related testing, counseling, and treatment programs (AVERT, 2018). Testing, counseling, and treatment sites became more readily available in the Kenyan rural areas at the time of the current research study. This increased access to subsidized and/or free HIV-related services might have skewed the research findings, as women who normally could not afford or access services were more likely to be able to take advantage of the services at the time that this research was being conducted. Informal comments from the local Kenyan population suggested that if these programs were not available, many would not receive HIV-related treatment due to the financial burden. It is noteworthy that the study survey did not include a question to determine if the participant was active in a subsidized HIV-related treatment program.

The current study was limited in its sample size which also may have contributed to the fact that the null hypotheses were not rejected. A power test was run using

G*Power software. To achieve a power of .95, a sample size of 1084 was needed. However, the current study sample was only 77; thus, the power was low at 0.218. This could have indicated that relationships existed but were not detected in the analyses. Future studies among similar populations with larger sample sizes might be able to detect relationships that were not found in the current study with the smaller sample size. The current research findings appeared to validate the research of Pichon et al. (2015), which also did not find a significant relationship between source of social support and treatment seeking (Pichon et al., 2015). The findings of the current study did not support the overall study hypothesis that there is a significant positive correlation between social support (source or type) and HIV-related treatment seeking. However, the findings did suggest that disability type was correlated to HIV-related treatment seeking with barriers.

The current research found that women with disabilities, specifically being blind or having a mobility impairment, were more likely than those reporting a hearing or other disability, to engage in HIV-related treatment seeking with barriers (finances, transportation). These barriers might have negatively impacted the women's ability to reach out for HIV-related treatment services. For example, women with these disability types might find it more difficult to access transportation or to generate a regular income through stable employment (Njelesani, et al., 2015). The research of Njelesani et al. (2015) found that in Zambia, HIV-positive persons with a disability not only experienced a decline in their physical capacity to work, but also reported stigma related to identifying as both HIV-positive and disabled. Without regular income, these women may have been more reluctant to seek treatment as they realized their accessibility was limited by

challenges related to limited finances or lack of transportation. Although source or type of social support were not identified as predictors of treatment seeking in the current study, continuing to explore how type of social support impacts women reporting being blind or having a mobility disability could provide useful insight for public health practitioners.

Building off Social Networking Theory (Christakis & Fowler, 2009) could provide a framework that supports and promotes HIV-related treatment seeking among at-risk populations of Kenyan women. Social Networking Theory (Christakis & Fowler, 2009) could help those working in the fields of disability and HIV-related treatment services to utilize support that targets the reduction of barriers related to transportation and finances, specifically for those reporting being blind or having a mobility disability. While past research of Beutel et al. (2017) did not find a connection between providing tangible support (i.e., traveling companions or assistants) and treatment engagement, providing tangible support might increase appraisal support. Appraisal support is the assessment of one's availability of personal and social resources that help one deal with an event, such as that of barriers encountered when attempting to access HIV-related treatment (Beutel et al., 2017; Lakey & Cohen, 2000).

Among women with a disability, social support was listed as a buffer in stressful situations (i.e., poverty, stigma, HIV) (KNCHR, 2014). For those women reporting being blind or with a mobility disability, an increase in appraisal support might continue to promote and increase their likelihood of HIV-related treatment engagement. This could happen through changed attitudes and behaviors that often follow increased appraisal of

one's ability to engage in treatment seeking (Beutel et al., 2017; Christakis & Fowler, 2009). Thus, designing programs to increase tangible assistance, and more importantly, one's appraisal support, could also lift reported levels of self-esteem to the point that an individual is feeling more confident to overcome barriers. Thus, it is important to encourage greater motivation to address barriers and access needed treatment.

Recommendations for Future Study

Future research should continue to explore how marital status, specifically that of divorced women, impacts treatment seeking among a population with multiple risk factors (i.e., no partner support, poverty, disability, HIV-positive status). In addition, knowing how disability type contributes to a disabled woman's ability to seek HIV-related treatment while experiencing burdens such as limited finances and transportation, may be beneficial for future work with this at-risk population. While source or type of social support did not show an overall significance in the current study's population, future studies among HIV-positive women with a pre-existing disability and limited access to subsidized or free treatment programs could yield different findings.

This researcher did not anticipate the implementation of the nationally funded HIV-related treatment programs within the locale of the study participants. Future studies among populations that do not have access to such public funded treatment programs could yield different results. Most of this study sample reported being extremely below the poverty level, placing them at a higher risk of not being able to access self-pay treatment programs. Future research among those populations that do not have the option of funded treatment available is warranted. Further, future research questionnaires should

include an inquiry of whether study participants are part of an active national or publicly funded HIV treatment program.

Conclusion

Building on previous research, the current study further explored the social support variable to include both source and type of social support. Source was comprised of three sub-groups, namely family, friend, and a significant other; type of social support was comprised of four sub-groups, namely, appraisal, tangible, self-esteem, and belonging. The present study was limited in its power which may have contributed to the fact that the null hypotheses were not rejected. The study findings did indicate that Kenyan women reporting being blind or having a mobility disability were at higher risk of encountering barriers when seeking HIV-related treatment. Investigating how disability type impacts this population's ability to access treatment might help researchers better utilize components of the Social Networking Theory to increase treatment engagement and adherence, as continued exploration of the connection between disability type and treatment seeking might also help this underserved population better understand how social networks might be used to address barriers to treatment. This could help at-risk groups of women to identify solutions that are best for them. Gender, poverty, disability, HIV, and treatment-seeking each present their own complexities; understanding how these factors coincide could be critical to understanding how to best assist this unique population of Kenyan women.

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Appendix: Survey Questionnaire

Please provide answers to the following questions with an "X" or write in an answer as indicated.

1. How old are you? I am _____ years of age.
2. I am _____single _____married _____divorced or separated _____living with a romantic partner.
3. What county are you currently living in?
   I am currently living in the _____county.
4. Do you have a regular source of income? _____yes _____no
5. If you do have a regular income, about how much do you receive in a 30-day timeframe (in Kenyan Shillings)? _____KSH
6. I am _____blind _____deaf or hearing impaired _____have a mobility impairment _____other
7. Were you born with your physical disability? _____yes _____no
8. If you were **not** born with your disability, at what age did you become disabled? I became disabled at _____years of age
9. Please circle the number under the most accurate description of your HIV-related treatment seeking:

No, I have never wanted to seek treatment for my positive HIV status	No, I wanted to seek treatment but was unable to.	Yes, I sought treatment for a brief time (under six-months) but was unable to continue treatment	Yes, I am currently engaging in treatment, but am uncertain how long I can continue due to financial barriers	Yes, I am currently engaging in treatment, but am uncertain how long I can continue because it is difficult to physically get to the treatment services	Yes, I sought and will continue to engage in treatment for my positive HIV status.
1	2	3	4	5	6

	Very strongly agree			Neutral			Very strongly disagree
1 There is a special person who is around when I am in need.	1	2	3	4	5	6	7
2 There is a special person with whom I can share my joys and sorrows.							
3 My family really tries to help me.							
4 I get the emotional help and support I need from my family.							
5 I have a special person who is a real source of comfort to me.							
6 My friends really try to help me.							
7 I can count on my friends when things go wrong.							
8 I can talk about my problems with my family.							
9 I have friends with whom I can share my joys and sorrows.							
10 There is a special person in my life who cares about my feelings.							
11 My family is willing to help me make decisions.							
12 I can talk about my problems with my friends.							

	Definitely false	Probably false	Probably true	Definitely true
1. There are several people that I trust to help solve my problems.	1	2	3	4
2. If I needed help fixing an appliance or repairing my car, there is someone who would help me.	1	2	3	4
3. Most of my friends are more interesting than I am.	1	2	3	4
4. There is someone who takes pride in my accomplishments.	1	2	3	4
5. When I feel lonely, there are several people I can talk to.	1	2	3	4
6. There is no one that I feel comfortable to talking about intimate personal problems.	1	2	3	4
7. I often meet or talk with family or friends.	1	2	3	4
8. Most people I know think highly of me.	1	2	3	4
9. If I needed a ride to the airport very early in the morning, I would have a hard time finding someone to take me.	1	2	3	4
10. I feel like I'm not always included by my circle of friends.	1	2	3	4
11. There really is no one who can give me an objective view of how I'm handling my problems.	1	2	3	4
12. There are several different people I enjoy spending time with.	1	2	3	4
13. I think that my friends feel that I'm not very good at helping them solve their problems.	1	2	3	4
14. If I were sick and needed someone (friend, family member, or acquaintance) to take me to the doctor, I would have trouble finding someone.	1	2	3	4
15. If I wanted to go on a trip for a day (e.g., mountains, beach, or countryside), I would have a hard time finding someone to go with me.	1	2	3	4
16. If I needed a place to stay for a week because of an emergency (for example, water or electricity out in my home), I could easily find someone who would put me up.	1	2	3	4
17. I feel that there is no one I can share my most private worries and fears with.	1	2	3	4
18. If I were sick, I could easily find someone to help me with my daily chores.	1	2	3	4
19. There is someone I can turn to for advice about handling problems with my family.	1	2	3	4
20. I am as good at doing things as most other people are.	1	2	3	4
21. If I decide one afternoon that I would like to go to a movie that evening, I could easily find someone to go with me.	1	2	3	4
22. When I need suggestions on how to deal with a personal problem, I know someone I can turn to.	1	2	3	4

23. If I needed an emergency loan of $100, there is someone (friend, relative, or acquaintance) I could get it from.	1	2	3	4
24. In general, people do not have much confidence in me.	1	2	3	4
25. Most people I know do not enjoy the same things that I do.	1	2	3	4
26. There is someone I could turn to for advice about making career plans or changing my job.	1	2	3	4
27. I don't often get invited to do things with others.	1	2	3	4
28. Most of my friends are more successful at making changes in their lives than I am.	1	2	3	4
29. If I had to go out of town for a few weeks, it would be difficult to find someone who would look after my house or apartment (the plants, pets, garden, etc.).	1	2	3	4
30. There really is no one I can trust to give me good financial advice.	1	2	3	4
31. If I wanted to have lunch with someone, I could easily find someone to join me.	1	2	3	4
32. I am more satisfied with my life than most people are with theirs.	1	2	3	4
33. If I was stranded 10 miles from home, there is someone I could call who would come and get me.	1	2	3	4
34. No one I know would throw a birthday party for me.	1	2	3	4
35. It would be difficult to find someone who would lend me their car for a few hours.	1	2	3	4
36. If a family crisis arose, it would be difficult to find someone who could give me good advice about how to handle it.	1	2	3	4
37. I am closer to my friends than most other people are to theirs.	1	2	3	4
38. There is at least one person I know whose advice I really trust.	1	2	3	4
39. If I needed some help in moving to a new house or apartment, I would have a hard time finding someone to help me.	1	2	3	4
40. I have a hard time keeping pace with my friends.	1	2	3	4

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