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Examination of the Association Between Intimate Partner Violence and STI/HIV Risk in African American Women in High Risk Areas of Atlanta, GA: A Mixed Methods Analysis

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Examination of the Association Between Intimate Partner Violence and
STI/HIV Risk in African American Women in High Risk Areas of
Atlanta, GA: A Mixed Methods Analysis

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and STI/HIV Risk in African American Women in High Risk Areas of
Atlanta, GA: A Mixed Methods Analysis

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ABSTRACT

In March 2012, President Obama issued a Presidential Memorandum creating an interagency Federal Working Group to explore the intersection of HIV/AIDS, violence against women and girls, and gender-related health disparities. Intimate partner violence (IPV) and HIV constitute major public health issues for women, particularly African American women who are disproportionately affected by HIV/AIDS. In 2012, the rate of HIV for African American women was four to 20 times higher than rates for females of other races. This study explores the complex relationship between IPV and STI/HIV risk in African American females.

In an attempt to examine the intersection of IPV and STI/HIV risk this study used cross-sectional survey data to quantitatively examine the differences between women who had experienced IPV in the previous 12 months (cases) and women who had not experienced IPV in the previous 12 months (controls) in: 1) previous STI diagnosis, 2) accessing HIV testing and 3) mean scores of fear of condom negotiation due to physical violence. Chi-square analyses were completed to determine if the populations were statistically significant in terms of previous STI diagnosis and accessing HIV testing. An independent-samples t-test was conducted to compare the fear of condom negotiation scores for cases and controls. In addition, qualitative analysis was conducted to further elucidate the mechanisms from experiencing IPV to an increased risk of HIV infection.

The quantitative analysis suggests a significant difference between fear of condom negotiation due to fear of physical violence. The qualitative analysis suggests that women who experience IPV are often forced to have sex with their partners, experience physical violence in response to condom negotiation and use drugs and/or alcohol to cope with the abuse. HIV prevention interventions need to address IPV as a possible risk factor. In addition, an enhancement of IPV screening in healthcare settings is needed. Future prospective studies are critical to address the issues of temporality and causality.

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Chapter I – Introduction

Intimate partner violence (IPV), which includes any physical, psychological, or sexual harm perpetrated by a current or former intimate partner (Centers for Disease Control and Prevention, 2010), is a public health problem that has many negative effects including its negative impacts on the health of women experiencing the violence. There are four main types of intimate partner violence: physical violence, sexual violence, threats of physical or sexual violence, and psychological/emotional violence (Saltzman et al., 2002). In the United States, more than 1 in 3 women (35.6%) have experienced rape, physical violence, and/or stalking by an intimate partner in their lifetime (Black, Basile, Breiding et al., 2011). In the year 2010, 6.9 million women experienced this form of violence (Black et al., 2011).

Human Immunodeficiency Virus/Acquired Immunodeficiency Virus (HIV/AIDS) is also a major public health issue that impacts the overall health of women. According to the Centers for Disease Control and Prevention (CDC), women accounted for 20% of new HIV infections in 2010 and 24% of those living with HIV infection in 2009 in the United States (CDC, 2012). Furthermore, it is estimated that 84% of female infections are attributed to heterosexual contact in the United States (CDC, 2012), thus it is important to address this route of transmission. This study will examine the association between experiencing IPV and being diagnosed with a sexually transmitted infection (STI), which is a risk factor for HIV. The first hypothesis is that women who have experienced IPV in the previous 12 months (cases) will be more likely to have a previous STI diagnosis compared to women who have not experienced IPV in the previous 12 months (controls). The second hypothesis is that cases will be less likely to have ever been tested for HIV. The third hypothesis in this research is that cases will have a higher mean score of fear of condom negotiation due to fear of physical violence compared to controls. Lastly,

qualitative analysis will be conducted to answer the question “What are the mechanisms that cause an increase in HIV risk for women who experience IPV?”

Chapter II – Review of the Literature

Intimate Partner Violence: A Significant Public Health Problem

Intimate partner violence (IPV) and domestic violence (DV) is a public health problem that affects millions of people and families every year. According to the National Intimate Partner and Sexual Violence Survey (NISVS), a national random-digit-dial telephone survey, 43.9% of women have experienced some form of sexual violence, 15.2% have experienced stalking that made them feel very fearful or made them believe that they or someone close to them would be harmed or killed and 31.5% experienced physical violence by an intimate partner (Breiding et al., 2014). Furthermore, 22.3% of women experienced at least one act of severe physical violence by an intimate partner, which included hurt by pulling hair, hit with a fist or something hard, kicked, slammed against something, choked or suffocated, beaten, burned on purpose, or use of a knife or gun (Breiding et al., 2014). IPV is the leading cause of injury among women in the United States. In 2001, there were more than half a million nonfatal incidents of interpersonal violence reported (Fuentes, 2008). IPV can have a range of negative physical and mental health consequences on the individual. NISVS, for example, found that 23.7% of women were fearful, 20.7% were concerned for their safety, 20.0% experienced one or more PTSD symptoms, 13.4% were physically injured, 6.9% needed medical care, 8.8% needed legal services, 9.1% missed at least one day of work or school, 1.3% contracted a STI, and 1.7% became pregnant as a result of the violence experienced by an intimate partner (Breiding et al., 2014).

Often these negative health consequences last even after the abuse has ended (Campbell, 2002). Women experiencing IPV are at greater risk of having depressive symptoms, heavy alcohol or drug use and chronic disease (Coker et al., 2002). Gynecological problems have been shown to be the “most consistent, longest lasting, and largest” physical health difference between

abused and non-abused women (Campbell, 2002, p.1332). Women who experience IPV also report more self-reported gastrointestinal symptoms and diagnosed gastrointestinal disorders associated with chronic stress (Campbell, 2002). Furthermore, experiencing violence can affect immune system function. For example, Constantino and colleagues (2000) found significant associations between experiencing IPV and altered red blood cell and decreased T-cell function, both of which are measures of immune function (Constantino, Sekula, Rabin & Stone, 2000).

Research has shown that African American women are disproportionately affected by IPV compared to white women and other races. For example, findings from the 2000 National Crime Victimization Survey reported that black women are 35% more likely to experience IPV compared to white women (Rennison & Welchans, 2000). However, research suggests that poverty, disadvantage and other structural inequalities help explain these differences in rates of IPV (Rennison & Planty, 2003). Therefore, it is important to consider the socio-cultural context in which these disparities exist.

HIV/AIDS in African American Women: A Significant Public Health Problem

African American women are disproportionately affected by HIV/AIDS. Black women accounted for 13% of all new HIV infections in the United States in 2010 and nearly two-thirds (64%) of all new infections among women (Prejean et al, 2011). In 2012, the rate of HIV for African American women was four to 20 times higher than rates for females of other races (CDC, 2012). Furthermore, CDC reported in 2009 that HIV/AIDS was the leading cause of death for black women between the ages of 25-34 (CDC, 2012). Specifically in the state of Georgia, although African Americans accounted for 31% of Georgia's population in 2010, they accounted for 77% of the newly diagnosed cases of HIV/AIDS (Georgia Department of Public

Health, 2011). African American women now constitute the largest proportion of persons diagnosed with HIV through heterosexual contact (Rothenberg, 2009).

It has been theorized that the disparate HIV burden among African Americans is not due solely to individual factors and behaviors but rather social factors because African American communities tend to be socially segregated and characterized by higher rates of unemployment, poverty, and incarceration than other communities (Corbie-Smith, Akers, Blumenthal, et al., 2010). In addition to the importance of social contexts in HIV disparities the patterns of heterosexual networks are also important in sexually transmitted disease transmission. The term ‘sexual network’ refers to a set of people who are linked directly or indirectly through sexual contacts (Adimora & Schoenbach, 2005; Klovdahl, Potterat, Woodhouse, et al., 1994; Flom, Friedman, Kottiri, et al., 2001). Research has shown that the epidemiology of illicit drug use, incarceration rates, male to female ratio, and sexual concurrency influences sexual networks in African American communities (Adimora & Schoenbach, 2005). Other factors, such as stigma and homophobia, economic barriers and lack of insurance (which can limit access to healthcare including HIV and STI testing and treatment), and higher levels of STIs (which can facilitate HIV transmission) also play a role (Prejean et al, 2011).

The Intersection of Intimate Partner Violence and HIV/AIDS

The results of a national study which appeared in the May/June 2009 issue of the *Journal of General Hospital Psychiatry* detailed how women in abusive relationships are at a higher risk for HIV infection. Researchers led by Jitender Sareen, M.D., analyzed data from the National Epidemiologic Survey on Alcohol and Related Conditions, which conducted interviews with women ages 20 and older during 2004-2005. The researchers found 5.5 percent of women in relationships reported abuse by their partners. The results showed that women who experienced

violence from their partners were more than three times as likely to have HIV infection as women who do not. In addition, almost 12% of HIV infection among women was due to IPV. (Sareen, Pagura & Grant, 2009).

Female victims of domestic violence are particularly vulnerable to contracting HIV/AIDS because many are unable to protect themselves from their potentially infected partners. Unlike those in non-abusive partnerships, survivors do not have the liberty to negotiate safer-sex practices, such as using condoms or practicing abstinence. There is a severe imbalance of power in abusive relationships, moreover, many survivors are unable to promptly leave their partners should they suspect that their partner is having unprotected sex with others, using illegal substances, or engaging in other HIV related risky behaviors.

Researchers have also found that some abusive partners used deliberate HIV infection or a lack of disclosure about known serostatus as a way to control or abuse their partner (Lichtenstein, 2004; Neundorfer, Harris, Britton, & Lynch, 2005). For example, Lichtenstein conducted a qualitative study of 50 HIV positive women living in the United States in the rural South. Since all women were HIV positive and had experienced several prior abusive relationships they had the unique vantage point of looking back in time at the abuse they had experienced with the lens of their current HIV diagnosis. Participants revealed that they had been physically, sexually, and emotionally abused and believed that the abuse had played a role in their HIV infection. Furthermore, the women revealed that contracting HIV felt like a part of the abuse to them (Lichtenstein, 2004). A similar study conducted with 35 Latina women living with HIV revealed that infection with HIV was another form of abuse that the women had experienced (Moreno, 2007). Several of the women in Moreno's study felt that their partner had infected them with HIV in the context of overall abuse. Similar results have been revealed from

international studies. A study conducted in Uganda described relationships in which women were HIV negative and their husbands were HIV positive. Women saw the sexual violence as an attempt by their male partners to infect their female partners so that they could blame the women for their HIV infection and to stop women from having extra-marital affairs (Emusu, Ivankova, Jolly et al., 2009). Therefore, deliberately infecting a partner with HIV can be viewed as a type of violence.

Mechanisms for Increased Risk

Due to the observational nature of the data and the fact that timing of IPV or HIV diagnosis is often not determined it is difficult to ascertain the exact causal mechanisms. While it is difficult to ascertain the exact causal link between experiencing IPV and HIV many mechanisms have emerged to explain the increased risk of HIV due to experiencing IPV. These mechanisms will be divided into three distinct types: (1) physiological mechanism, (2) behavioral mechanism, and (3) cognitive mechanism. These mechanisms may operate in tandem or individually.

Physiological Mechanism

Women experience many adverse negative health outcomes due to experiencing IPV, including increased prevalence of stress, depression, and chronic anxiety. Recent studies have examined how exposure to IPV can lead to relative immune suppression. Immune suppression can directly increase a woman's susceptibility to HIV upon exposure. Constantino and colleagues (2000) found significant associations between experiencing IPV and altered red blood cell and decreased T-cell function, both of which are measures of immune function (Constantino, Sekula, Rabin & Stone, 2000).

In addition, current evidence suggests that women are biologically more vulnerable to HIV than men are in a heterosexual context due to the larger surface area of mucous membrane exposed during sex, the higher volume of fluids transferred from men to women during sex, and the higher viral content in male sexual fluids (Turmen, 2003). Rape can further contribute to an increased risk of HIV transmission to women due to tears and lacerations of the vagina resulting from the use of force, which can be a major conduit for the transmission of the virus from an infected partner. It is estimated that forced sex occurs in approximately 40 to 45 percent of physically violent intimate partner relationships (Campbell & Soeken, 1999) and can increase a woman's risk of HIV infection for the reasons stated above. A participant of a study conducted in Botswana, who was a member of Women Against Rape, stated that an increase in battered and raped women "has serious implications for women, who are increasingly facing the risk of contracting HIV/AIDS because when these violent acts [rape and sexual assault] are performed, there is little to no evidence of condom use" (Phorano, Nthomang, & Ntseane, 2005, p. 195). IPV can indirectly lead to an increased risk for HIV through a physiological mechanism. See Figure 1.

Behavioral Mechanism

Women who experience IPV may also voluntarily engage in behaviors as a direct result from experiencing violence that increases their risk for HIV infection. Some women also engage in these behaviors as a coping mechanism to deal with the trauma of the abuse. A woman may self-medicate, for example, with alcohol or other drugs because of the abuse she experiences from her partner. Women with a history of IPV are more likely to report behaviors that increase HIV risk, including unprotected sex, injection drug use, and alcohol abuse. Recent studies have also shown that women who report a history of IPV victimization are more likely than those who

do not to report behaviors known to increase HIV risk, including treatment for STIs, giving or receiving money or drugs for sex, and anal sex without a condom in the past year. This is true even when other demographic characteristics, other unhealthy behaviors (such as smoking and heavy drinking), and negative health conditions are similar (Breiding, Black, & Ryan, 2008). International qualitative studies have shown how women who experience IPV may voluntarily engage in behaviors that could increase their risk of HIV infection. For example, a study in Johannesburg, South Africa revealed that the “neglect that abused women may feel in their relationships could encourage women to seek out other partners...” (Fox, Jackson, Hansen et al., 2007, p. 590). Furthermore, this study revealed that as a mechanism of coping with IPV, women may also “abuse substances, which could result in risky sexual behavior” (Fox et al., 2007, p. 594). IPV can indirectly lead to an increased risk for HIV through a behavioral mechanism. See Figure 2.

Cognitive Mechanism

Literature on abuse and condom negotiation state that women in abusive relationships have a fear of asking their partner to wear a condom (Raiford, DiClemente, & Wingood, 2009; Swan & O’Connel, 2012). As the Theory of Gender and Power posits, women who have a lack of power in the relationship often also have constraints on their ability to practice safer sex techniques. Studies have shown that women who experience physical, verbal, or emotional abuse when they discussed condom use with their partners were less likely to use condoms than women in non-abusive relationships (Wingood & DiClemente, 1997). Fear of condom negotiation due to abuse is also very prevalent internationally. In a study in Uganda a focus group participant stated that “men never allow us to use condoms, if we suggest they beat us” (Karamagi, Tumwine, Tylleskar, & Heggenhougen, 2006, p. 7). A woman from a study in

Kenya stated, “I have on many occasions refused to have sex without condoms with my husband but he insists and threatens to beat me, therefore I have to give in. I know the risks of re-infection and that is why I do not enjoy sex. But what can I do?” (Amuyunzu-Nyamongo, Okeng’o, Wagura, & Mwenzwa, 2007, p. S29). Participants from a study in India said that their condom negotiation skills were limited because of the threat of violence and that a woman’s suggestion of using a condom was “seen as a sign of insubordination, or more commonly, as a sign of her infidelity; both are common triggers to violence.” (Go, Sethulakshmi, Bently, et al., 2003, p. 268). Both the domestic and international literature show the impact fear has on a woman’s ability to negotiate condom use. Often, women are too fearful of the physical violence that may accompany inquisition of condom use. Besides being fearful of condom negotiation, women may also be afraid of HIV testing and counselling services. Recent studies have shown that fear of violence can influence whether a women utilizes HIV counselling and testing services (Campbell, 2008). IPV can indirectly lead to an increased risk for HIV through a cognitive mechanism. See Figure 3.

STI as a Risk Factor for HIV

Past literature has demonstrated that the presence of other STIs increases the likelihood of both transmitting and acquiring HIV. Individuals who are infected with an STI are at least two to five times more likely than an uninfected individual to acquire HIV if they are exposed to the virus through sexual contact (Wasserheit, 1992). Furthermore, if an HIV infected person is co-infected with another STI that person is more likely to transmit HIV through sexual contact than an HIV infected person who does not have another STI (Wasserheit, 1992).

Galvin and Cohen (2004) point out that STIs that cause inflammation or ulcers (i.e. genital herpes, syphilis, etc.) greatly increase both the infectiousness of and the susceptibility to

HIV infection and therefore greatly increases the efficiency of HIV transmission (Galvin & Cohen, 2004). Studies have theorized that increased susceptibility for HIV infection is caused by several biological mechanisms. Genital ulcers result in breaks in the genital tract lining or skin, which creates a portal of entry for HIV to enter the bloodstream that would not exist if those ulcers were not present. In addition, inflammation resulting from STIs activates immune cells, such as CD4 cells, which are easier cells for the HIV virus to infect. Additionally, it is also easier for HIV to pass into the bloodstream when inflammation is present (Canadian AIDS Society, 2004). Evidence also suggests that repeated infections with STIs, even if each infection has been treated, can weaken mucosal immunity so that the body's mucous membranes (particularly the mucous membranes of the mouth, penis, vagina, and rectum) no longer protect it as well from HIV infection (Wasserheit, 1996). Studies have shown that STIs cause increased infectiousness to HIV infection. For example, men who are infected with both gonorrhea and HIV are more than twice as likely to have HIV virus in their genital secretions compared to men who are only infected with HIV. Furthermore, the median concentrations of HIV in semen is as much as 10 times higher in men who are infected with both gonorrhea and HIV compared to men who are only infected with HIV. Thus, the higher the concentration of HIV in semen the more infectious a person is and the more likely it is that HIV would be transmitted during sexual contact (Fleming & Wasserheit, 1999). Studies have also found that urethritis (inflammation of the urethritis in the penis caused by an STI) has a similar effect. One study found that men with urethritis had a semen viral load eight times higher than men without urethritis. After the men with urethritis were treated, their viral load was ten times lower compared to the level before treatment (Cohen et al., 1997).

Summary and Hypotheses

Previous research has shown the magnitude and consequences of IPV, such as the increased risk for HIV. Numerous studies have described the disproportionate effect that HIV has on African American women. Both domestic and international studies have shown the association between experiencing IPV and HIV infection. This research will examine the association between experiencing IPV and (1) previous STI diagnosis, (2) accessing HIV testing and (3) fear of condom negotiation. This research will also seek to answer the question: what are the mechanisms that cause an increase in HIV risk for women who experience IPV? A mixed-methods methodology will be used to produce findings with richer detail than either quantitative or qualitative methods can generate alone. Quantitative data will be used to test the hypotheses below. Qualitative data will be used to illuminate participant's experiences and give individual level detail on the three mechanisms that explain the increased risk of HIV due to experiencing IPV (physiological mechanism, behavioral mechanism and cognitive mechanism).

There are three hypotheses:

- (1) Experiencing IPV will be associated with ever having been diagnosed with an STI.
- (2) Experiencing IPV will be associated with accessing HIV testing.
- (3) Women who have experienced IPV in the previous 12 months (cases) will have a higher mean score of fear of condom negotiation due to fear of physical violence compared to women who have not experienced IPV in the previous 12 months (controls).

Chapter III- Methods and Procedures

Participants

Participants in this study were African American women recruited from two public libraries, which were located in two different census tracts where each had been identified previously as being a high risk area (HRA), meaning that heterosexuals who lived in the census tract were at higher odds of HIV infection compared to other geographic areas within the Metropolitan Statistical Area of Atlanta, GA. The indicators of a HRA were high rates of diagnosed cases of HIV/AIDS attributed to heterosexual exposure and high rates of poverty. Eligibility criteria for this study were age (at least 18 years), female, African American, English fluency, vaginal intercourse within the past 12 months and having had experienced IPV within the past 12 months (cases).

Table 1. Characteristics of the Study Participants

Characteristic	N (percent)
Age	
18-21	31 (28)
22-29	25 (23)
30-39	17 (16)
40-49	28 (25)
50+	9 (8)
Marital Status	
Married	17 (15)
Divorced or separated	9 (8)
Widowed	1 (>1)
Single	64 (58)
Living together	14 (13)
Other	5 (5)
Education Level	
< High school	37 (34)
High school diploma	32 (29)
Some college	27 (24)
4-y degree	8 (7)
Other	6 (6)

Source of income	
Job	54 (49)
Husband	6 (5)
Boyfriend	13 (12)
Other family	21 (19)
Gov't assistance	16 (15)
Total (N)	110 (100)

Procedures

From January 2008 through April 2008, trained graduate research assistants (GRAs) approached 162 women who were going into the two public libraries. In addition, one recruitment event was held at a local organization, Jerusalem House, which provides housing to women affected by HIV/AIDS. The majority of participants were recruited from the public libraries. Only a handful of participants were recruited from Jerusalem House. Overall across all locations a total of 147 women agreed to be screened. Women who met the eligibility requirements (N=123) were informed that participation involved a self-administered questionnaire on a laptop computer using Audio Computer-Assisted Self-Interviews (ACASI) and biospecimen collection to test for three non-viral STDs. Of those who met eligibility criteria, 116 agreed to participate and provided written informed consent. Of those who agreed to participate, 6 participants were unable to complete fully the ACASI assessment due to time constraints. Thus, the final sample was N = 110. In addition, women who reported experiencing IPV in the previous 12 months (cases) were asked to participate in an in-person interview (N=53). In total 48 interviews were completed. All participants provided informed consent to participate in the study. All study procedures were approved by Emory University's Institutional Review Board.

The ACASI survey was developed by the study team and used pre-existing validated scales where appropriate (i.e. depression, perceived barriers to condom use, fear of condom negotiation, sexual relationship power, and self-efficacy for abused women). The intent of the quantitative ACASI survey was to assess frequency, severity and type of IPV victimization, psychological constructs (e.g. self-esteem, depression, post-traumatic stress disorder), psychosocial constructs (e.g. self-efficacy to refuse unsafe sex and to negotiate condom use, sense of power and control, fear of consequences pertaining to condom use, communication with sexual partners, perceived social support from family and friends) and behavioral variables (e.g. substance and alcohol abuse, frequency of condom and contraceptive use, history of STI and pregnancy). The ACASI survey was conducted in a private area, contained 190 questions and lasted approximately 20 minutes.

The intent of the qualitative interview was to develop a psychosocial theory that attempts to explain the pathways between experiencing IPV and African American women's increased risk for STIs/HIV. A GRA provided two days of training to the interviewers on conducting qualitative interviews and an overview of IPV and HIV. Each interview was conducted in a private area or room within the library by two GRAs. A semi-structured interview guide explored experiences of abuse and how those experiences affected participants' sense of self, mental health, sexual relationships and their sense of power and control. Each interview lasted approximately 30 minutes. Field notes were also taken following the completion of each interview.

Analysis

Combining qualitative and quantitative approaches leads to a triangulation of findings and richer detail than either method can generate alone. Quantitative data analyses were

conducted using SPSS version 22 (IMB, 2009). As previously discussed, data in this research were from women (N=110) who were recruited in high risk areas of Atlanta, GA. The following ACASI questions were used to determine whether a participant was a case or a control: “In the past 12 months, has a man you had sex with ever hit, punched, kicked, slapped, pushed, yanked your hair or physically hurt you? Yes or No?” and “In the past 12 months, has a man you had sex with forced you to have sex when you didn't want to? Yes or No?” Women who answered “yes” to either question were deemed cases and women who answered “no” to both questions were deemed controls. Chi-square analysis was carried out to assess the association between experiencing IPV and previous STI and experiencing IPV and accessing HIV testing. An independent-samples t-test was conducted to compare fear of condom negotiation scores for cases and controls.

Qualitative data analyses were conducted using NVivo version 10 (QSR International Pty Ltd., 2012). Each interview was audio-recorded and transcribed verbatim. Afterwards, each transcript was imported into NVivo. The interview guide served as a framework for building the initial coding structure. Two interviews were coded by myself and another coder using the initial coding structure. Following this, a discussion was held and the codebook was updated based on coding discrepancies. After this discussion, the same two interviews were recoded by myself and two other coders and inter-code reliability was performed. In this second round of coding the coders achieved an average Kappa Coefficient of .71 and an average percent agreement of 93.52. A review of all codes and their definitions as well as decision rules regarding codes was conducted prior to coding to ensure data were coded consistently and to reduce bias. Myself, another GRA, and an independent coder coded the remaining interviews to ensure quality of the coding process by performing inter-coder reliability. Across nine interviews coded by myself

and the independent coder, the average Kappa coefficient was .77 and percent agreement was 96.70. Across five interviews coded by the GRA and the independent coder, the average Kappa coefficient was .63 and percent agreement was 94.85. Illustrative quotes were selected for the themes identified from the data.

Chapter IV- Results

Dependent and Independent Variables

Experiencing a past STI diagnosis was the dependent variable. Participants were asked “Have you ever been diagnosed with any of the following sexually transmitted diseases (STDs)? Check all that apply.” Therefore, one participant could have a past diagnosis of more than one STI. Of the women in the sample (N=110) there were 133 reported past diagnoses of STIs. Chlamydia affected 60% of the sample and was the STI that affected the most women in our sample. These results are displayed in Table 2. Accessing HIV testing was an additional dependent variable. Of the women in the sample, 92% (N=101) reported receiving an HIV test in their life. Fear of condom negotiation was the last additional dependent variable, and was assessed by asking women to rate “I have been worried that if I talked about using condoms with my steady partner or husband he would hit, push, or kick me” with the scale “never=1, rarely=2, sometimes=3, most of the time=4, or always=5”.

Table 2. Frequency of STI Outcome Variable by Type

STI	N (percent)
Chlamydia	42 (60.0%)
Gonorrhea	20 (18.2%)
Trichomoniasis	38 (34.5%)
Syphilis	11 (10.0%)
Herpes	15 (13.6%)
Other	7 (6.4%)
Never been diagnosed with an STI	33 (30.0%)

Experiencing abuse by an intimate partner in the past 12 months was the independent variable. Of the women in the sample, 53 women (cases) reported that they had experienced abuse by an intimate partner within the past 12 months. Whereas, 57 women (controls) reported that they had not experienced abuse by an intimate partner in the past 12 months.

Hypothesis One: IPV and Risk of STI

The first hypothesis of this research is that experiencing intimate partner violence (IPV) will be associated with ever having been diagnosed with an STI. In order to assess this, a Chi-square analysis was conducted. A Chi-square test for independence (with Yates Continuity Correction) indicated no significant association between IPV and STI diagnosis, $\chi^2 (1, n=110) = 1.93$ $p = .16$.

Hypothesis Two: IPV and Accessing HIV Testing

The second hypothesis of this research is that experiencing IPV will be associated with accessing HIV testing. In order to assess this, a Chi-square analysis was conducted, which indicated no significant association between experiencing IPV and accessing HIV testing ($p = .16$, two-tailed Fisher's exact test).

Hypothesis Three: IPV and Fear of Condom Negotiation

The third hypothesis of this research is that there will be a statistically significant difference in means scores of fear of condom negotiation due to fear of physical violence between cases and controls. In order to assess this, an independent samples t-test was conducted. An independent-samples t-test was conducted to compare the fear of condom negotiation scores for cases and controls. There was a significant difference in scores for cases ($M = 1.72$, $SD = 1.10$) and controls, $M = 1.12$, $SD = .47$; $t(108) = 3.65$, $p = .001$ (two-tailed). The magnitude of the differences in the means (mean difference = $-.59$, 95% CI: $-.92$ to $-.27$) was large (eta squared = $.110$). The mean score was higher for cases, which indicates that women who have experienced IPV rate their fear of condom negotiation due to fear of physical violence higher than women who have not experienced IPV.

Qualitative Analysis

Women who had reported IPV in the previous 12 months (cases) were asked to participate in the semi-structured interviews. Themes were derived from the data to illuminate the three mechanisms mentioned previously: physiological mechanism, behavioral mechanism and cognitive mechanism.

Physiological Mechanism

The physiological mechanism refers to vaginal tears and abrasions during forced sex and immune suppression as a consequence of experiencing IPV. Nineteen percent of the women in qualitative sample reported that they had been forced to have sex with a partner. The following quotes illustrate participants' statements that reflect this mechanism:

- Participant 113 stated "He'll want to have sex and I don't want to have sex, so I'll say no and he'll jump up and force me to have sex with him. I didn't like having sex with him because of the beatings and forcing me to have sex with him. I didn't like it. I just didn't like the abuse. It was like I was made to do it. And I didn't want to, I just didn't want to do it anymore. I would say no to him, but he wouldn't listen."
- Participant 117 stated "Well one time he had the knife, and then he put it around my throat. And he said 'I will cut your head off' if I don't have sex with him. If I don't have sex with him then he was going to cut my damn head off. And he did put a scratch there, but, I mean, he stopped after I guess my kids came in."
- Participant 156 stated "When he was more abusive he wanted to have sex and it was just like if I said no, I wouldn't say that he raped me but it was like he forced it."

- When asked if her partner took sex when he wasn't going to get it, Participant 127 answered "Yes. Mhmm."
- When asked about the effects of the abuse, Participant 102 stated "I was just so depressed and sad and miserable too."
- When asked about the effects of the abuse, Participant 106 stated "You just don't feel pretty and you don't feel like worth value- you know what I'm saying, like maybe you deserved what is happening to you... sometimes."

As the quotes illustrate, men who perpetrate IPV often force sex on their female partners.

Feelings of depression (and worthlessness) can lead to immune suppression.

Behavioral Mechanism

The behavioral mechanism refers to negative coping mechanisms that women adopt to deal with the abuse that they have experienced. Fifty-four percent of the qualitative sample reported that they engaged in a behavior as a result of the abuse they experienced, that was coded as a negative coping mechanism during analysis. Negative coping mechanisms include drug and alcohol use and risky sexual behaviors. The following quotes illustrate participants' statements that reflect this mechanism:

- Participant 113 stated "I drank and I had got to the point where I was on drugs during the time that I was with him. I drank to make me go to sleep. And to stop being so afraid because when I drank I wasn't afraid. I was a different person when I wasn't drinking."
- Participant 117 stated "I started drinking heavily because of him. And I only drink when he goes to sleep or when he's gone. I always kept one [a drink] in the kitchen, you know, and I would look around to make sure he's not around and take me a good swallow and hide it back up there and cook his meal... when he goes to the living room to watch TV or

something, I'd sit in the kitchen just drunk. But I would never let him see me drunk, I would just say well I'm going to lay down is there anything else that you want me to do? And he'd say 'No I don't want you doing anything unless I want you to have sex with me in the bed' So. That's the only thing I did."

- Participant 152 stated "My abuse of marijuana increased when I was being physically abused."

As the quotes illustrate, women who experience IPV often cope with the abuse by abusing drugs and/ or alcohol.

Cognitive Mechanism

The cognitive mechanism refers to fear of condom negotiation with the abusive partner as well as a fear of seeking HIV counselling and testing services. Of the qualitative sample, six percent of women reported being fearful of suggesting condom use to their partner. The following quotes illustrate participants' statements that reflect this mechanism:

- Participant 102 stated "We never used a condom. I thought about it but I never asked him. I think he'd get mad and prolly think I'm cheating on him or something."
- When asked how comfortable she would feel asking her partner to use a condom, Participant 113 stated "Not comfortable. It would not be good to suggest that."
- Participant 117 stated "He wouldn't use condoms- he didn't want to use condoms. I asked him if we would use a condom the first time I found out about all the women. One of his girls called me and said that he's gone leave me and be with her, and I said 'Well good riddance!' You know, I was glad for her. And he found out that I talked to her and then he got mad, and I said, 'Well do you mind using a condom since you just...' and he

slapped me to the floor. And he said ‘I’m not using no damn condom, you going to do what I tell you to do, I’ve told you this!’ I never mentioned condoms again.”

- When asked how comfortable she would feel asking her partner to use a condom, Participant 131 stated “It would probably make him mad or upset, talking about ‘Why, because you think I’m cheating on you?’”

As the quotes illustrate, women who experience IPV often lack the liberty to negotiate safer sex practices. Additionally, women who experience IPV often fear that requesting their partner to use a condom will make their partner mad by either accusing them of infidelity or [falsely] implying their own infidelity, which could lead to violence.

Several additional themes were derived from the qualitative data. Experience of past abuse emerged as a main theme. Past experience of physical, emotional, or sexual abuse is important to understand because a woman who has experienced abuse in the past is more likely to experience repeated incidents of abuse. Several participants talked about experiencing sexual or physical abuse as children. Across participants cathexis also emerged as a theme. Cathexis refers to the concept that individuals perceive and conform to societally prescribed gender roles and behavior norms. Stereotypical gender roles may place a woman at increased risk for HIV by decreasing the amount of control she can exert not only in everyday contexts but also sexual contexts. Many women described their partner’s adherence to stereotypical gender roles. Women often spoke of having to “prove their fidelity” by not asking their male partners to use a condom thereby increasing their risk for HIV. Partner infidelity and concurrency emerged as a prominent theme. Concurrency is a significant risk factor in HIV transmission (Adimora et al., 2006; CDC, 2006; Morris, Kurth, Hamilton, Moody, & Wakefield, 2009). Infidelity and concurrency place women at higher risk for HIV because the more sexual partners her partner

has, the greater the overall exposure risk. The number of African American women infected with HIV through heterosexual sex is greater than the number of African American men infected through heterosexual sex. Concurrent sexual partnerships may help explain this disparity (Morris et al., 2009). These results are displayed in Table 3.

Table 3. Presence of Coders per Participant

Code	N (percent)
Experienced Past Abuse	30 (63)
Cathexis/Sexual Double Standard Present in Relationship	33 (69)
Fearful of Condom Negotiation	3 (6)
Partner Concurrency or Infidelity	10 (21)
Forced Sex or Rape	9 (19)
Negative Coping Strategies	26 (54)
Total (N)	48 (100)

Chapter V – Discussion and Conclusion

Discussion

This study examined the association between experiencing intimate partner violence (IPV) and being diagnosed with an STI, which is an HIV risk factor. It was hypothesized that women who have experienced IPV would be more likely to have a previous STI diagnosis. Contrary to what was hypothesized, women who experienced IPV were not more likely to have a previous STI diagnosis. This finding contradicts the current literature. For example, Sareen and colleagues (2009) found that women who reported abuse from their partner were more than three times as likely to have an HIV infection compared to women who reported that they did not experience abuse from their partner. Many studies comparing abused and non-abused women have found that abused women are more likely to self-report STIs than non-abused women (Champion, Shain, & Piper, 2004; Laughon et al., 2007, Wingood et al., 2000). The contradictory findings may be due to the small sample size (N=110). It may also be due to the purposive sampling methodology; participants were African American women residing in “high risk areas” of metropolitan Atlanta.

It was also hypothesized that women who have experienced IPV would be less likely to access HIV testing. This finding was contrary to what was hypothesized; women who experience IPV were not less likely to access HIV testing. Molitor et al. (2002) found that women with a history of forced sex were less likely to access HIV testing than women who did not have a history of forced sex (Molitor, Ruiz, Klausner, & McFarland, 2000). However, a recent study using 2005 Behavioral Risk Factor Surveillance System data found that HIV testing is positively associated with the lifetime experience of threatened violence, completed physical violence, and unwanted sex suggesting that HIV testing is higher in women who experience IPV due to compromised condom negotiation with a violent partner which place women at a greater

risk of HIV (Nasrullah, Oraka, Breiding, & Chavez, 2013). Thus, this finding both contradicts and confirms previous research. Additional research is needed to further clarify this relationship.

Lastly, it was hypothesized that women who have experienced IPV would be more likely to report fear of condom negotiation due to fear of physical violence. The findings confirmed this hypothesis and are consistent with the broader empirical literature on abuse and condom negotiation. Research has shown that a women's fear of her partner's potentially violent reaction to suggestion of condom use can hinder her ability to practice safer sex (Davila, 2002; Champion et al., 2004; Swan & O'Connell, 2012).

The qualitative findings help to illuminate the mechanisms through which experiencing IPV can increase a woman's risk for HIV. Participants spoke about being fearful or lacking power to initiate condom use. Participants also spoke in depth about using drugs and/or alcohol as a mechanism for coping with the abuse that they endured. Participants also spoke about being depressed or feeling worthless as a consequence of the abuse. Studies have shown that depression can have negative impacts on women's' health and may cause immune suppression.

Limitations of the Current Study

There are several limitations to this study. First, this is a cross-sectional data analysis, and, therefore, the results do not establish the temporal ordering necessary to indicate a causal relationship between IPV and STI infection, (which is an HIV risk factor), accessing HIV testing, and fear of condom negotiation. Second, caution is warranted in generalizing the findings given the sample size. Third, results may not generalize to other geographic locations. A fourth limitation is that selection bias may have had an effect on the study results. For example, women who were willing to participate may have had a unique perspective regarding their experiences.

Implications for Practice

The link shown between IPV and HIV illustrates the need for enhancement of assessment skills in healthcare. Often women go to healthcare providers because they are experiencing the physical and psychological (e.g. depression or anxiety) effects of violence. Unfortunately, many healthcare providers miss important opportunities for addressing IPV when women come in for HIV testing and counselling related services. It is important that the intersection of IPV and HIV is recognized and that health and wellness improve for women by screening for IPV and HIV in health care settings.

In addition, the link between IPV and HIV illustrates the need for more comprehensive HIV prevention interventions that address IPV. A recent review of the CDC's 44 best-evidence HIV risk reduction interventions revealed that only five interventions addressed IPV (CDC, 2011). The relationship between IPV and HIV needs to be more thoroughly and clearly incorporated into HIV interventions.

Lastly, providing timely intervention services to survivors of IPV should be improved. Often it is challenging to provide timely intervention for a variety of reasons: identification of survivors and victims, limited access to HIV services, and a reluctance of survivors to seek out HIV testing and counselling services. Programs should be developed and implemented in domestic abuse shelters that train counselors and shelter workers to integrate the messages about the risks of contracting HIV in the services they provide to women who have experienced domestic violence and IPV. The programs should also be sensitive to the unique social and emotional challenges that survivors face.

Conclusion and Future Directions

IPV and HIV constitute major public health issues for women, and particularly African American women who are disproportionately affected by HIV/AIDS. This study explores the complex relationship between IPV and HIV. In addition, this study helps to increase our understanding of the role fear of condom negotiation among women in abusive relationships. The relationship between IPV and HIV needs to be more thoroughly and clearly incorporated into HIV interventions. In addition, questions about STI and HIV infection should be included into national surveys that estimate the prevalence of IPV to capture data on both important public health issues. Further qualitative and physiological research is needed on the mechanisms that further increase the risk of HIV transmission. Additionally, prospective studies are critical to address the issues of temporality and causality.

Since Maman et al. (2000) first articulated the link between IPV and HIV in 2000 in a paper reviewing violence and HIV, much data has been collected both domestically and internationally. Even though the association of these two public health problems is well known, not much has been done to address the two issues simultaneously. Without addressing the social context in which violence against women takes place, both IPV and HIV will continue to remain as significant public health issues for women domestically and internationally. Additionally, without addressing the role that IPV plays in HIV infection for women, women will continue to be one of the most affected groups for HIV/AIDS. This is especially true for African American women, who are disproportionately affected by HIV/AIDS.

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Appendix

Figure 1. Physiological Mechanism

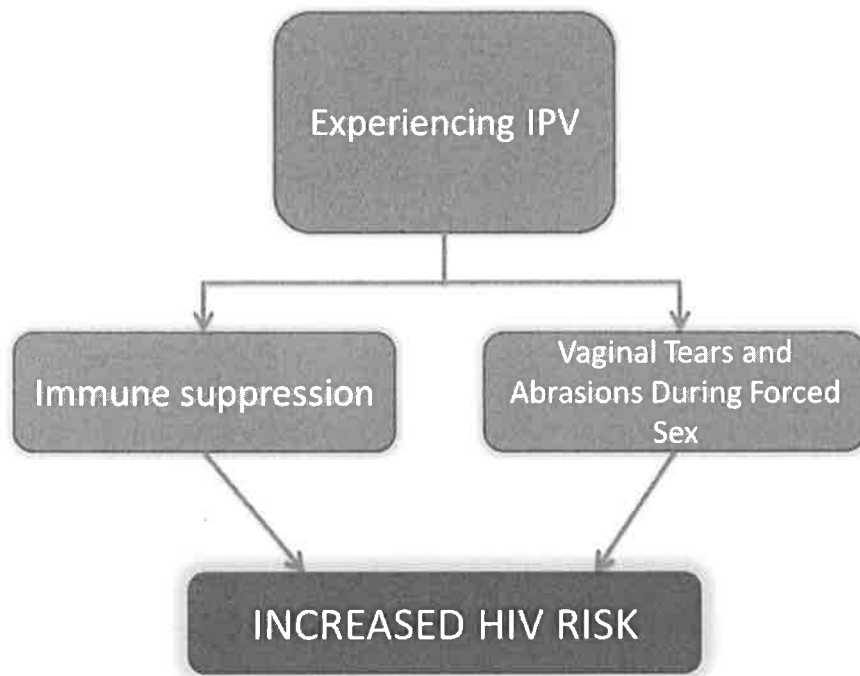


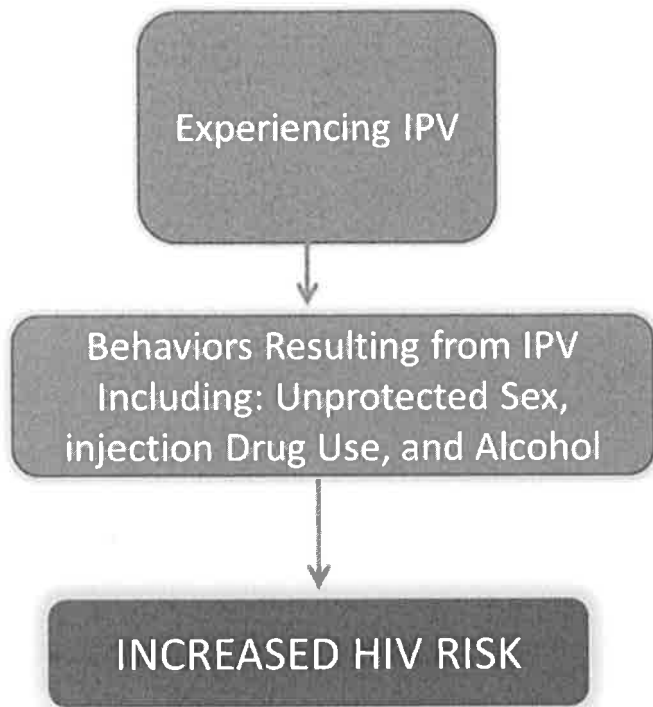
Figure 2. Behavioral Mechanism

Figure 3. Cognitive Mechanism

