Published in final edited form as:

Afr J AIDS Res. 2015 March ; 14(1): 67–73. doi:10.2989/16085906.2015.1016987.

HIV-Related Stigma: Implications for Symptoms of Anxiety and Depression among Malawian Women

Charles Kamen, Ph.D., M.P.H.¹, Jill Arganbright, M.D.², Eliza Kienitz, M.S.³, Melissa Weller, M.S.³, Anna Khaylis, Ph.D.⁴, Tammy Shenkman³, Sarah Smith, M.D.², Cheryl Koopman, Ph.D.⁵, and Cheryl Gore-Felton, Ph.D.⁵

¹University of Rochester, Behavioral Medicine Unit

²Medical College of Wisconsin, Center for AIDS Intervention Research

³Palo Alto University, PGSP-Stanford Psy.D. Consortium

⁴British Columbia Operational Stress Injury Clinic

⁵Stanford University School of Medicine, Dept of Psychiatry & Behavioral Sciences

Abstract

An estimated 11% of the adult population in Malawi, Africa, is living with HIV/AIDS. The disease has taken a toll on communities, resulting in high morbidity and mortality. Malawian women carry the burden of being caretakers for individuals infected with HIV while also worrying about their own health; however, little is known about how HIV/AIDS affects psychological functioning among Malawian women in areas hit hardest by the epidemic. To that end, this paper examined the influence of HIV-related stigma on symptoms of anxiety and depression among 59 women 17-46 years old who were recruited from the Namitete area of Malawi. Women who reported greater worry about being infected with HIV and greater HIV-related stigma were significantly more likely to report greater symptoms of anxiety and depression. These findings suggest that interventions that reduce HIV-related stigma are likely to enhance psychological functioning among Malawian women, which in turn will improve the women's quality of life and well-being.

Keywords

HIV/AIDS; stigma; Malawi; women; depression; anxiety

Introduction

As of 2012, there were an estimated 32.2 – 38.8 million people living with HIV around the world. Worldwide surveillance data indicate that HIV has been diagnosed in virtually every country, and HIV infection and illness have increased at alarming rates in developing countries (WHO, 2014). Sub-Saharan African countries, such as Malawi, have been

particularly affected by HIV. Africa's third most densely populated country, Malawi is located east of Zambia in Southern Africa and has an estimated population of approximately 17 million people (World Factbook, 2013). Several factors, including HIV/AIDS, low income, poor nutrition, and insufficient access to medical care, have impacted the morbidity and mortality of citizens in Malawi (Human Development Report, 2013).

An estimated 11% of the adult population in Malawi is seropositive for HIV (World Factbook, 2013), and women account for more than half of all adults infected with HIV or living with AIDS (UNAIDS, 2012). Among young adults aged 15-24, approximately 9% of women are living with HIV, nearly quadruple the rate of young men infected with HIV. The main mode of HIV transmission for women is heterosexual intercourse (USAID, 2010). Due to this high rate of HIV infection and its disproportionate impact on women, it is important to assess psychosocial correlates of HIV among Malawian women.

Research has identified several factors related to HIV transmission in Malawi, including low rates of condom use and high rates of extramarital sexual activity. Chimbiri (2007) assessed the prevalence of condom use within spouses in Malawi and found that only 2% of married respondents used condoms with their spouse. However, 18% reported condom use with other, extramarital sexual partners. Within a changing cultural and social context in which extramarital sexual partnerships have become widespread, both men and women report awareness that they may contract HIV from their marital as well as extramarital sexual partners (Anglewicz, & Chintsanya, 2011; Kalipeni & Ghosh, 2007). Despite reported worry about contracting HIV, Kalipeni and Ghosh (2007) found that the overall rate of condom use in Malawi was approximately 8%, indicating the ubiquity of unprotected and high risk sexual behavior. Additionally, despite a 3-year campaign by UNAIDS to increase voluntary male circumcision to decrease risk of infection across the continent of Africa, Malawi remains the country with the lowest adoption rate of this effort (UNAIDS, 2012). In a study that also surveyed women, Chimbiri (2007) found that women often suspect their husbands are engaging in extramarital sexual activity, but are reluctant to ask their husbands to use condoms, which may result in fear and worry about contracting HIV. This concern about contracting HIV may have a profound effect on women's psychological functioning, and may be further compounded by individual and cultural stigma related to HIV/AIDS. These studies reveal that education and knowledge about the risks and biological facts regarding HIV/AIDS is not sufficient for behavior change. Interpersonal and intrapersonal mechanisms, such as stigma, play a large role in HIV related behavior.

HIV-related stigma

A major focus of this study is on HIV-related stigma from the perspective of Malawi women. At its most basic level, stigma involves societal rejection and development of a social identity that is "significantly discrediting" and that involves rejection, discrimination, and ridicule from others (Goffman, 1963). Individuals with stigmatized social identities are subjected to chronic levels of stress as a result of their stigmatized status (Miller & Kaiser, 2001). According to Alonzo and Reynolds (1995), illnesses are often stigmatized because they are seen as a deviation from normal biophysical, social, and psychological life processes. HIV/AIDS is stigmatized for several reasons, including its association with

behaviors that are themselves stigmatized, such as having multiple sexual partners, using drugs, and engaging in sex with same-sex partners (Nachega et al., 2012). Also, because of the behaviors associated with HIV infection, individuals are often blamed for contracting the virus. HIV/AIDS is perceived as contagious and threatening and it is also associated with the possibility of suffering a painful death. HIV stigma may manifest itself through social rejection and isolation, economic discrimination and disadvantage, and shame (Fife & Wright, 2000).

The internalization of HIV stigma, as well as perceived and experienced incidents of others' stigmatizing attitudes toward HIV, are of particular interest to researchers focused on African countries because studies have concluded that HIV stigma is associated with a number of negative medical and psychosocial outcomes. Medically, HIV stigma among African women has been associated with lower rates of disclosure of an HIV-positive status to health care providers (Neuman, Obermeyer, & Makhoul, 2013; Simbayi, Kalichman, Strebel, Cloete, Henda, & Mqeketo, 2007), which impacts receipt of appropriate care and rates of mother-to-child transmission of the virus. HIV stigma has also been associated with higher morbidity among HIV-positive individuals living in African countries, as a result of wasting and other AIDS-related conditions (Holzemer et al., 2007b). Higher reported HIV stigma has been shown to lead to lower adherence to antiretroviral medication regimens among individuals living in five African countries, including Malawi (Dlamini, Wantland, Makoae, Chirwa, Kohi, Greeff, et al., 2009). In general, stigmatizing attitudes may delay help seeking (Kelly & Form, 2007) and reduce access to medical and mental health care (Kalichman, Simbayi, Cloete, Mthembu, Mkhonta, & Ginindza, 2009; Kohi, Makoae, Chirwa, Holzemer, Phetlhu, Uys, et al., 2006).

HIV-related stigma has also been found to be associated with negative psychosocial outcomes among individuals living in African countries, including lower quality of life and more negative self-evaluation (Holzemer et al., 2007a; Simbayi et al., 2007). Previous research has indicated that HIV stigma can lead to violations in human rights, as individuals living in African countries may be denied healthcare or terminated from employment as a result of their HIV status (Kohi et al., 2006). In Malawi specifically, HIV stigma predicts attitudes that individuals infected with HIV should be isolated from others (Rimai & Creel, 2008). HIV stigma is also associated with exposure to verbal and physical abuse (Anglewicz, & Chintsanya, 2011; Dlamini, Kohi, Uys, Phetlhu, Chirwa, Naidoo, et al., 2007). In general, HIV-related stigma has been found to be related to greater loneliness and social isolation, and to be a robust predictor of depression and depressive symptoms (Lichtenstein, Laska, & Clair, 2002). Further, psychological or emotional illnesses hold an additional layer of stigma and may increase the level of stress as well as perceived stigma upon disclosure of serostatus (Sorsdahl, Mall, Stein, & Joska, 2010).

HIV stigma may be especially detrimental to women, perhaps due to cultural perceptions that female sexuality is "dirty" and immoral (Lichtenstein et al., 2002). For example, among HIV-positive African women living in London, both perceived and actual stigma acted as a barrier to accessing health services and volunteer agencies (Anderson & Doyal, 2004). Among infected African-American women, HIV stigma was negatively related to

disclosure, psychological well-being, and psychosocial functioning (Clark, Lindner, Armistead, & Austin, 2003).

An interesting phenomenon occurs among individuals who believe themselves to be “at-risk” for contracting HIV, but do not yet know if they are positive or not. According to Alonzo and Reynolds (1995), at-risk individuals believe certain behaviors may have placed them in the socially undesirable at-risk, or even HIV-positive group. At this stage, individuals are concerned with the social risks of contracting HIV rather than with the disease itself. The internalization of wider stereotypes and beliefs associated with the illness contribute to an increased sense of shame and negative self-evaluation among such individuals. Estimation of social risk is affected by gender; in a study of four countries, including Malawi, women were found to experience increased interpersonal discrimination relative to men (Neuman, Obermeyer, & Makhoul, 2013). Often, individuals manage the anxiety related to “at-risk” status through denial and postponement of testing. They also exhibit more fear of HIV (Cao, Sullivan, Xu, & Wu, 2006), which may prevent getting tested and treated. For instance, a study of female commercial sex workers in Guyana found that stigma may prevent workers from returning to obtain their latest test results, a behavior related to higher rates of infection (Allen et al., 2006). These psychological experiences of perceived stigma, prior to diagnosis, may pose health risks to individuals by increasing their levels of depression, anxiety, and thus avoidance of testing or treatment.

The current study

To date, there has been a lack of research on perceived HIV stigma and related outcomes among Malawian individuals. Most of the research on HIV stigma to date has been conducted in Western societies. It is critical to understand HIV stigma in Malawi and other non-Western societies where the rates of HIV infection remain high and where HIV is a primary public health concern. In Malawi in particular nearly half of the population (46.8%) is between 0-14 years of age, and the majority of the population is female (World Factbook, 2013). HIV is contracted most commonly between the ages of 15-30, with women the most vulnerable to infection. Thus, understanding how psychological functioning around stigma influences health is an important step in future prevention efforts.

The purpose of the current study was to investigate among Malawian women the relationships between perceived worry about HIV, HIV stigma, and emotional distress. We focus here on perceived HIV stigma and its effect on emotional distress, not on stigma due to a known HIV serostatus. HIV stigma is conceptualized in this study as the expectation by the woman that others will feel ashamed of her if she tests positive for HIV and reveals her serostatus, while emotional distress is conceptualized as experiencing symptoms of depression and anxiety. We hypothesized that: 1) worry about being HIV-positive (HIV-related worry) would be related to greater emotional distress, and 2) perception of greater HIV stigma would be associated with more emotional distress, above and beyond HIV-related worry. This study also explored relationships between perceived HIV stigma and exposure to HIV education.

Methods

Sample

Informed consent was obtained from all participants prior to completing the survey. Excluded from this study were women unable to understand the consent forms due to language barriers, women with impaired judgment from substance abuse, or those suffering from severe mental illness that precluded comprehension of study materials. Age eligibility included emancipated minors or women over age 18. Of 67 women originally surveyed, 60 met all inclusion/exclusion criteria. Of these women, 59 answered the emotional distress questions and are therefore the focus of this study. HIV serostatus of the participants was unknown. The women were asked in which language they would like the interview to be conducted. Almost all (97%) of the interviews were conducted in Chichewa, the native dialect of Malawi, as the participants found this preferable to English. Participants were compensated with a gift bag, the contents of which were determined by local community members.

Procedures

This study was approved by the Medical College of Wisconsin Institutional Review Board (IRB). The data were collected by surveying 59 women in the Namitete area of the African country of Malawi, including the urban and rural areas of West Lilongwe City, East Lilongwe City, Lumbadzi Zone, Chiwamba Zone, and Matapira Zone. The women were recruited at the FAMLI Program, a non-governmental organization comprised of Maternal Life International and Fertility Awareness through Selective Use (FASU) Consultancy. Maternal Life International is a nonprofit organization working on AIDS prevention and maternal and reproductive health, and FASU Consultancy is a faith-based organization that develops family planning programs.

Measures

The study survey was adapted from the AIDSCAP/WHO/CAPS instrument used by researchers in South Africa in previous HIV prevention studies (see The Voluntary HIV-1 Counseling and Testing Efficacy Study Group, 2000). The survey instrument was tailored to reflect the cultural norms and lifestyles of those living in Malawi. Each question was read aloud by the survey administrators, similar to a structured interview, to minimize any difficulties in reading comprehension. Administrators were women recruited from the community in which the survey was administered. As questionnaire items were presented, participants were shown the corresponding response scales via large hand cards. This procedure allowed the interviewers to immediately clarify any questions for the participants. The interviewers recorded all interview responses.

Demographics—Demographic information collected included age, marital status, religious affiliation, highest level of education completed, description of living facilities, number of children, and medical history. Participants also reported whether they had previously participated in HIV programs.

HIV-related stigma—Expectations of stigma were assessed by asking participants to imagine that they tested positive for HIV and disclosed their serostatus. Participants were then asked whether each of the following types of people would feel ashamed of them: spouse, sexual partners, children, brothers, sisters, other relatives, friends, landlord, neighbors, religious leaders, community leaders, physician, or employer. The total score was the sum of the types of people who would be expected to feel ashamed and could range from 0-13, with higher scores indicating more HIV-related stigma. This scale displayed adequate reliability (Cronbach's alpha = .77).

HIV-related worry—Participants also reported on two items: 1) how worried they were about contracting HIV and 2) how worried they were about already having HIV, using a scale ranging from 1, “Not at all or hardly worried” to 4, “Extremely worried.” Responses for each of the two items were summed, so that scores for HIV-related worry could range from 2-8, with higher scores indicating more worry. This scale displayed adequate reliability (Cronbach's alpha = .71).

Emotional distress—Emotional distress was assessed by seven items related to symptoms of anxiety (e.g., “Nervousness or shakiness inside”, “Spells of terror or panic”) and eight items related to symptoms of depression (e.g., “I felt sad even though I got help from my family or friends”, “I thought my life had been a failure”). Participants rated how often they experienced each symptom over the past two months on a scale ranging from 1, “Very infrequently or never” to 4, “Very frequently or always.” Since anxiety and depression were highly and positively correlated (Pearson's $r = .67$, $p < .01$), they were combined to create a total Emotional Distress scale score, encapsulating experiences of both anxiety and depression. This Emotional Distress scale could range from 15-60 (Cronbach's alpha = .86), with higher scores indicating more emotional distress.

Data Analysis

For statistical analyses, SPSS 17.0 (Chicago, SPSS) was used. Basic descriptive data for study variables are provided in the form of means and standard deviations in order to illustrate general trends in the sample. Pearson's correlations were computed to examine relationships among the study variables. A hierarchical regression analysis was used to determine if stigma predicted emotional distress above and beyond HIV-related worry. In block 1 of the equation, HIV-related worry was entered, followed by HIV stigma in block 2 to demonstrate whether HIV stigma is a unique predictor of emotional distress when accounting for HIV-related worry.

Results

Participating women ranged in age from 17-46, with a mean age of 30.3 (SD=7.8). The modal level of education completed was primary school or less, with one third having a high school education. The women varied in the degree of their level of socioeconomic status, but most of the women lived in homes without electricity (67%) or running water (63%). Over 80% of the sample lived in homes with grass, thatched, tin, or corrugated tin roofs as opposed to insulated or tile roofs. More than half of the participants (59%) identified

themselves as Catholic. The remaining participants identified themselves either as Protestant (20%) or “Other” (21%). Almost all of the women were in a monogamous marriage, with three reporting that they were in a polygamous marriage, and four reporting that they were single, separated, or divorced. Only two women had no children. The remaining women had 1-9 children, with a mode of one child.

The means and standard deviations for the study variables are summarized in Table 1. Women in this sample reported experiencing a mode of two symptoms of emotional distress at least some of the time (i.e., more often than “infrequently”), while 53% of the women reported experiencing four or more symptoms of emotional distress at least some of the time. Half of the women in the sample reported that two or more people would be ashamed of them if they were to disclose a positive HIV serostatus. Women most commonly reported that their neighbors would be ashamed of them if they were to disclose a positive HIV serostatus (46.7% said yes), followed by friends (45% said yes) and religious leaders (28.3% said yes). None of the women in the sample said that their physician would be ashamed of them if they were to disclose a positive HIV serostatus, and only 5% reported that their employers or sexual partners would be ashamed of them.

The results of the correlation analyses are summarized in Table 2. HIV-related worry was not associated with HIV stigma, but it was positively correlated with emotional distress and negatively associated with HIV program attendance. HIV stigma was positively correlated with emotional distress and with HIV program attendance. Emotional distress was unrelated to HIV program attendance.

Results of the multiple regression analysis are presented in Table 3. As hypothesized, in block 1 HIV-related worry significantly predicted emotional distress. In block 2, the addition of HIV stigma to the model explained a significantly higher portion of variance in emotional distress. HIV stigma was also a significant predictor of emotional distress, above and beyond the contribution of HIV-related worry in block 1.

These results were unchanged when HIV program attendance was allowed to enter the model.

Discussion

The results of this study supported the hypotheses that more worry about being HIV-positive and perception of greater HIV stigma are related to greater distress in a sample of relatively young Malawian women. Worrying about contracting HIV was significantly associated with greater current emotional distress. Interestingly, women who reported more distress also reported more HIV stigma, conceptualized here as an expectation that others would be ashamed of them if they became HIV positive. This expectation of others' shame predicted emotional distress above and beyond HIV-related worry. These findings are consistent with previous studies suggesting that higher HIV-related stigma is associated with greater psychological distress, including anxiety, depression, and negative affect (Lichtenstein et al., 2002; Neuman, Obermeyer, & Makhoul, 2013). However, these previous studies were primarily conducted in samples of individuals aware of their HIV status, and it is interesting

that a similar relationship is found in Malawian women who did not know their status. Understanding the strong effect of perceived stigma on emotional health and, subsequently, HIV health related behaviors such as testing can help to improve prevention and community based campaigns for the next generation.

Several studies have suggested that HIV stigma may be especially detrimental to women (Lichtenstein et al., 2002). Although this study did not examine gender differences in perception of HIV stigma and worry about being HIV-positive, it did support previous findings that among women, HIV stigma is negatively related to psychological well-being and functioning (Clark et al., 2003). Women who perceive HIV stigma in their community as high may be reluctant to get tested; this avoidance may lead to increased worry, subsequent emotional distress, and a lack of access to necessary care. Further research is needed to test the temporal relationship between HIV stigma, emotional distress, and testing behavior in Malawian women.

Although Malawi has one of the highest rates of HIV and AIDS, more studies on HIV stigma and related outcomes in this population are needed. The prevalence of worry about contracting HIV and HIV stigma throughout Malawi is unknown, but previous research suggests that awareness of risk for becoming HIV-positive is widespread among Malawian women. This could lead to worry about becoming HIV-positive, which, according to the findings of this study, would also be related to depression and anxiety. On the other hand, the cross-sectional design of this study also allows for the possibility that greater depression and anxiety could serve to increase worry and stigma about HIV. Regardless, the current results suggest that health care providers should attend to the emotional and psychological well-being of women in addition to their HIV status. Further, women worried about contracting HIV were less likely to have participated in previous HIV programming, which highlights the need to assess attitudes toward HIV when developing HIV prevention programs.

Notably, having participated in a program discussing HIV was related to an increased expectation of HIV-related stigma. This study did not ask about the previous programs in detail, and the mechanism of this relationship is unclear. It may be that women who perceive HIV stigma in their community are more likely to seek out HIV programs, or that some activity in these programs increased perception of HIV stigma. However, this finding speaks to the importance of developing culturally sensitive HIV education programs that also address issues of stigma, intimate relationships, and emotional distress.

In considering ways to address stigma in countries, like Malawi, that have been strongly impacted by the HIV epidemic, the findings of this study suggest three relevant factors. The first is gender. A recent review of the literature highlighted that women are disadvantaged in negotiating for contraception and seeking health care in Malawi and other Southern and Eastern African countries (MacPherson, Richards, Namakhoma, & Theobald, 2014). This is due both to traditional gender roles, which emphasize male sexual prowess and dominance, and to women's economic dependence on men, which can impede negotiation. Any efforts to address HIV stigma will need to circumvent these issues. Successful HIV-related interventions in other countries have included men and women in a participatory action

framework to promote gender equality (Jewkes et al., 2008). Such an intervention in Malawi could include women and men and focus on HIV stigma and mental health, as well as HIV risk prevention.

A second factor suggested by the current study is the need for tailored HIV programming. Simply translating messages about condom use and HIV testing developed in Western countries like the United States into the context of Malawi could lead to increased, rather than decreased stigma; such a mechanism may have been at work among women in the current study. Formative research in Malawi has highlighted ways of incorporating safe sex messages into cultural practices, thereby renegotiating safe sex within a tailored framework (Banda & Kunkeyani, 2014). Messages about and interventions to address HIV stigma could similarly benefit from such formative work.

The final factor suggested by the current study is the importance of combining mental health into HIV prevention and treatment services. Awareness of HIV risk is high in Malawi, though messages of public awareness campaigns may not always be accurately received (Maughan-Brown, Godlonton, Thornton, & Venkataramani, 2014). However, research in other African countries, such as Rwanda, has highlighted that HIV knowledge alone is not sufficient, and that interventions must also attend to the mental health of participants (Talbot et al., 2013). Given the level of depression experienced by women in the current study, as well as the link between HIV stigma and mental health, attending to mental health and incorporating mental health services as part of a national health and HIV prevention plan in Malawi is warranted.

Other factors that may affect HIV stigma and distress in Malawian women specifically should be examined in future research. Furthermore, in clinical practice, health care providers should assess Malawian women's level of emotional distress, as depression and anxiety may increase in the context of HIV-related care. For example, it is possible that emotional distress and fear of having HIV, rather than misinformation or lack of access, prevents women from getting tested or seeking health care services.

Several methodological limitations of the current study should be noted. The sample size was relatively small, and consisted of individuals recruited by convenience sampling procedures. This was a preliminary study designed to examine factors in the lives of these women that may affect their levels of depression and anxiety. Further research is needed with women of more socially and geographically diverse groups to examine the relationship of HIV stigma and emotional distress in the context of cultural beliefs. This study relied on self-report measures, so future research should also utilize alternative types of measures, such as the ratings and observations of health care providers. As previously noted, the cross-sectional design of this study did not permit analysis of causal relationships. Future studies should also examine whether HIV worry and stigma leads to increased emotional distress, or if the opposite is true. Detection of a causal relationship would have numerous implications for health care providers.

The current study found that HIV stigma is associated with greater levels of distress in Malawian women, above and beyond just worry about contracting HIV. This finding

highlights the need for more research and program development to examine alternative strategies and interventions for reducing HIV stigma. More AIDS education and prevention research needs to be conducted in a culturally sensitive manner in Malawi to address worry and concern regarding HIV status and stigmatizing attitudes towards HIV infected individuals. By doing this, programs can hopefully begin reducing both cultural stigma attached to HIV, as well as the emotional distress that may result from perception of such stigma.

Acknowledgments

This research was supported by a Developmental Award (PI, Cheryl Gore-Felton, Ph.D.) awarded by Center Grant P30 MH52776 (PI, Jeffrey A. Kelly, Ph.D.).

References

- Allen CF, Edwards M, Williamson LM, Kitson-Piggott W, Wagner H, Camara B, Hospedales CJ. Sexually transmitted infection service use and risk factors for HIV infection among female sex workers in Georgetown, Guyana. *Journal of Acquired Immune Deficiency Syndromes*. 2006; 43(1): 96–101. [PubMed: 16885774]
- Alonzo AA, Reynolds NR. Stigma, HIV and Aids: An exploration and elaboration of a stigma trajectory. *Social Science & Medicine*. 1995; 41(3):303–315. [PubMed: 7481925]
- Anderson J, Doyal L. Women from Africa living with HIV in London: A descriptive study. *AIDS Care*. 2004; 16(1):95–105. [PubMed: 14660147]
- Anglewicz P, Chintsanya J. Disclosure of HIV status between spouses in rural Malawi. *AIDS Care*. 2011; 23(8):998–1005. [PubMed: 21390889]
- Banda F, Kunkeyani TE. Renegotiating cultural practices as a result of HIV in the eastern region of Malawi. *Culture, health & sexuality*. 2014;1–14.10.1080/13691058.2014.944569
- Cao X, Sullivan SG, Xu J, Wu Z. Understanding HIV-related stigma and discrimination in a “blameless” population. *AIDS Education and Prevention*. 2006; 18(6):518–528. [PubMed: 17166078]
- Chimbiri AM. The condom is an ‘intruder’ in marriage: Evidence from rural Malawi. *Social Science & Medicine*. 2007; 64(5):1102–1116. [PubMed: 17240504]
- Clark HJ, Lindner G, Armistead L, Austin B. Stigma, disclosure, and psychological functioning among HIV-infected and non-infected African-American women. *Women & Health*. 2003; 38(4):57–71. [PubMed: 14750776]
- Dlamini PS, Wantland D, Makoe LN, Chirwa M, Kohi TW, Greeff M, Naidoo J, Mullan J, Uys LR DSocSc, Holzemer WL. HIV stigma and missed medications in HIV-positive people in five African countries. *AIDS Patient Care and STDs*. 2009; 23(5):377–387. [PubMed: 19327098]
- Dlamini PS, Kohi T, Uys LR, Phetlhu RD, Chirwa ML, Naidoo JR, Holzemer WL, Greeff M, Makoe LN. Verbal and physical abuse and neglect as manifestations of HIV/AIDS stigma in five African countries. *Public Health Nursing*. 2007; 24(5):389–399. [PubMed: 17714223]
- Fife BL, Wright ER. The dimensionality of stigma: A comparison of its impact on the self of persons with HIV/AIDS and cancer. *Journal of Health and Social Behavior*. 2000; 41(1):60–67.
- Goffman, E. *Stigma: Notes on the Management of Spoiled Identity*. Prentice-Hall; New Jersey: 1963.
- Holzemer WL, Uys L, Chirwa ML, Greeff M, Makoe LN, Kohi TW, Dlamini PS, Stewart AL, Mullan J, Phetlhu RD, Wantland D, Durrheim K. Validation of the HIV/AIDS Stigma Instrument PLWA (HASI-P). *AIDS Care*. 2007; 19(8):1002–1012. [PubMed: 17851997]
- Holzemer WL, Uys L, Makoe L, et al. A conceptual model of HIV-AIDS stigma from five African countries. *Journal of Advanced Nursing*. 2007b; 58:541–551. [PubMed: 17484748]
- Human Development Report. [Accessed 8 June 2014] Malawi: The human development index – going beyond income. 2013. Available at <http://hdr.undp.org/en/countries/profiles/MWI>

- Jewkes R, Nduna M, Levin J, Jama N, Dunkle K, Puren A, Duvvury N. Impact of stepping stones on incidence of HIV and HSV-2 and sexual behaviour in rural South Africa: cluster randomised controlled trial. *BMJ*. 2008; 337:a506.10.1136/bmj.a506 [PubMed: 18687720]
- Kalichman SC, Simbayi LC, Cloete A, Mthembu PP, Mkhonta RN, Ginindza T. Measuring AIDS stigmas in people living with HIV/AIDS: The Internalized AIDS-Related Stigma Scale. *AIDS Care*. 2009; 21(1):87–93. [PubMed: 19085224]
- Kalipeni E, Ghosh J. Concern and practice among men about HIV/AIDS in low socioeconomic income areas of Lilongwe, Malawi. *Social Science & Medicine*. 2007; 64(5):1116–1127. [PubMed: 17110008]
- Kelly CM, Form AJ. Stigma and mood disorders. *Current Opinion in Psychiatry*. 2007; 20(1):13–16. [PubMed: 17143076]
- Kohi TW, Makoe L, Chirwa M, Holzemer WL, Phetlhu DR, Uys L, Naidoo J, Dlamini PS, Greeff M. HIV and AIDS stigma violates human rights in five African countries. *Nursing Ethics*. 2006; 13(4):404–417. [PubMed: 16838571]
- Lichtenstein B, Laska MK, Clair JM. Chronic sorrow in the HIV-positive patient: Issues of race, gender, and social support. *AIDS Patient Care and STDs*. 2002; 16(1):27–38. [PubMed: 11839216]
- Miller CT, Kaiser CR. Stigma: An insider's perspective. *Journal of Social Issues*. 2001; 57(1):73–92.
- Nachea J, Morroni C, Zuniga J, Sherer R, Beyrer C, Solomon S, et al. Rockstroh J. HIV-related stigma, isolation, discrimination, and serostatus disclosure: A global survey of 2035 HIV-infected adults. *Journal of the International Association of Physicians In AIDS Care*. 2012; 11(3):172–178. [PubMed: 22431893]
- Neuman M, Obermeyer C. Experiences of stigma, discrimination, care and support among people living with HIV: A four country study. *AIDS And Behavior*. 2013; 17(5):1796–1808. [PubMed: 23479002]
- Rimai RN, Creel AH. Applying social marketing principles to understand the effects of the Radio Diaries program in reducing HIV/AIDS stigma in Malawi. *Health Marketing Quarterly*. 2008; 25(1/2):119–146. [PubMed: 18935882]
- Simbayi L, Kalichman S, Strebel A, Cloete A, Henda N, Mqeketo A. Disclosure of HIV status to sex partners and sexual risk behaviours among HIV-positive men and women, Cape Town, South Africa. *Sexually Transmitted Infections*. 2007; 83(1):29–34. [PubMed: 16790562]
- Sorsdahl KR, Mall S, Stein DJ, Joska JA. Perspectives towards mental illness in people living with HIV/AIDS in South Africa. *AIDS Care*. 2010; 22(11):1418–1427. [PubMed: 20640955]
- Talbot A, Uwihoreye C, Kamen C, Grant P, McGlynn L, Mugabe I, et al. Zolopa A. Treating psychological trauma among Rwandan orphans is associated with a reduction in HIV risk-taking behaviors: A pilot study. *AIDS education and prevention : official publication of the International Society for AIDS Education*. 2013; 25(6):468–479. Research Support, Non-U.S. Gov't. 10.1521/aeap.2013.25.6.468 [PubMed: 24245594]
- The Voluntary HIV-1 Counseling and Testing Efficacy Study Group. Efficacy of voluntary HIV-1 counselling and testing in individuals and couples in Kenya, Tanzania, and Trinidad: a randomised trial. *Lancet*. 2000; 356(9224):103–112. [PubMed: 10963246]
- UNAIDS. [Accessed 11 June, 2014] Malawi: Epidemiological fact sheets on HIV/AIDS and sexually transmitted infections, Country Profile. 2012. Available at <http://www.unaids.org/en/regionscountries/countries/malawi/>
- U.S. Agency for International Development (USAID). USAID HIV/AIDS Health Profile for Malawi – September 2010. 2010. Retrieved January 11, 2012 from http://www.usaid.gov/our_work/global_health/aids/Countries/africa/malawi.html
- World Factbook. Malawi. 2013. Retrieved June 11, 2014 from <https://www.cia.gov/library/publications/the-world-factbook/geos/mi.html>
- World Health Organization (WHO; 2014). World Health Statistics. 2014. Retrieved from http://www.who.int/gho/publications/world_health_statistics/2014/en/

Table 1
Means and Standard Deviations of Study Variables (N = 59)

Variable	M	SD
Worry about having AIDS	4.32	2.03
HIV-related stigma	2.40	2.65
Emotional distress	23.81	6.26

Table 2
Pearson's Correlation Coefficients of HIV-related Worry, HIV Stigma, Emotional Distress, and HIV program attendance (N=59)

	1.	2.	3.
1. HIV Worry	1		
2. HIV Stigma	.143	1	
3. Emotional Distress	.409**	.422**	1
4. HIV Program Attendance	-.258*	.260*	-.097

Note:

*
p<.05,

**
p<.01

Table 3
Multiple Regression of Factors Predicting Emotional Distress (N=59)

	B	S.E. (B)	β
Step 1:			
HIV-related worry	1.27	.37	.41**
After Step 1: $R^2 = .17$, $F(1,57) = 11.48^{**}$			
Step 2:			
HIV-related worry	1.12	.35	.36**
HIV stigma	.89	.26	.38**
After Step 2: $R^2 = .31$, $F(1,56) = 11.23^{**}$			