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**Violent contraceptive coercion, polyvictimization, and contraceptive outcomes among
African American women receiving WIC services in Fulton County, Georgia**

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Violent contraceptive coercion, polyvictimization, and contraceptive outcomes among African American women receiving WIC services in Fulton County, Georgia

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Abstract

Violent contraceptive coercion, polyvictimization, and contraceptive outcomes among African American women receiving WIC services in Fulton County, Georgia

By: Irina Bergenfeld

Background: Women's exposure to intimate partner violence and reproductive coercion is associated with negative reproductive health outcomes linked to reduced use of contraceptives, including unintended pregnancy and sexually transmitted infections. African American women have been found to be at higher risk of reproductive coercion by male partners and to have higher rates of unintended pregnancy and sexually transmitted infections than women of other race/ethnicities. Reproductive coercion may contribute to disparities in contraceptive use among African American women, who are less likely to use contraception and less likely to use effective methods. As low-income African American women may be uniquely vulnerable to threats on their reproductive agency, it is critical to understand exposure to violent contraceptive coercion and polyvictimization as they relate to contraceptive choices in this group.

Objective: This study seeks to assess the relationship between violent contraceptive coercion and contraceptive behaviors influencing risk of UIP and STIs in AA women receiving care at Women, Infants, and Children (WIC) clinics in Fulton County, GA. We hypothesize that women exposed to past year violent contraceptive coercion and past year polyvictimization will be more likely to forgo contraception or to use ineffective methods, and more likely to use condoms inconsistently or not at all, than women not exposed to these domains of abuse in the past year.

Methods: A secondary analysis was performed using cross-sectional survey data collected between May and July of 2012 at two WIC clinics in Fulton County, GA. Participants completed survey questions involving several domains of health behaviors and experiences, including intimate partner violence and current contraceptive use. This analysis was restricted to African American women under 55 years old. Univariate and multivariate logistic or multinomial regression were used to calculate odds ratios and associated 95% confidence intervals describing the relationship between exposure to VCC and polyvictimization, and outcomes including consistency of condom use and contraceptive nonuse or ineffective use.

Results: Of 395 women interviewed, about 10% reported past year violent contraceptive coercion and 13% reported polyvictimization across at least two of four partner violence domains assessed. Exposure to violent contraceptive coercion in the past year was positively associated with consistent condom use versus nonuse. Polyvictimization showed no significant association with consistency of condom use in unadjusted or adjusted models.

Discussion: The association between violent contraceptive coercion and increased odds of consistent condom use has not been previously described and should be examined in greater depth within the context of African American women's unique patterns of contraceptive use and exposure to male partner reproductive coercion. Strategies to conceal contraceptive use in women exposed to VCC and other IPV domains should be further explored and incorporated into postpartum family planning counseling.

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Chapter 1: Review of the literature surrounding intimate partner violence, reproductive coercion, contraceptive use, and reproductive health outcomes

I. Definitions and prevalence of intimate partner violence, reproductive coercion, and violent contraceptive coercion

Intimate partner violence (IPV) describes abuse by a current or former partner, and traditionally consists of three distinct, but interrelated domains.¹ Physical IPV, “the intentional use of physical force with the potential for causing death, disability, injury, or harm,” includes hitting, slapping, and use of weapons. Sexual IPV encompasses a wide range of unwanted sexual behavior, including rape, non-consensual physical contact, and non-contact sexual acts. Psychological IPV describes attempts to control or harm a partner mentally or emotionally through verbal or nonverbal communication.² Many of those exposed to IPV experience more than one form concurrently, a phenomenon known as polyvictimization.³

While estimates of IPV prevalence in the US vary, it is clear that it is a major threat to women’s health. According to a population-based survey of 10,000 women conducted by the Centers for Disease Control and Prevention (CDC) in 2010, approximately one third of women in the US will experience physical IPV and almost half will experience psychological aggression over the lifetime.¹ This figure does not include rates of sexual IPV, suggesting that the overall prevalence of IPV may be higher. Another study based on Behavioral Risk Factor Surveillance System (BRFSS) data from 70,000 individuals across 18 US states found that overall rates of IPV among US women were closer to 25%.⁴ Differences in IPV prevalence across these studies may be due

to how IPV was assessed in survey items. For example, the BRFSS did not address psychological abuse.⁴ Likewise, estimated rates of polyvictimization are highly influenced by what types of IPV are being measured and how exposure to these domains is being assessed.⁵ A large retrospective cohort study of over 3500 women aged 18 to 64 enrolled in an HMO in Washington and Idaho found that 45% of abused women in the sample experienced polyvictimization over the lifetime.³ Although this sample was less racially diverse, older, and wealthier than US population as a whole, the 2010 CDC data from the National Intimate Partner and Sexual Violence Survey (NISVS) suggest similar rates of polyvictimization among women experiencing abuse.¹

The NISVS estimates that the lifetime prevalence of physical IPV, rape, or stalking among African American (AA) women is approximately 44%, significantly higher than the national average.¹ The most significant differences between AA women and other groups were in the area of physical violence, with no differences in the prevalence of rape.¹ Because sexual and psychological IPV were not directly measured in this study, this number may not reflect the overall prevalence of IPV across domains. Moreover, these statistics represent raw data, which does not take into account potential confounding factors such as socioeconomic status. The relationship between race and IPV is a complicated one, with conflicting research findings continuing to spark much debate in the current literature. Many multiracial women, who experience the highest IPV prevalence of any racial/ethnic group,^{1,3,4} may also identify as black or AA, further complicating the discussion of race and IPV.

Within the past decade, reproductive coercion (RC) has been studied as a distinct domain of abusive behavior apart from the traditional domains of physical, sexual, and psychological IPV. Reproductive coercion (RC) is defined as “behavior that interferes with the autonomous decision-making of a woman, with regard to reproductive health”.⁶ The conceptualization of RC as a distinct form of IPV apart from other forms of physical, sexual, and psychological aggression has occurred largely within the past decade⁶; as such, it has been less studied than the three traditional types of IPV. RC consists of several inter-related domains, including birth control sabotage (e.g. damaging or destroying a condom, hiding birth control pills), pregnancy coercion (e.g. pressuring a partner to get pregnant), and pregnancy outcome coercion (e.g. pressuring a partner into getting an abortion).⁷

A range of studies have estimated RC prevalence in specific populations. Cross-sectional data on prevalence estimates for lifetime RC range from 8% among a sample of 900 female college students⁸ to 16% in a sample of over 600 women attending a large obstetrics and gynecology practice.⁹ Estimates are higher among more vulnerable populations; a cross-sectional survey among 149 low-income high school girls reported lifetime RC rates of 19%.¹⁰ Among a sample of 3000 women calling a national IPV hotline, this number was 25%.¹¹ Although there is no comprehensive national data on the prevalence of RC, 2010 data from the CDC recorded specific coercive behaviors, finding that 6.7% of nearly 10,000 women surveyed had ever had a partner refuse to use a condom and 4.8% had had a partner try to get them pregnant against their will.¹

Violent contraceptive coercion (VCC) has recently been conceptualized as a subdomain of RC and is defined as “as the loss of reproductive autonomy through violence or threat of violence”,¹²

and includes such behaviors as hitting or threatening to leave a partner in response to contraceptive requests. Very little research exists describing the prevalence and potential health impact of VCC, and much of the research that does exist is qualitative in nature. Although qualitative studies have been useful in elucidating a wider range of behaviors that comprise RC by male partners within and outside of the context of other forms of IPV, the findings are of limited generalizability.

The only prevalence estimates of VCC the literature range from 4% to 12% in the past 3 months.^{13,14} These estimates come from two studies: a small prospective cohort study among 304 HIV-positive women in treatment and a cross-sectional survey of 165 low-income AA women in California, respectively.^{13,14} Both studies limited the sample to women currently in a relationship with a male partner and may therefore not be generalizable to other populations.¹³ Moreover, both studies consider vulnerable populations with demographic characteristics that are associated with exposure to IPV and RC.^{1,3,6}

RC among AA women has been addressed largely in qualitative studies in more limited populations, which makes it difficult to general these findings to AA women nationally. The largest quantitative study to date analyzed cross-sectional survey data from over 1200 women receiving care at family planning clinics in California, and estimated the prevalence of RC among AA women at 37%.¹⁵ This rate was significantly higher than that of other racial/ethnic groups, even controlling for other IPV. Qualitative studies among low-income women have produced similar findings. One such study, among 66 low-income women, estimated the prevalence of RC among AA women to be 44%, significantly higher than for white women.¹⁶

Since low income is a demographic risk factor for RC, this number may overestimate the prevalence of RC among AA women generally.

Multiple studies have confirmed that RC often co-occurs with IPV.^{10,17,18} A large cross-sectional study among women seeking obstetric and gynecological care found that 32% of those who reported past IPV also reported concurrent RC in the same relationship.⁹ Data from another large survey among women receiving services at family planning clinics in northern California support this rate of covictimization, with 35% of women reporting current IPV also reporting lifetime RC.¹⁹

II. Demographic risk factors for IPV and RC

The 2010 NISVS confirmed several demographic risk factors for IPV that had already been identified in smaller studies. Large, population-based surveys, such as the NISVS and BRFSS, have found that past year IPV risk is highest for individuals 18-24 and gradually decreases with age.^{2,4} (Individuals under 18 were excluded from the survey, so no estimates were available for this group). The same trend was seen for those with annual household income under \$25,000, with IPV risk decreasing with increasing income.^{2,4} Similarly, those with food or housing insecurity in the past year had significantly higher rates of past year IPV than those who had not experienced food or housing insecurity.² BRFSS data confirm these associations in a larger, but still nationally representative, sample.⁴ Bisexual women were also at higher risk IPV as compared with their heterosexual and homosexual counterparts, but are still much more commonly abused by male partners than female partners.^{2,3,20} Additional demographic risk

factors that have been uncovered in smaller studies include being insured under Medicaid (vs. managed care),²¹ single parenthood, and having experienced or witnessed abuse as a child.³ These findings come from a retrospective study of 3500 medical records from women in Washington and Idaho and a cross-sectional survey conducted among 1400 women accessing primary care in South Carolina.^{3,21} In these studies and in the BRFSS data, education level did not demonstrate any significant trend with IPV risk, presenting a potential issue with using education as a proxy measure for socioeconomic status in studies of IPV.⁴

IPV and RC share many of the same demographic and behavioral risk factors. Although a population-based survey exploring predictors of RC has yet to be undertaken, many of the predictors of RC found in smaller studies are similar to those of other forms of IPV. Some of these include AA or multiracial, single/dating relationship status, and proxy measures of low income such as receiving hospital free care.⁹ Bisexual women were also at higher risk for RC than either heterosexual or homosexual women.¹⁹ There is not enough data available on the prevalence of VCC and other subdomains of RC to determine if the risk factors for these subdomains differ from RC generally.

Although there is less data on the prevalence of RC by demographic characteristics, both qualitative and quantitative studies suggest that AA women are at greater risk of RC than other racial groups.^{15,16} This appears to hold true even in populations in which race was not found to be significantly associated with IPV.¹⁵ This finding underscores the need to uncover underlying factors that may contribute to AA women's risk of RC.

III. Reproductive and sexual health outcomes associated with IPV, RC, and VCC

A. Sexually transmitted infections and condom use

A large body of literature supports a strong association between sexually transmitted infections (STIs) and IPV in a range of populations.^{20,22,23} A secondary analysis of nationally representative survey data from nearly 14,000 women in a heterosexual relationship within the past year found that an estimated 12% of cases of human immunodeficiency virus (HIV) in women are attributable to IPV exposure.²⁴ The same study found a strong association between past year HIV prevalence and exposure to past year IPV, particularly among women exposed to both physical and sexual IPV. Other cross-sectional studies have found that women exposed to IPV in the past year were two to three times as likely as never-abused women to have a history of STI.^{25,26} A major limitation of the body of literature exploring STI risk among abused women is a lack of longitudinal data, which makes it difficult to establish temporality. However, other studies have explored hypothesized mediating factors in the causal pathway between experiences of abuse and STIs.

The link between IPV and STI risk has been hypothesized to result from sexual risk taking including inconsistent condom use, partner nonmonogamy, and forced sex, all of which have been shown to contribute to greater risk of STIs.²³ A cross-sectional analysis of a random sample of 800 women receiving emergency department care in New York City found HIV risk behaviors (having more than one sexual partner and having sex with an HIV-positive partner or injection drug user) were significant predictors of having experienced IPV in the past 6 months.²⁷ These

associations were confirmed by a cross-sectional study in a similar population of 1600 primarily black and Latina women attending hospital based clinics in New York City, which found the same link between current or past abuse by a current partner and similar sexual risk behavior in the past 6 months. Additionally, this larger study found IPV exposure was associated with having had an STI and inconsistent use or nonuse of condoms.²⁵ Qualitative studies of condom use among youth in urban settings have suggested that condom use among adolescents may be significantly influenced by fear of negotiation with an abusive primary partner.^{28,29} A study conducted among random sample of 500 women in heterosexual relationships attending a sexual health clinic found significant associations between IPV and fear of violence from condom negotiation, which was in turn significantly associated with inconsistent condom use.³⁰ This adds to a growing body of literature implicating condom negotiation as an intermediate between IPV and decrease condom use. Perceived limitations on reproductive agency in abusive relationships provide a framework in which to examine the links between IPV, RC, and STI risk.

There is a growing body of literature suggesting that RC is associated with increased risk of STIs and that this risk is amplified by IPV exposure. A study of 149 high-school aged girls in Bronx County, New York found that girls who had ever experienced RC were more likely to have had chlamydia and to have experienced IPV.¹⁰ A larger study among 1200 racially diverse 16- to 29-year-old women attending family planning clinics in California found that RC within the past 3 months was positively associated with seeking one or more STI tests in the past 3 months.¹⁹ This association was significant in the absence of IPV but was stronger among women experiencing both RC and IPV in the past 3 months.¹⁹ Thus far, no studies exploring the link between RC and condom use have been conducted.

AA women are at increased risk of RC,¹⁵ STIs,³¹ and HIV.¹⁴ Many of the same IPV-related risk factors found in racially diverse studies have been found with greater prevalence in studies restricted to AA women. Of a cross-sectional sample of over 800 AA women aged 18 to 29, 65% reported inconsistent condom use, which was significantly associated with a history of IPV.³¹ This association was stronger among women who reported partner-related barriers to condom use, a phenomenon now defined as RC. A smaller study among 165 AA women in urban California found that exposure to multiple episodes of IPV was negatively correlated with frequency of condom use.¹⁴ The same study found that women reporting IPV in the past 3 months were more likely to report VCC in the same relationship and that this was a significant factor in condom nonuse and inconsistent use.¹⁴ Since this 1997 study, little quantitative research has been conducted to elucidate mechanisms underlying STI risk and condom use among AA women experiencing IPV and RC.

B. Unintended Pregnancy

There is “strong and consistent evidence” in the literature that women experiencing IPV are at significantly greater risk of unintended pregnancy (UIP) and abortion.²³ Having an unplanned pregnancy or induced abortion has been found to be associated with experiencing any IPV in multiple studies across diverse populations,²³ but an association has also been documented for physical IPV alone.^{23,32} In a cross-sectional study of 1300 women attending Planned Parenthood clinics in Philadelphia, each additional pregnancy associated with 10% greater odds of IPV.³³ The same study found that women who experienced IPV in the past year were more likely to

report not using contraception to conform to a partner's wishes. Similarly, in a review of literature across several countries, including the US, women who have more children or have had more abortions are more likely to have an abusive partner.³⁴ Among a nationally representative cohort of over 10,000 first-time, low-income mothers, those experiencing IPV prior to or during pregnancy showed lower rates of contraceptive use and higher rates of rapid repeat pregnancy at follow-up.³⁵ This is one of the largest longitudinal studies to provide evidence for a temporal relationship between experiences of abuse and reproductive outcomes in which contraceptive use serves as an intermediate factor.

RC has been shown to influence many of the same reproductive outcomes as IPV, especially among polyvictimised women. Pregnancy coercion and birth control sabotage, both dimensions of RC were individually associated with UIP in a cross-sectional study of 1200 16- to 29-year-old women attending family planning clinics in California.⁶ Women exposed to recent reproductive coercion (defined as occurring within the past 3 months) were found to have increased odds of past-year unintended pregnancy, even in the absence of a history of IPV. Those women who experienced both RC and IPV during their lifetimes demonstrated the greatest risk for UIP.^{6,18} A secondary analysis of the same sample of women at family planning clinics suggests an association between recent RC and use of emergency contraception within the past year.¹⁹ It is clear that many of the mechanisms connecting RC to UIP are also linked with IPV, warranting further investigation in other populations.

Recent research has examined the intersection of race, RC, and IPV in relation to UIP risk. An analysis of national surveillance data from over 100,000 live births across 40 states found a

significant association between IPV and UIP among white women, but no similar association among AA women.³⁶ This suggests that there may be significant differences between racial groups in the relationship between IPV and UIP. A secondary analysis of data from Miller et al.'s 2010 study among 1200 women at family planning clinics in California found that the effect of RC on UIP did not vary by race, but that AA and multiracial women were more likely to experience RC and UIP.¹⁵ Moreover, the effect of race was attenuated in RC-adjusted models. A qualitatively study of 44 AA and white women recruited from family planning clinics in Pennsylvania uncovered important differences in AA women's experience of RC compared to white women's, even among women with similar socioeconomic status and access to care.³⁷ In light of the fact that 64% of pregnancies among AA women are unintended, compared with 45% among the general US population,³⁸ further research is warranted to elucidate the unique factors which underlie AA women's excess risk.

C. Contraceptive use

A large body of literature supports a negative association between IPV exposure and contraceptive use,^{5,17,23} providing a link in the causal pathway from abuse to UIP and STIs. In a cohort of pregnant women attending Planned Parenthood clinics who experienced past abuse, characteristics associated with RC including partner unwillingness to use birth control, partner desirous of conception, and partner creating difficulty for subject's use of birth control were all positively associated with report of IPV.³³ These findings suggest that RC be a key mediating factor in contraceptive non-use among women experiencing other forms of IPV. More recent longitudinal studies have established some temporality in the relationship between IPV and

contraceptive use.^{35,39} For example, IPV exposure in a current relationship was significantly associated with lower odds of using any contraception in a large, longitudinal study of 18- to 19-year-old women in Michigan. This relationship showed a dose-response-like effect, showing a stronger association for recent IPV in a current relationship than for past exposure in a current relationship.³⁹ While most research to date has considered contraceptive use as a whole, more recent studies have begun to explore nuances in how IPV exposure can affect different contraceptive types.

Recent research suggests that there may be notable variations in contraceptive use among IPV-exposed women by domain of abuse and contraceptive method used. A large, longitudinal study among 18- to 19-year-olds found that condom use was lower among women who experienced physical IPV in their current relationship, but withdrawal use was higher, and any contraceptive use was less consistent than for women who had not experienced IPV in their current relationship.³⁹ The same study found higher odds of long-acting reversible contraception (LARC) or injectable contraceptives, and lower odds of dual contraceptive use for women experiencing physical IPV in a current relationship.³⁹ Likewise, a study of 700 14- to 26-year-olds at family planning clinics in Texas found a significant negative association between dual contraceptive use at last intercourse and both physical and psychological IPV.⁴⁰ This highlights one of the difficulties of making comparisons of comparing contraceptive use across studies: the variability in definitions and assessment of contraceptive use. This relationship is worth exploring in greater depth, as more granularity in categorizing contraceptive use may uncover important variations.

Another less-studied dimension of contraceptive use has been consistency, which has largely been focused on condom use. There is evidence that IPV may affect women's ability to maintain any contraceptive use over the long term. Individuals experiencing both physical and emotional abuse in a sample of 225 women receiving care at several clinical locations in the Boston area were more likely to report using a form of contraception other than their preferred method in the past 12 months compared with nonabused women.⁴¹ In a retrospective analysis of 200 medical records from family planning clinics in the northeastern US found that women reporting recent exposure to violence were more likely to change birth control methods in the past year and that women with any IPV history changed methods more frequently than never-abused women.⁴² These studies suggest that consistency and duration of use must be considered to create a more comprehensive picture of contraceptive use among vulnerable groups.

The disproportional prevalence of UIP and STIs among AA women has motivated research aimed at identifying factors associated with contraceptive use in this group. Compared with other groups, low-income African American women are more likely to eschew contraception or to use less effective methods such as condoms, with one quarter of AA women at risk of unintended pregnancy using no form of contraception.⁴³ Compared with white women, black women are 50% less likely to use an "effective prescription method" of contraception, defined as any hormonal method, IUD, or female sterilization.⁴⁴ These disparities were greatest for younger women and tended to lessen among older demographics; in fact, AA women over the age of 35 are the demographic most likely to use female sterilization as a means of contraception.⁴⁵

Qualitative studies have elucidated some of the beliefs and attitudes underlying differences in AA women's contraceptive behavior compared to other groups. A nationwide survey examining 2000 female veteran's beliefs and preferences surrounding contraception found that compared to white women, AA women were less likely to value effectiveness, less likely to desire methods that contained hormones, and more likely to desire a method that prevented STIs.⁴⁶ The same study reported that AA women were significantly less likely than white women to report high self-efficacy with regard to using contraception as indicated over the course of a year.⁴⁶ A nationwide cohort study of 10,000 women found that AA women were more than twice as likely to experience contraceptive failure over the course of a year⁴⁷ and 20% more likely to discontinue use of oral contraceptives.⁴⁸ However, a secondary analysis of national survey data from 602 women 18 to 29 years of age found that contraceptive attitudes and knowledge did not significantly impact contraceptive decision-making among AA women.⁴⁹ Considering the excess risk of RC¹⁵ faced by AA women and the fact that IPV is linked to less consistent contraceptive use,²³ it is critical to identify which factors affect contraceptive behaviors in AA women experiencing partner violence.

IV. Current instruments for measuring IPV, RC, and VCC

The Revised Conflict Tactics Scale (CTS2) is the most commonly used instrument to assess violence in intimate relationships.⁵⁰ The 78-item scale (39 items for partner behavior, 39 items for reciprocal behavior towards partner) measures five behavioral domains related to negotiation, exposure to psychological IPV, exposure to physical IPV, exposure to sexual IPV, and IPV-related injury.⁵⁰ Although of limited use in clinical settings due to the amount of time it takes to

administer, it has demonstrated high reliability in a variety of study populations.⁵¹ A 20-item short form, the CTS2S, is available for screening in clinical settings; however, it may not capture the full range of IPV-related behaviors, resulting in underestimates of prevalence.⁵²

Other instruments recommended by the CDC for assessing IPV include the Women's Experience with Battering Scale, Abusive Behavior Inventory, the Composite Abuse Scale, the Measure of Wife Abuse, the Partner Abuse Scale, and the Severity of Violence Against Women Scale.⁵³

Various tools also are available for clinical assessment, including the Woman Abuse Screening Tool, Abuse Assessment Screen; HITS (Hurt, Insulted, Threatened, or Screamed), Ongoing Violence Assessment Tool, and Partner Violence Screen.²⁰ The variety of instruments available to assess IPV is a contributing factor in the variations in prevalence estimates across studies, as each instrument defines IPV differently and may neglect some domains that others capture.⁵

The Reproductive Coercion Scale (RCS) is the only validated scale to assess RC.⁶ This 9-item, 2 factor scale is intended to capture a spectrum of coercive behaviors, including “threatened to break up with you if you did not get pregnant” and “taken off the condom while you were having sex”.⁶ A 5-item short form was refined from the original 9 items to improve reliability and facilitate ease of use in clinical settings.⁵⁴ However, this scale has many of the same limitations as the CTS2S in that it does not capture the full range of coercive behaviors, particularly IPV occurring in response to contraceptive request.⁵⁴ Moreover, the pregnancy coercion domain focuses solely on male partner attempts to impregnate an intimate partner and may overlook more general attempts to control a woman's reproductive choices.

Until recently, no validated scale existed to measure VCC. Recent efforts have been made to create a standardized instrument for measuring VCC and to incorporate measures of contraception-related coercion into existing instruments. The Violent Contraceptive Coercion scale can be used as a standalone 4-item instrument or as a 2-item subdomain added to the CTS2S, and measures intimate partner attempts at coercion through violence or threat of violence, e.g. “When asked your partner about birth control how often did your partner threaten to shove, slap, kick or punch you?”.¹² Because the VCC asks specifically about behaviors resulting from contraceptive requests, it has the advantage of having some causality built into the wording of questions and is therefore better able to capture proximal coercive behaviors without asking about partner intentions.

V. Gaps and areas for further study

The intersection of RC and IPV needs to be further explored to understand the mechanisms by which individual subdomains of these phenomena may intersect to influence reproductive health outcomes.¹⁷ Proposed explanatory factors in the theoretical framework linking IPV and women’s health include reduced ability to negotiate contraceptive use due to low perceptions of self-efficacy, fear or threat of IPV in relation to contraceptive use, reproductive coercion, and sexual relationship power imbalances.¹⁷ These gaps have primarily been described in systematic reviews highlighting the need to quantitatively assess proximal mechanisms by which acts of abuse may cause reduced contraceptive use.^{17,23} Much of the current research into the reasons why exposure to IPV and RC may affect contraceptive use is qualitative, and is therefore limited by small sample size and a lack of generalizability.

Issues in population and study design have also affected the generalizability of many quantitative studies. Sample size and selection bias have limited the usefulness of quantitative studies showing links between IPV and contraceptive non-use.^{5,17,41} Many researchers studying IPV, RC, and VCC have used convenience samples of women in vulnerable populations, such as women seeking care at family planning clinics, abortion clinics, HIV treatment centers, and women's shelters.¹¹ Women in these samples typically reported much higher rates of partner abuse than are seen in the general population. There is a need for studies across broader and more diverse populations to gain a more comprehensive sense of how IPV, RC, and VCC influence reproductive choices in a variety of contexts.

Much of the literature limits IPV exposure to physical IPV only or to physical and sexual IPV, with few studies including psychological IPV or fear of IPV in their analyses.⁵ This may be due to the fact that researchers and clinicians may conceptualize psychological IPV differently, and that the variety of instruments available to measure IPV may not be defining psychological IPV in the same way or may not consider it at all. Since different domains of IPV are not necessarily correlated, IPV prevalence may be underestimated in studies that do not include multiple domains in their measures, particularly when considering polyvictimization (Maxwell et al. 2015). RC and VCC have only recently been assessed along with other forms of abuse and have not typically been included in measures of polyvictimization.

Measures of contraceptive use are often limited to condoms or condoms and oral contraceptives.⁵ Condoms only account for 15% of all contraceptive use in the US, condoms and oral

contraceptives 41%,⁴⁵ leaving the majority of contraceptive use, unexamined. In particular, studies limited to condoms and oral contraceptive pills neglect more effective methods such as long-acting reversible contraception and hormonal injections. Other studies have limited their definition of contraception to methods considered “effective,” resulting in differences in significance and precision when only “modern” contraceptive measures (as opposed to rhythm or withdrawal methods) are considered.⁵ In light of recent findings that withdrawal use is higher among women who have recently experienced physical abuse,³⁹ failing to consider contraceptive effectiveness may oversimplify the relationship between IPV/RC, contraceptive use, and UIP. Moreover, there are few studies to date which account consistency of use for contraceptive methods other than condoms.⁴²

This study seeks to assess the relationship between VCC and contraceptive behaviors influencing risk of UIP and STIs in AA women receiving care at Women, Infants, and Children (WIC) clinics in Fulton County, GA. We hypothesize that women exposed to past year VCC and past year polyvictimization will be more likely to forgo contraception or to use ineffective methods, and more likely to use condoms inconsistently or not at all, than women not exposed to these domains of abuse in the past year.

Chapter 2: Introduction

Women's exposure to intimate partner violence (IPV) is associated with negative reproductive health outcomes linked to reduced use of contraceptives, including unintended pregnancy (UIP) and sexually transmitted infections (STIs).^{17,20,23} Reproductive coercion, defined as "behavior that interferes with the autonomous decision-making of a woman, with regard to reproductive health", may contribute to these health outcomes independently and in conjunction with other domains of IPV.⁶ RC includes several subdomains, including birth control sabotage, and pregnancy coercion, and violent contraceptive coercion (VCC), defined as the loss of reproductive autonomy through violence or threat of violence.¹² Although RC often occurs with IPV in the same relationships,^{8,9,19} it may also influence women's reproductive health in the absence of IPV,¹⁹ highlighting the need to pinpoint which domains of RC may be interacting with IPV to influence contraceptive behaviors. VCC has been proposed as a mediating factor in the relationship between IPV and women's reproductive health, yet few studies have quantitatively assessed its impact or its interaction with other domains of IPV.¹²

A large body of research suggests that low-income African American (AA) women are at increased risk of UIP and STIs compared to other racial and ethnic groups.³⁸ Low income and other markers of socioeconomic status (access to health insurance, food and housing insecurity) have been described as risk factors for IPV and RC.^{2,3,4} Although there is little consensus regarding the association between race and IPV, AA women have been found to be at higher risk of RC by male partners than women of other race/ethnicities.^{13,14} RC may be one factor contributing to disparities in contraceptive use among AA women, who are less likely to use

contraception,⁴³ less likely to use more effective methods,⁴⁴ and more likely to favor methods that do not contain hormones and that offer protection against STIs compared to white women.⁴⁶ However, researchers have only recently begun to study the unique impact of RC and VCC among AA women with regard to contraceptive behaviors which may increase the risk of negative health outcomes.

As low-income AA women may be uniquely vulnerable to threats on their reproductive agency, it critical to understand exposure to VCC and polyvictimization as they relate to contraceptive choices in this group. This study seeks to evaluate the relationship between exposure to VCC and contraceptive behaviors that increase risk of UIP and STIs among AA women receiving WIC services in Fulton County, GA. Using a quantitative approach, we attempt to elucidate the unique role that VCC plays in influencing low-income AA women's current contraceptive use in the context of exposure to other IPV domains. We hypothesize that women exposed to VCC and polyvictimization will be more likely forgo contraception or use ineffective methods, and more likely to use condoms inconsistently or not at all.

Chapter 3: Methods

Overview

This study is a secondary analysis of cross-sectional survey data collected between May and July of 2012 in a population of low-income African American women receiving WIC services in Fulton County, GA. Univariate and multivariate logistic or multinomial regression were used to calculate odds ratios and associated 95% confidence intervals describing the relationship between exposure to VCC and polyvictimization, and outcomes including consistency of condom use and contraceptive nonuse or ineffective use. Approval for the study was granted by the Emory University Institutional Review Board and the Division of Health and Wellness of the Fulton County Health Department.

Study Site and Population

Survey data were collected between May and July of 2012 at two WIC clinics in Fulton County, Georgia (population 1,023,336).⁵⁵ Fulton County is 44.5% African American, and 16.0% percent of households fall below the poverty line.⁵⁵ The proportion African American women in Fulton County who fall below the poverty line is comparable to the national average (25.9% vs. 25.7% nationally).⁵⁵

WIC is a United States Department of Agriculture program for low-income pregnant, postpartum, and breastfeeding women, and children under the age of five. In 2012, a family of 3 making less than \$35,317 annually would meet income guidelines to receive WIC services in Georgia.⁵⁶ WIC clinics provide nutritional assistance in the form of vouchers, breastfeeding

promotion and support, and immunization screening and referral.⁵⁷ In 2012, 24.1% of the 338,329 individuals receiving WIC services in Georgia were pregnant, postpartum, or breastfeeding women; 35,950 of these women identified as Black/African American.⁵⁸

Sample

Eligibility criteria for study participation included age over 18, English-speaking, and eligible to receive WIC services. All women meeting these criteria who agreed to participate were included in the study. Women were purposively sampled from each clinic proportionally to its monthly caseload, resulting in a sample of 256 participants from clinic 1 and 448 participants from clinic 2. Of 1137 women approached, 704 women were interviewed for a participation rate of 61.9%. Only African American participants (n=639) were considered in this analysis.⁵⁹

Data collection

Participants were randomized to complete questionnaires via computer-assisted self-interview or face-to-face interview proportionally across the two clinic sites.⁵⁹ Participants answered questions across several domains of health behaviors and experiences, including: general health; sexual health; intimate partner violence; alcohol, tobacco, and drug use; and comfort level with disclosure. The sample for this analysis was restricted to those African American women with complete data on the exposures, outcomes, and other covariates were considered in the study (n=395).

Measures

Outcome variables

Current contraceptive use

Current contraceptive use was assessed by asking participants “Are you currently using a method of contraception?” with follow-up “If so, which method are you currently using?”.

Participants could select up to three contraceptive methods from: condom, withdrawal/pulling out, diaphragm, Depo-Provera/shot, intrauterine device (IUD), birth control pill, or other. Those who indicated that they were currently using at least one effective method of contraception were coded as 0 and treated as the reference category. Effective methods were defined as those with <15% risk of pregnancy with typical use over one year, including condoms, Depo-Provera/shot, IUD, birth control pill, and other. Participants who answered “not applicable” to “Are you currently using a method of contraception?” were also coded as 0 under the assumption that they were either pregnant or not fertile. Those who indicated not using any method or using a single ineffective method (withdrawal or diaphragm) were coded as 1.

Consistency of condom use

Consistency of condom use was described as consistent (**Table 2**) and coded as 2 if participants answered “yes” to the question, “Do you always use a condom during sex?”. Those who answered “no” to the preceding question but indicated that they used condoms either at last sex or as a method of contraception were coded as 1 as described as inconsistent users. Inconsistent use was assessed using the questions “The last time you had sex, did you use a condom?” and “Are you currently using a method of contraception?” with follow-up “If so, which method are

you currently using?”. The reference category in this analysis was no reported condom use, coded as 0.

Exposure variables

Past year physical, sexual, and psychological IPV

Exposure to physical, sexual, and psychological IPV was assessed using Revised Conflict Tactics Scale Short Form (CTS2S), a 10-item, 5-domain instrument adapted from the 39-item Revised Conflict Tactics Scale (CTS2).⁵⁰ Two items correspond to each domain of IPV; only six questions were used in this analysis because only three domains from the CTS2S were considered. Alpha reliability for physical IPV, sexual IPV, and psychological IPV for the short form compared to the full CTS2 are 0.72, 0.65, and 0.77, respectively.⁵² Example questions from these domains include “My partner insulted, swore, shouted, or yelled at me” for psychological IPV; “My partner pushed, shoved, or slapped me” for physical IPV; and “My partner insisted on sex when I did not want to or insisted on sex without a condom (but did not use physical force)” for sexual IPV. Each item on the CTS2S is scored on a six point scale indicating the frequency of events; response categories range from 0 (happened previously but not in the past year) to 6 (happened at least 20 times in the past year), with 99 indicating that the event never happened.⁵² Participants who responded between 1 and 5 to at least one question in any domain, indicating that the event had happened at least once in the past year, were coded as 1 in that domain of past year IPV. Participants who responded 0 for “not in the past year, but happened before” or 99 for “this never happened” were coded as 0 for the reference category.

Violent contraceptive coercion

Past year VCC was captured on a 4-item scale indicating the frequency of partner behaviors, e.g. “When you asked your partner about birth control, how often did your partner threaten to shove, kick, hit, or punch you?”.¹² Respondents indicated 1=Always, 2=Sometimes, 3=Rarely, and 4=Never. All four items were reverse-coded and summed to create a dichotomized measure of past year VCC. If the reverse-coded scale totaled more than 4, VCC was coded as “1”; scale totals of 4, indicating “Never” for all items, were coded as “0” as the reference. Cronbach’s alpha for the scale was measured at 0.77 for the original study population.

Polyvictimization

Participants coded as 1 for at least two of physical IPV, sexual IPV, psychological IPV, or CVV in the past year were coded as 1 for past year polyvictimization; those with 1 in fewer than two domains were coded as 0 for past year polyvictimization.

Past year IPV

Participants coded as 1 for at least one of physical IPV, sexual IPV, or psychological IPV in the past year were coded as 1 for past year IPV; those with 0 in all domains were coded as 0 for any physical, sexual or psychological IPV. This measure was included as a covariate in models testing exposure to CVV to assess the independent effect of CVV apart from other domains of IPV.

Demographic covariates for multivariate regression

Demographic variables that have a well-documented association with IPV/RC and patterns of contraceptive use in the literature were considered as potential confounders. The set of covariates in the final models included age in years,^{2,4} number of children in the household,^{33,34,60} education level (less than high school, high school, at least some college),^{19,45} employment outside the home,³ and relationship status (single, in an unmarried relationship, or married).^{2,8,61} Marital status, job outside the home, and education differed significantly between the two study sites and were included to control for these differences.

Analysis

All statistical analyses were conducted using STATA 15 (STATA Corp LP, College Station, TX) between December 2017 and March 2018. Listwise deletion was used to remove observations with missing values for exposures, outcomes, or covariates, as well as observations with age >55 years who were unlikely to be the biological parents of children under 5 years (n=2). Means and standard deviations were calculated for continuous covariates, while proportions were calculated for categorical covariates. Independent t-tests were used to assess significant differences at alpha=0.05 in the means of age and number of children in each risk category. Chi-square tests were used to assess significant differences at alpha=0.05 in the proportions of demographic covariates and exposures within each risk category. Univariate logistic regression was used to calculate unadjusted odds ratios (uOR) with 95% confidence intervals for use of ineffective methods/contraceptive nonuse vs. use of effective methods. Univariate multinomial regression was used to calculate unadjusted odds ratios and 95% confidence intervals comparing consistent and inconsistent condom use to nonuse. Multivariate logistic or multinomial regression was used

to estimate the adjusted odds ratios (aOR) and their 95% confidence intervals, controlling for other covariates.

Chapter 4: Results

Demographics

The mean age of participants in the sample was 26.2 years ($sd=5.7$ yrs) (**Table 1**). The majority of participants (56.2%) did not have a job outside the home. Those with at least some college represented 50.9% of the total sample, with the vast majority (83.0%) having at least a high school diploma. The mean number of children was 2.3 ($sd=1.5$). Most women described themselves as single (41.4%) or in an unmarried relationship (48.5%), with the remaining 10.2% describing themselves as married.

Those participants reporting no or inconsistent condom use were less likely to have only high school education but more likely to have some college or higher, more likely to be in an unmarried relationship, and less likely to be single than those who reported consistent condom use. Those who were not in either risk group for contraceptive and condom use (effective contraceptive use and consistent condom use) were more likely to be single and less likely to be in an unmarried relationship or married than women in either risk group. Those reporting effective contraceptive use and consistent condom use were also more likely to have a job outside the home.

IPV exposure

Over a third of women in the sample (37.7%) reported physical, sexual, or psychological IPV in the past year (**Table 2**). The proportions of polyvictimized women and women exposed to VCC were 13.2% and 10.4% of the total sample, respectively. Women reporting that they used

condoms inconsistently or not at all were significantly more likely to report exposure to psychological IPV but less likely to report VCC within the past year.

Table 1: Demographic characteristics contraceptive and condom use among African American women receiving WIC in Fulton County, GA (n=395)

| | Total Sample (n=395) | Inconsistent or no condom use (n=294) | Not using effective contraception (n=168) | Both risk groups (n=134) | Neither risk group (n=67) |
|--------------------------------|-------------------------|--|--|-----------------------------|------------------------------|
| Education | | | | | |
| Less than high school (%) | 16.96 | 17.69* | 17.26 | 18.66 | 16.42 |
| High school (%) | 32.41 | 28.23* | 35.12 | 29.85 | 38.81 |
| Some college or higher (%) | 50.63 | 54.08* | 47.62 | 51.49 | 44.78 |
| Relationship Status | | | | | |
| Single (%) | 41.37 | 35.15* | 42.26 | 36.57 | 56.72* |
| Unmarried relationship (%) | 48.48 | 52.90* | 48.81 | 52.99 | 37.31* |
| Married (%) | 10.15 | 11.95* | 8.93 | 10.45 | 5.97* |
| Job outside the home | | | | | |
| No (%) | 56.20 | 56.46 | 57.74 | 57.46 | 53.73* |
| Yes (%) | 43.80 | 43.54 | 42.26 | 42.54 | 46.27* |
| Age in years, mean (SD) | 26.15 (5.74) | 26.12 (5.51) | 26.04 (5.84) | 26.28 (5.83) | 26.84 (6.60) |
| Children, mean (SD) | 2.32 (1.45) | 2.32 (1.42) | 2.18 (1.47) | 2.45 (1.60) | 2.22 (1.48) |

*significant difference based on chi-square test

Table 2: Past year exposure to IPV by contraceptive and condom use among African American women receiving WIC in Fulton County, GA (n=395)

| | Total Sample (n=395) | Inconsistent or no condom use (n=294) | Not using effective contraception (n=168) | Both risk groups (n=134) | Neither risk group (n=67) |
|---|-------------------------|--|--|-----------------------------|------------------------------|
| Past year exposure (%) | | | | | |
| Physical, sexual, or psychological | 37.72 | 40.14 | 36.9 | 38.81 | 31.34 |
| Physical | 5.82 | 4.76 | 5.95 | 5.22 | 8.96 |
| Sexual | 8.61 | 9.52 | 6.55 | 7.46 | 7.46 |
| Psychological | 34.94 | 36.39* | 32.74 | 33.58 | 31.34 |
| Violent contraceptive coercion | 10.38 | 8.16* | 12.50 | 8.21 | 10.45 |
| Polyvictimization** | 13.16 | 12.24 | 10.71 | 9.70 | 16.42 |

*significant difference based on chi-square test

**polyvictimization indicates exposure to >1 of the following IPV domains in the past year: physical, sexual, psychological violent contraceptive coercion

Bivariate and multivariate analyses

Contraceptive use: ineffective/none vs. effective

No significant associations were found between either VCC or polyvictimization and the nonuse or use ineffective contraception in unadjusted or adjusted models (**Table 3**).

Consistency of condom use

Exposure to VCC in the past year was positively associated with consistent condom use versus nonuse. Adjusting for other IPV exposure did not alter this relationship, although exposure to physical, sexual, or psychological IPV was significantly negatively associated with consistent condom use. VCC exposure was negatively associated with inconsistent condom use, but this relationship was not significant. Polyvictimization showed no significant association with consistency of condom use in unadjusted or adjusted models.

Table 3: Relationship between exposure to violent contraceptive coercion and polyvictimization and contraceptive outcomes among African American women receiving WIC in Fulton County, GA (n=395)

| Outcome | Ineffective or no contraceptive use (ref=effective use) | | Consistency of Condom Use (ref=nonuse) | | | |
|---------------------------------------|---|----------------------|--|-----------------------|----------------------|----------------------|
| | | | Consistent use | | Inconsistent use | |
| Exposure | uOR | aOR** | uOR | aOR** | uOR | aOR** |
| Violent contraceptive coercion | 1.48 [0.77, 2.83] | 1.50 [0.77, 2.91] | 2.17 [1.07, 4.38]* | 2.15 [1.00, 4.62]* | 0.81 [0.29, 2.26] | 0.91 [0.31, 2.67] |
| Polyvictimization | 0.68 [0.37, 1.25] | 0.69 [0.37, 1.28] | 1.17 [0.61, 2.24] | 1.16 [0.58, 2.33] | 0.47 [0.18, 1.26] | 0.47 [0.17, 1.29] |

*Significant at alpha=0.05

**Adjusted odds ratios control for employment status, education, age, number of children, and relationship status. Additionally, odds ratios modeling the effect of VCC control for other IPV exposure in adjusted models.

Chapter 5: Discussion and Conclusions

Discussion

Our study is the first to assess VCC among a low-income AA women of reproductive age. The prevalence of past year IPV and polyvictimization among study participants are much higher than the national average.^{2,4} In our sample, women exposed to violent contraceptive coercion in the past year had approximately twice the odds of unexposed women of reporting consistent condom use compared to condom nonuse. VCC showed no significant association with inconsistent condom use versus nonuse or with contraceptive nonuse/ineffective use versus the use of effective contraceptive methods. Our analyses found no evidence of an association between polyvictimization and either the consistency of condom use or the use of no/ineffective contraception.

Almost all studies to date have found that women exposed to IPV, including those experiencing IPV as a result of contraceptive request, are more likely to use condoms inconsistently or not at all.^{14,23,25,31} Exposure to physical, sexual, or psychological IPV in the past year predictably showed a significant negative association with consistent condom use versus nonuse in our adjusted models of VCC and condom use consistency. However, the effect of other IPV exposure did not confound the positive relationship between VCC and consistent condom use. While there is no literature on RC and condom use, the positive link between RC and seeking STI testing¹⁹ suggests that condom nonuse or inconsistent use may be an intermediate. Moreover, two studies of VCC specific behaviors, namely violence resulting from contraceptive request, run contrary to our findings.^{13,14} This may be due to the fact that these studies assessed

VCC using a single binary item rather than a validated scale measure, or that their samples were restricted to specific vulnerable populations and to women in current heterosexual relationships. Moreover, these two studies examining VCC-specific partner behaviors occurred before RC had been conceived as a domain of partner violence or validated scales had been developed to measure RC.

Because temporality is difficult to establish in a cross-sectional study, it is not possible to ascertain whether women were exposed to VCC because of condom use behaviors or if consistent condom use is the result of experiences of VCC. VCC items incorporated causality into the phrasing of questions, making it probable that condom use preceded VCC exposure if patterns of condom use remained consistent before and after incidents of abuse.

Another possibility is that women exposed to VCC may be unable to negotiate more effective or preferred methods with an abusive primary partner, and thus rely on condoms to mitigate potential risk. Qualitative studies comparing experiences of RC between AA and white women have found that AA women report partner mistrust of and exaggeration of the negative health effects of hormonal methods.³⁷ AA women experiencing RC may be pressured to use less effective contraceptive methods such as condoms.

Qualitative studies have described tactics that women experiencing RC use to counter partner attempts at coercion, including the use of more easily concealed methods such as shots or implants.^{16,37} A recent longitudinal study also documented increased rates of LARC and injectable use among young women experiencing IPV in a current relationship.³⁹ This suggests

that some women experiencing IPV or RC may mitigate risk of UIP by use highly effective, but concealable contraceptive methods. This may partially explain the lack of consistent results in modeling the relationship between VCC/polyvictimization and contraceptive use.

Limitations and delimitations

Data for the original 2012 study were collected at two WIC clinics in Fulton County, Georgia. Convenience sampling may have introduced selection bias, as all eligible women who agreed to participate were recruited to achieve desired sample size. In addition, women were randomized to face-to-face or computer-assisted interview, which a previous analysis showed may influence rates of disclosure for certain outcomes, including IPV.⁵⁹

Participants were limited to six contraceptive methods, and a large proportion of women were using a method not listed in the survey and selected “other” as a method of contraception (n=47, or 22.49% of contraceptive users). Common methods not found in the survey include subdermal implants, other hormonal methods such as rings and patches, female sterilization, male sterilization, and rhythm method, most of which are considered highly effective by World Health Organization standards.⁴³ As such, women who chose “other” methods were classified as using effective contraception. However, there may have been women in this group using less effective methods such as rhythm.

Women were asked whether they were currently using a method to prevent pregnancy, but not whether they were already pregnant. Instead, it seems likely that many of the women who responded “N/A” (n=29 or 7.30% of the total sample) to “Are you currently using a method to

prevent pregnancy?” were already pregnant or postpartum at the time of the survey, considering that about one quarter of WIC recipients are pregnant, postpartum, and breastfeeding women.⁵⁸ As such, these women were included in the reference category since they did not have a current need to prevent pregnancy and were not asked about past contraceptive behaviors. This may have introduced error into measures of the contraceptive use outcome.

Another consideration in assessing consistent condom use is bias in self-reporting, which has been shown to affect the validity of studies which assess consistency of condom use.⁶³ Social desirability and recall biases impose limitations on the usefulness of condom use self-reports without biological data to ascertain the validity of these measures.⁶³

VCC was captured using a recently validated four-item scale.¹² This scale has yet to be validated in other populations and may not capture the full range of contraceptive coercion through violence. It has the advantage of incorporating causality into the wording of questions; by asking specifically about violence resulting from contraceptive requests, it allows a greater degree of certainty about the temporality of events in a cross-sectional analysis. However, past contraceptive use was not considered in relation to other forms of IPV, so it is not possible to ascertain whether experiences of polyvictimization are the cause of or the result of condom/contraceptive use behaviors.

The original sample of 704 women was limited to women identifying as African American/Black in the data set used in this analysis. This constituted the majority of women receiving WIC services during the period of recruitment, and restricting the analysis eliminated the need to

control for the effect of race and allowed for greater generalizability to other African American populations with minimal loss of statistical power. WIC eligibility rules require participants to fall below 185% of the poverty line,⁵⁶ essentially restricting the sample to low-income AA women.

Conclusions

The association between VCC and increased odds of consistent condom use has not been previously described and should be examined in greater depth within the context of AA women's unique patterns of contraceptive use and exposure to male partner reproductive coercion. It seems likely that VCC exposure is a result of consistent condom use rather than a cause, although the cross-sectional, observational nature of the study does not allow us to draw conclusions regarding causality. Strategies to conceal contraceptive use in women exposed to VCC and other IPV domains should be further explored and incorporated into postpartum family planning counseling. Qualitative studies in this population may help to elucidate the temporality of, and reasoning behind, AA women's reproductive choices in light of these findings.

Chapter 6: Public Health Implications

Quantifying and describing the impacts of abuse on contraceptive behavior is of great public health relevance in our population, which consists exclusively of low-income AA women who are pregnant and/or have at least one child. It is critical to address contraceptive-related violence and its impact on contraceptive and condom use in this population, not just to mitigate the effects of STIs and UIP, but also negative birth outcomes and the impact on children in the household who may be witnessing acts of violence.^{63,64} With 37% of our sample reporting past year IPV and a third of these women reporting polyvictimization, WIC clinics may provide a necessary opportunity for IPV/RC screening and referral. About one quarter of our sample reported not having a regular doctor, and these women may not have contact with clinicians who can provide screening outside of WIC. The fact that women must collect vouchers every three months⁵⁷ makes WIC an ideal venue to monitor women who may be at risk for IPV and RC.

While WIC clinics do not provide contraceptive counseling on-site, many provide referrals for postpartum family planning services.⁵⁷ Greater integration of WIC and other health services would facilitate not only screening and access to resources for women experiencing IPV and RC, but would also provide opportunities for contraceptive counseling. About one in ten women in our sample reported experiences of VCC in the past year, suggesting that the prevalence of RC may be significantly greater. Providers need to be cognizant of the fact that women's reproductive agency may be limited by male partners. This is especially important to consider for AA women, who are more likely to experience reproductive coercion,¹⁵ more likely to change or discontinue contraception,^{42,43} and less likely to report high self-efficacy with regard to

consistent use.^{65,66} Providers and family planning counselors need to consider experiences of abuse and perceived self-efficacy as factors when discussing contraceptive options with patients. Harm reduction strategies, including the use of concealable methods such as injectables and implants, may provide some protection against UIP.

List of abbreviations

AA: African American
aOR: adjusted Odds Ratio
BRFSS: Behavioral Risk Factor Surveillance System
CDC: Centers for Disease Control and Prevention
CTS2: Revised Conflict Tactics Scale
CTS2S: Revised Conflict Tactics Scale short form
HIV: Human Immunodeficiency Virus
IPV: Intimate Partner Violence
IUD: Intrauterine Device
LARC: Long-acting Reversible Contraception
NISVS: National Intimate Partner and Sexual Violence Survey
RC: Reproductive Coercion
RCS: Reproductive Coercion Scale
STI: Sexually Transmitted Infection
UIP: Unintended Pregnancy
uOR: unadjusted Odds Ratio
VCC: Violent Contraceptive Coercion
WIC: Women, Infants, and Children

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