

Forced Sexual Initiation, Sexual Intimate Partner Violence and HIV Risk in Women: A Global Review of the Literature

Jamila K. Stockman · Marguerite B. Lucea ·
Jacquelyn C. Campbell

Published online: 6 November 2012
© Springer Science+Business Media New York 2012

Abstract Coerced or forced sexual initiation and sexual intimate partner violence (sexual IPV) contribute significantly to a woman's risk for HIV infection. This review systematically examines global research ($n = 21$ studies) published since 2000 on the role of coerced/forced sexual initiation and sexual IPV on HIV risk in women. In predominantly low- and middle-income countries, coerced/forced sexual initiation was associated with HIV/STIs, multiple and high-risk sex partners, and no condom use. Most studies using behaviorally specific terms for sexual IPV found strong associations between sexual IPV and HIV risk behaviors. In contrast, studies using less specific definitions often failed to find these significant associations. To develop more comprehensive HIV prevention programs, future efforts should integrate behaviorally specific terms into assessing prevalence of sexual IPV and its association with HIV risk, consider cultural differences, and identify causal pathways between coerced or forced sexual initiation, HIV risk behaviors and HIV/STI infection.

Resumen La iniciación sexual bajo coerción o forzada y la violencia sexual por una pareja íntima siguen contribuyendo significativamente al riesgo de la mujer de infectarse con el VIH. Esta revisión analiza de manera sistemática estudios realizados a nivel global ($n = 21$ estudios) y publicados desde el 2000 acerca del papel de la

iniciación sexual bajo coerción o forzada y la violencia sexual por una pareja íntima en el riesgo que las mujeres corren de contraer el VIH. En países con ingresos mayoritariamente bajos y medios, la iniciación sexual bajo coerción o forzada estuvo relacionada con el VIH/ITS, el tener parejas sexuales tanto múltiples como de alto riesgo y la falta del uso del condón. La mayoría de los estudios que hicieron uso de términos específicos a la conducta para la violencia sexual por una pareja íntima hallaron fuertes relaciones entre la violencia sexual por una pareja íntima y los comportamientos de riesgo de contagio por el VIH. Por lo contrario, los estudios que usaron definiciones menos específicas a menudo no hallaron relaciones significativas entre la violencia sexual por una pareja íntima y el riesgo de contagio por el VIH. Para crear programas para la prevención del VIH más extensos, los futuros esfuerzos deben integrar términos específicos a la conducta en la evaluación de la prevalencia de la violencia sexual por una pareja íntima y su relación con el riesgo de contagio por el VIH, considerar las diferencias culturales e identificar las vías causales entre la iniciación sexual bajo coerción o forzada, los comportamientos de riesgo de contagio del VIH y la infección por el VIH/ITS.

Keywords Sexual violence · Forced sexual initiation · Coerced sex · HIV · Women

J. K. Stockman (✉)
Division of Global Public Health, Department of Medicine,
University of California, San Diego, 9500 Gilman Drive,
MC 0849, La Jolla, CA 92093-0849, USA
e-mail: jstockman@ucsd.edu

M. B. Lucea · J. C. Campbell
Department of Community Public Health, Johns Hopkins
University School of Nursing, Baltimore, MD, USA

Introduction

Thirty years into the global AIDS epidemic, HIV/AIDS continues to affect women in significant proportions. Globally, HIV/AIDS is the leading cause of death among women of reproductive age [1]. At the end of 2009, out of the estimated 33 million adults worldwide living with HIV,

Table 1 Classification of forced or coerced sex

Categories	Subcategories	Examples
Psychological coercion	Ongoing intimidation	Continual nagging Continual pressuring
	Overt threats	Threats to end relationship Threats to withhold resources Threats of injury through beating or use of weapon
		Actual physical forced sex Unwanted rough sex Physical coercion through holding down and actual beatings Administering alcohol and drugs to obtain sex

infection, significant variation exists in the measurement of sexual IPV or more globally, forced sex. These differences in measurement may have an effect on observed and unobserved associations with HIV risk.

Since forced or coercive sex occurs on a continuum of severity, reporting prevalence estimates and potential associations using behaviorally specific measures and clarifying the type of force involved has become increasingly important [7, 14–20]. “Psychological coercion” might include continual nagging and pressuring; false promises; threats to end the relationship or withhold resources. “Physical force” could refer to unwanted, rough sex; sex obtained through threat of a beating or threat with a weapon; physical coercion through holding down; or actual beatings prior, during or after unwanted sex [21–23]. Categories to classify these measures may include actual physical force, overt threats, and ongoing intimidation (Table 1). The overlapping nature of these categories provides an indication of varying levels of severity experienced by some women.

The construct of sexual coercion, not specific to type of perpetrator, has been historically assessed using the Sexual Experiences Survey (SES) [24]. The SES asks about different forms of coercion, including examples of physical force such as “holding you down” and examples of non-physical force such as “threatened to end your relationship” but the SES is usually used for sexual assault by any type of perpetrator [24]. The Revised Wyatt Sex History Questionnaire’s (WSHQ-R) adult sexual abuse section has also been used worldwide to assess the frequency and circumstances of both consensual and non-consensual sex by an intimate partner as they relate specifically to HIV/STI transmission [25]. The WSHQ-R is unique as a structured interview that includes open and closed ended items as well as the use of show cards to control for literacy and response bias to socially unacceptable questions. More

recently, the 2002 and 2006–2010 National Survey of Family Growth Survey (NSFG) integrated behaviorally specific measures of coerced and forced sex into their assessment of sexual violence [26, 27]. These measures include: “being pressured into it by his words or actions, but without threats of harm”; “told the relationship would end if you didn’t have sex”; “threatened with physical hurt or injury”; “physically hurt or injured”; and “physically held down”. And, although the Revised Conflict Tactics Scale’s (CTS-2) sexual coercion subscale [28] and the Severity of Violence Against Women Scale (SVAWS) [29] characterize sexual IPV on levels of coercion and force (e.g., insistence, threats of force, actual force), they are limited in that behaviorally specific questions are reserved for incidents involving physical force. Other validated scales used to assess sexual IPV have yet to integrate either varying levels of coercion or behaviorally specific acts (e.g., Measure of Wife Abuse, the National Health and Social Life Survey).

Sexual violence can be committed by other types of perpetrators including a stranger or acquaintance, and childhood sexual abuse (CSA) often involves perpetration by a stranger or family member. However, this review focuses specifically on (1) coerced and forced sexual initiation by anyone and (2) sexual violence by an intimate partner (sexual IPV), which includes a current or former spouse, boyfriend, or same sex partner, regardless of the level of sexual intimacy before the sexual assault. Although the perpetrator type differs between coerced/forced sexual initiation and sexual IPV in this review, it is important to focus on these forms of sexual violence as they relate to HIV risk since historically they have often been examined in conjunction with other forms of violence: coerced or forced sexual initiation is often considered an aspect of CSA, while sexual IPV is often combined with physical IPV to represent abuse by a partner. In an effort in this review to distinguish these experiences and their relationship to HIV risk and HIV serostatus, we use the term “coerced sexual initiation” when the articles refer to a broader range of coercive behaviors that led to unwanted or involuntary first vaginal intercourse, including verbal coercion. Because some of the articles restricted their measurement to physical force, threats of injury or administration of alcohol or drugs, we also use the term “forced sexual initiation” when referring to those articles. “Sexual IPV” is defined as sexual vaginal or anal intercourse following unwanted sexual advances, verbal coercion or pressuring, threats of injury, or physical force by an intimate partner.

Prevalence of Sexual IPV

The varying methodological approaches to measuring sexual IPV result in widely varying rates [21]. Estimates of forced/coerced sexual initiation range from 4 % in developed

countries to 31 % in low- and middle-income countries [18, 19]. A growing body of literature suggests that the younger the age of sexual debut, the more likely that the first sexual experience is coerced/forced [7, 30–32]. This is evident in studies that have shown a prevalence of forced or coerced first sex among adolescent girls aged 15 years and younger ranging from 11 to 45 %, globally [7].

In the US, according to the 2010 National Intimate Partner and Sexual Violence Survey, 12.3 % of women reported a lifetime history of forced sex (i.e., completed vaginal, oral, or anal penetration by a male using his penis, fingers, or object) and 13.0 % reported a lifetime history of sexual coercion (i.e., unwanted sexual penetration that occurs after a person is pressured in a nonphysical way) [33]. More than half of female victims of forced sex (52.5 %) reported at least one perpetrator being that of a current or former intimate partner; 75.4 % of women who experienced sexual coercion reported perpetration by an intimate partner [33]. Previous lifetime prevalence estimates from the US National Second Injury Control and Risk Survey, conducted from 2001 to 2003, reported a slightly lower estimate with 10.6 % of women ever experiencing forced sex (i.e., vaginal, oral, or anal penetration or intercourse in situations against one's will; or situations where one was unable to give consent for any reason, such as age, drugs, alcohol, sleep or mental disability); of which, 30.4 % experienced a first forced sex incident by an intimate partner [23].

In low- and middle-income countries, the World Health Organization (WHO) conducted the only study that used the same measure of sexual IPV across different countries. Findings from the WHO Multi-country study on women's health and domestic violence against women reported prevalence estimates of lifetime sexual IPV ranging from 6 % in Japan city to 59 % in Ethiopia province, with the prevalence in the majority of study sites ranging between 10 % and 50 % [7]. In most of the countries approximately half of the physically abused women were also being forced into sex by their partner. In a few locales (e.g., Thailand capital and Tanzania province) the prevalence of sexual IPV was approximately equal to physical abuse, but in the provincial Ethiopian site and the urban Thai capital, the prevalence of sexual partner violence was higher than physical partner abuse [7].

Prevalence estimates of different types of sexual IPV have been limited to the US and documented among women in colleges, women with physically violent current or former partners, and nationally representative samples of women [15, 16, 22, 34, 35]. Of the 602 adult US women reporting a forced sex experience by an intimate partner in one study, 34 % reported a lifetime history of unwanted sex [22]. Among those women reporting unwanted sex, the most common occasion was when women thought it was their duty with both current (43 %) and past partners

(38 %). The next most common type of unwanted sexual pressuring happened after a romantic situation, such as a back rub or intimate kissing among 29 % in current relationships and 27 % in past relationships. Threatened physical force or actual physical force by a current partner occurred for 10 % of the women reporting experiencing unwanted sex (3 % were threatened with force, 7 % were physically forced); 12 % of these women reporting experiencing unwanted sex were threatened with physical force by a former partner and 17 % were physically forced by a former partner [22].

This review builds upon existing reviews by focusing specifically on coerced or forced first sex as well as sexual IPV and the associated risk of engaging in HIV risk behaviors or acquiring HIV. The purpose of this systematic review is to summarize and critique global research that addresses the role of coerced or forced sexual initiation and sexual IPV in HIV risk with particular focus on studies that (a) examine associations between coerced or forced sexual initiation and HIV risk behaviors; (b) utilize behaviorally specific or more precise terms that represent a continuum of sexual IPV in assessment of associations with HIV infection or HIV risk; and (c) utilize less specific or broad definitions for sexual IPV in assessment of associations with HIV infection or HIV risk. This review concludes with recommendations for future research and implications for the development of HIV prevention interventions for women with a history of coerced or forced first sex and/or sexual IPV.

Methods

We employed a systematic approach to identify original empirical research in peer-reviewed journals addressing coerced/forced sexual initiation or sexual IPV as the exposure and HIV/AIDS risk and/or HIV infection as the outcome among women globally. The literature review was conducted through a series of electronic searches using Pubmed, PsychInfo, and Social Science Citation Index databases. The following search terms represented coerced or forced sexual initiation: *coerced first sex, forced first sex, forced sexual initiation, and coerced sexual initiation* while the following represented sexual IPV: *domestic violence, partner violence, spouse abuse, IPV, relationship abuse, forced sex, sexual abuse, sexual violence, sexual coercion, rape*. The following search terms were used to define HIV/AIDS infection and/or HIV/AIDS risk: *HIV/AIDS, HIV risk, HIV risk behaviors, condom use, sexually transmitted infections, risk behaviors, multiple sex partners, anal sex, unprotected sex and substance use and abuse*. In addition, reference lists from identified articles were also reviewed for inclusion of additional articles.

Empirical quantitative or mixed-methods research articles published in peer-reviewed journals were eligible for inclusion in the review if they were written in English, presented original data (i.e., review articles and opinion pieces were excluded), involved women who reported male intimate partners, addressed the relationships between either coerced/forced first sex or sexual IPV and HIV/AIDS risk and/or infection, and conducted since 2000. Articles were excluded if they did not present gender specific results, examined general experiences of sexual violence but not specifically at the hand of an intimate partner, included multiple forms of partner violence in the analysis such that specific results for sexual IPV could not be discerned, or analyzed qualitative data only. Qualitative studies were not included as this review sought to quantitatively determine the associations between coerced/forced sexual initiation and sexual IPV on HIV risk. However, qualitative research in this area was utilized in the discussion to provide valuable insights into the development of interventions to address these complex intersecting epidemics.

Searches were performed in the titles, subject, abstract, and as keywords or subject-word headings of all manuscripts in the aforementioned databases. A total of 260 articles were identified in the electronic search, of which 148 were not relevant to the review or did not address both sexual IPV and HIV. The remaining 112 articles were retained for detailed abstract reviews. During this review, a total of 73 articles were excluded as they did not meet the inclusion criteria. The authors then read the remaining 39 articles in their entirety and discussed those with questionable relevance to decide whether or not to include them. Of the 39 articles read, 18 were excluded for the following reasons: three were intervention or qualitative studies, six did not distinguish between physical and sexual IPV in the analysis, and nine were not specific in identifying the intimate partner as perpetrator of the sexual violence experienced or did not isolate out partner

perpetration in the analysis. A total of 21 articles were ultimately eligible for inclusion in this review (Fig. 2).

Results

Results from the literature review have been organized to reflect the variations in characterization of coerced/forced sexual initiation and sexual IPV on their associations with HIV risk.

Coerced/Forced Sexual Initiation and HIV Risk

Limited research addressing coerced or forced sexual initiation and HIV risk has been conducted, but the extant literature primarily focuses on low- and middle-income countries and demonstrates a high prevalence of coerced or forced sexual initiation, inclusive of, but not limited to, perpetration by an intimate partner (Table 2). Six of the seven studies were conducted in Sub-Saharan Africa where the prevalence of coerced and forced sexual initiation ranged from 5.3 to 46 %. Four of these studies were population-based and conducted in South Africa (prevalence ranging from 5.3 to 46 %) and Tanzania (prevalence ranging from 7.7 – 28.8 %); the remaining two were conducted among pregnant women in South Africa (prevalence 7.1 %) and a community-based sample of adolescents in Uganda (prevalence 14 %). The only study conducted in the US was population-based, and the prevalence of forced sexual initiation in this sample of 5,857 women was 12.5 %. All of the studies used interviews with women to assess both coerced/forced sexual initiation and sexual risk behaviors; however, Sa et al. [36], Dunkle and colleagues [37], and Williams et al. [38] also used biological outcome measures that included HIV sero-positivity and confirmed presence of STIs. With the exception of two studies, all studies incorporated behaviorally specific or descriptive terms or degrees of “wantedness” into the measure of coerced and forced sexual initiation.

Associations between coerced or forced sexual initiation and HIV infection and/or HIV risk behaviors varied by study population. Sa et al. [36] found that women aged 20–44 years from a probability-based sample in Uganda had a significantly elevated risk (AOR = 1.97; 95 % CI: 1.16, 3.32) for HIV infection if they experienced coerced or forced first sex before age 18 years, adjusting for age, marital status, education, income, tribe, and risk behaviors. In the population-based study by Maharaj and Munthree [39] in South Africa, women aged 14–24 years with a lifetime history of STIs were significantly more likely to be coerced or forced at first sex than those without such a history; however no associations were found between coerced/forced first sex and risky sexual behaviors such as

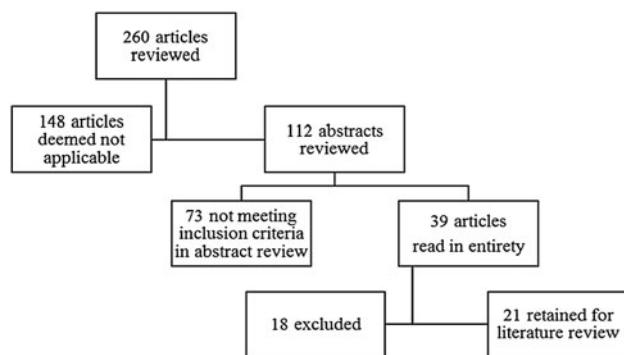


Fig. 2 Identification and selection of eligible articles. *Authors' Note* “Not applicable” articles included those not relevant to the review and those that did not address both sexual IPV and HIV

Table 2 Studies addressing the association between coerced/forced sexual initiation and HIV risk

Author (year) and setting	Study sample	Sexual IPV measures	HIV risk measures	Prevalence of forced sexual initiation	Findings
Dunkle (2004) Soweta, South Africa	<i>N</i> = 1366 pregnant women aged 16–44 years recruited from antenatal clinics	Forced first intercourse (at age ≥ 15 years)	HIV seropositivity. Lifetime: ≥ 5 male partners, non-primary male partner, transactional sex, never used condom, alcohol/drug problem	7.1 %	No associations with HIV infection, condom use, or alcohol/drugs. Increased odds of ≥ 5 male partners (1.8), casual partners (2.2), and exchange sex (1.8)
Koenig (2004) Rakai, Uganda	<i>N</i> = 575 sexually experienced women aged 15–19 years, community-based sample	Force used to compel into first intercourse	Condom use at last sex, consistency of condom use in last 6 months, current genital tract symptoms	14 %	Reduced odds of condom use at last sex (0.3) and consistent condom use (0.2) $2.6\times$ more likely to have ≥ 1 genital tract symptom
Maharaj (2007) KwaZulu-Natal, South Africa	<i>N</i> = 1130 sexually active women aged 14–24 years (population-based)	First sexual experience resulted from persuasion, deception, force or rape	Lifetime STI, multiple sex partners in the past 12 months, condom use at last sex	46 %	Women who had an STI $2.2\times$ more likely to have been coerced at first sex than other women No associations with multiple sex partners and condom use
Pettifor (2009) South Africa (nine provinces)	<i>N</i> = 7692 sexually active girls and boys aged 15–24 years (population-based)	First partner ever physically forced sex. Degree to which sex wanted (4 point likert) and willing to have sex (willing, persuaded, tricked, forced/raped)*	Nonuse of condoms at coital debut	Aged 15–19 years—6.7 %; aged 20–24 years—5.3 %	Women who both had been forced and had later sexual debut $1.4\times$ more likely to have not used a condom at first sex compared to those not been forced to have sex and later sexual debuts.
Sa (2008) Moshi, Tanzania	<i>N</i> = 1418 women aged 20–44 years (population-based)	Unwanted or forced first sex (dichotomized into <18 years and ≥ 18 years)	HIV seropositivity	25.8 %	No difference in prevalence of condom nonuse between women who had both forced sex and early debut and those not forced and had debuted later.
Stockman (2010) United States	<i>N</i> = 5857 heterosexually active women aged 18–44 years (population-based)	Threatened w/injury, physically injured, physically held down, or given alcohol or drugs at first sex	Multiple sex partner in the past year, condom use at last sex, substance abuse in past year	12.5 %	Forced first sex <18 years $2.2\times$ more likely to be HIV positive $1.9\times$ more likely to have multiple sex partners and $1.6\times$ more likely to engage in substance abuse
Williams (2008) Moshi, Tanzania	<i>N</i> = 1235 women aged 20–44 years (population-based)	Unwanted and forced first sex	STI infection determined by biological samples (Chlamydia, gonorrhea, trichomoniasis, HIV, syphilis, HSV-2)	Forced: 7.7 % within current relationship 28.8 % outside current relationship; Unwanted: 0.6 %; 0.7 %, respectively	Only bivariate associations between forced first sex and STI and unwanted sex and STI

Parameter estimates in the findings column are adjusted odds ratios from multivariate analyses unless noted

* Descriptive results presented for these questions, not used in multivariate models

multiple sex partners in the past year and condom use at last sex. In Pettifor et al.'s [40] population-based study of girls aged 15–24 years, the likelihood of not using a condom at first sex was elevated among those who had reported coerced/forced first sex as well as a later sexual debut. Unfortunately, this study did not measure subsequent sexual behaviors. Of the three articles that looked at condom use at last sex experience, only one study that utilized a community-based sample of women aged 15–19 years found that those with a forced first intercourse were significantly less likely than those who did not to have used condoms at last intercourse and to have used them consistently during the past six months [41]. The only study with pregnant women showed increased odds of lifetime multiple sex partners, casual partners, and exchange sex partners, for those with a history of forced first intercourse but did not find a direct relationship with HIV infection [37]. In the US, among a probability-sample of reproductive-aged women, associations were found for more recent HIV risk behaviors, including multiple sex partners and substance abuse, both in the past year [42]. Overall, in Sub-Saharan Africa and the US, most studies found that coerced or forced sexual initiation is associated with sexual-risk taking behaviors; in Sub-Saharan Africa, there was also evidence of associations with STIs and HIV infection.

Use of a Continuum of Sexual IPV in its Association with HIV Risk

The use of behaviorally specific terms that represented a continuum of sexual IPV was used to assess associations with HIV risk in eight studies (Table 3). Only one study asked participants their HIV serostatus (self-report) [43], while the remaining studies examined HIV risk behaviors only.

With the exception of two studies, study populations were based upon convenience samples of women recruited from hospitals, schools, substance abuse and STI clinics, courthouses, and social service agencies including domestic violence shelters. The remaining two studies were conducted among a community-based sample of drug-using women in 38 neighborhoods in New York City, US and probability-based sample of US heterosexual women. Most of the study settings utilizing convenience samples of women were conducted in urban and rural geographic locations in the US; only one study occurred in an international setting (South Africa).

Researchers used previously validated scales to measure various forms of sexual IPV in five out of the eight studies: three studies used the CTS-2 sexual coercion subscale, one used the SES and one used the Sexual Victimization Scale. Using these scales, sexual IPV was assessed during the past

6 months, past year, and lifetime. Hoffman and colleagues used individual items that ranged from persuasion, verbal threats and physical force to assess sexual IPV in South African students [44]. The recall period was a short 3-week timeframe, most likely attributable to using daily diaries for data collection. A single item was used to assess sexual IPV in a study of women in shelters in the US [45]. Stockman et al. analyzed the substantially revised, albeit not previously validated, National Survey of Family Growth's section on sexual coercion experiences that encompassed degrees of sex wantedness and behavioral specific terms of sexual IPV to determine associations with HIV risk [42].

In most of the studies, many HIV risk behaviors, including having an STI, injecting drugs, frequency of condom use, and having sex with a high-risk partner (e.g., an injection drug user or HIV-positive partner), were assessed within the past year. Condom use was measured in multiple ways: unprotected sexual intercourse within the past 3 weeks using a diary method, no condom use at last sex, and frequency of condom use. Morokoff et al. also employed the use of the Sexual Assertiveness Condom Use and Condom State of Change scales [46]. Lastly, Cole et al. created an HIV risk index [47].

In the US, overall prevalence of lifetime sexual IPV ranged from 24 to 55 % [42, 43, 46]. Prevalence of past year sexual IPV ranged from 5.3 to 20.1 % [47, 48]; past 6-month prevalence was 6.4 % in emergency department patients [43]. Of the 24 % reporting lifetime sexual IPV experience in a nationally representative sample of US women, 67.2 % experienced it through physical injury or being held down, 57.2 % through verbal pressure, 41 % through threats of injury, and 30 % through the administration of alcohol or drugs [42]. It is important to note that these behavioral-specific acts were not mutually exclusive. In South Africa, in a 3-week period, 68 % of young adult women experienced pressure in sexual encounters. The pressure these women experienced came through verbal threats (20 %), physical threats (16 %), and/or physical force (20 %) [44].

In the US, six of seven studies consistently found positive associations between sexual IPV and HIV risk behaviors including multiple sex partners, having an HIV-positive sex partner, history of STIs, inconsistent condom use, injection drug use, and substance abuse. Sexual IPV was also found to be indirectly linked with greater unprotected sex through negative relationships with sexual assertiveness for condom use [46]. Additionally, sexual IPV functioned as a mediator between physical and emotional IPV and HIV risk [49]. Wingood et al.'s unique approach to assessing both physical and sexual IPV in comparison to physical IPV alone found that, compared to women experiencing physical IPV, women experiencing

Table 3 Studies that using spectrum (clear) definitions of sexual violence when assessing associations between sexual IPV and HIV

Author (year) and setting	Study sample	Sexual IPV measures	HIV risk measures	Prevalence of sexual IPV	Findings
Cole (2007) United States	N = 673 women with protective orders against violent male partners aged 18+ years, recruited from four court jurisdictions	CTS2 Sexual coercion subscale: past year threatened other sexual activity, threatened sexual intercourse, forced other sexual activity, forced sexual intercourse	In past year: HIV sexual risk index developed from 8 HIV sexual risk questions; substance use (addiction severity index) and abuse (DMS-IV-TR criteria)	20.1 % threatened or forced sex in past year	Examined sexual IPV and HIV risk within a specific abusive relationship. No sexual violence victimization variables were significant contributors to the model predicting scores on the HIV sexual risk index
El-Bassel (2007) South Bronx, NY, United States	N = 799 women receiving ED care, aged 18+ years	CTS2 sexual coercion subscale. Includes minor (partner ever insisted on having sex) to severe (partner used physical force or weapon to force sex)	In past 6 months: having STI/STI Sx; injecting drugs; frequency of condom use; having sex with IDU or HIV infected partner. Also asked HIV serostatus	Lifetime: 24 % any; 22 % minor; 15 % severe sexual IPV. Past 6 months: 6.4 % any; 5.6 % minor; 2.4 % severe sexual IPV	Women with HIV + partner more likely to experience any sexual IPV (AOR 3.6) than counterparts. Those with >1 past year sex partner more likely to experience any (AOR 6.5) or severe (AOR 9.9) sexual IPV than those w/1 partner. Those reporting injection drug use more likely to experience any (AOR 4.5) or severe (AOR 5.6) sexual IPV than non drug users
Hoffman (2006) KwaZulu-Natal Province, South Africa	N = 50 (25 women, 25 men), secondary school students, aged 18–24 years	Sexual experiences (within 3 week period) that included pressure through persuasion, verbal threats, physical threats, or force	Within 3 week period: Unprotected sexual intercourse	68 % of women reported experiencing pressure in sexual encounters (52 % any; 20 % verbal threat; 16 % physical threat; 20 % force). 40 % reported male partner ever exerted threats or force.	Examined sexual IPV and HIV risk within a specific abusive relationship. Having a male partner who ever threatened or forced sex was associated with having one or more instances of unprotected sex (AOR 13.4; 95 % CI: 1.18–126.53)
Josephs (2009) Orange County, Florida, United States	N = 200 African American women currently in intimate relationship, 18–65+ years, recruited from social service agencies	Sexual experiences survey (14-items). “Acts ranging from nonphysical forms of pressure that induce women to engage in sex acts unwillingly to rape”	HIV Risk Screening Instrument, 10 items revised to assess for risk behaviors in last 6 months (including 2+ sexual partners, anal sex, and any STIs)	Not reported	Sexual coercion (having sex when not wanting to because partner threatens to leave) mediated the relationship between IPV (emotional and physical) and HIV risk

Table 3 continued

Author (year) and setting	Study sample	Sexual IPV measures	HIV risk measures	Prevalence of sexual IPV	Findings
Morokoff (2009) New York and Rhode Island, United States	<i>N</i> = 473 (313 women, 160 men), aged 18–46 years, recruited from substance abuse treatment facilities, an STI clinic, and the NY Blood Center Project ACHIEVE research site	6 items adapted from Sexual Victimization Scale. From “ever partner talked you into sex by saying things he/she didn’t mean?” to “ever had sex w/partner when you didn’t want because you thought he/she would use force?”	Lifetime: STI, injection drug use; current main partner and side partner, no condom use at last sex. Sexual Assertiveness Condom Use (SACU) and condom state of change also measured	Lifetime partner rape 46 % for women.	Sexual victimization (SV) was negatively associated with SACU, condom use frequency, and condom state of change. SV was not directly linked to unprotected sex, but indirectly through depression and SACU
Panchanadeswaran (2010) 38 neighborhoods of New York City, NY, United States	<i>N</i> = 244 drug-using women, aged 18+ years (mean age 38.9), community-based sample	CTS2 Sexual violence subscale (past year). Includes threats to have sex, threats to have oral/anal sex, and use of force (hitting, holding down, using weapon)	Condom use (100 % of time vs. less than 100 % of time in last month)	5.3 % reported sexual violence in past year	Examined sexual IPV and HIV risk within a specific abusive relationship. Women with no SIPV history were more likely to consistently use condoms than their abused counterparts (NS: AOR 3.31; 95 % CI:0.42–26.1)
Stockman (2010) United States	<i>N</i> = 5857 women, aged 18–44 years (population-based)	Coerced first sex; Coerced sex after sexual debut. Having had sex (lifetime)when: verbal pressure; threats of physical injury; actual physical injury or holding down; being given alcohol or drugs	2+ male partners in past year; no condom use at last vaginal sex; substance abuse (use of crack, cocaine, illicit injection drugs, or 5+ alcoholic drinks within a few hours) in past year	24 % w/lifetime coerced sex experience; 12.5 % with coerced first sex experience. Of those w/lifetime sexual coercion, 67.2 % physically injured or held down. 57.2 % verbally pressured. 41 % threatened with injury and 30 % given alcohol and/or drugs.	Coerced first sexual intercourse and coerced sex after sexual debut were associated with multiple sex partners and substance abuse. Alcohol/drug use at coerced sex was independently associated with multiple sex partners and substance abuse.
Wingood (2000) Alabama, United States	<i>N</i> = 203 women in shelters, aged 18+ years (mean age 32.1)	Partner forced her to have sex with him, touch him sexually, touched her sexually against will, forced objects against her will	Lifetime STD, how many times treated for STD, STD in last 2 months	55 % reported sexual and physical abuse. Average 10.7 episodes of sexual abuse past 60 days. Mean perceived severity of sexual abuse = 7.1 out of 10	Examined sexual IPV and HIV risk within a specific abusive relationship. Women experiencing both sexual and physical abuse significantly more likely to report worse sexual health (STD related), compared to women who were physically abused only

AOR adjusted odds ratio, CI confidence interval

both sexual and physical IPV were more likely to have a history of multiple STIs in their abusive relationships, have had an STI in the past 2 months, be worried about being infected with HIV, and use marijuana and alcohol to cope [45, 50]. Another unique contribution was Stockman et al.'s assessment of behavioral-specific measures of sexual IPV on HIV risk behaviors [42]. Among types of sexual IPV, alcohol or drug use as part of a coerced sex experience was independently associated with multiple sex partners and substance abuse. In South Africa, sexual IPV was associated with unprotected sex in the past 3 weeks [44]. It is important to note that four studies focused on sexual IPV and HIV risk behaviors within a particular abusive relationship [44, 45, 48, 51]; in other words, assessment of sexual IPV and HIV risk was based on experiences with a specific abusive partner. Only one of these studies did not find any sexual IPV variables to be significant contributors to HIV risk [47].

Overall, the majority of studies using behaviorally specific measures of sexual IPV consistently found positive associations between a lifetime or recent experience of sexual IPV and recent HIV risk behaviors, regardless of setting and sample. In addition, studies that measured severity of sexual IPV demonstrated increased odds in HIV risk-taking behaviors beyond that of associations between any sexual IPV and HIV risk behaviors.

Use of Less Specific Terms for Sexual IPV in its Association with HIV Risk

Seven studies (four in the US, one in India, and two in Sub-Saharan Africa) examined associations between sexual IPV and HIV using broad definitions of sexual violence (Table 4). US-based studies used convenience samples of American Indian women of all ages in a metropolitan setting and predominantly African American HIV-positive and HIV-negative women from clinic and community-based agencies in low-income, urban neighborhoods as well as probability-based samples of adolescents and women of all ages. In India, women were recruited from general hospitals providing free services; in Tanzania, women were recruited from a voluntary counseling and testing HIV clinic; in Rakai, Uganda, the population of interest was adolescents. The studies conducted in India and Tanzania included both HIV-positive and HIV-negative women. HIV infection was the outcome of interest in studies by Burke et al. [52] Gupta et al. [53], Maman et al. [54], and Sareen et al. [55]; the remaining studies assessed current HIV risk behaviors.

Some of the broad terms or phrases used to assess sexual IPV included the following: “forced sex”, “ever forced into sexual activities” by an intimate, “sexually abused or assaulted” by a partner, and your partner “insisted on or made you have sexual relations when you did not want to”.

Sexual IPV was reported during the past year for three studies while the remaining studies assessed lifetime sexual IPV. Five out of seven studies measured sexual IPV with a single question. The remaining two studies measured sexual IPV using the Tanzanian-adapted CTS and a single item from the CTS-2 sexual coercion subscales. Prevalence of lifetime sexual IPV varied by country and study population. Among adolescents, in Rakai, Uganda, 22.4 % reported a lifetime experience of sexual IPV [56] whereas, in the US, 11.8 % reported such an experience [57]. In study populations consisting of HIV-positive and HIV-negative women, sexual IPV was reported among 44.1 % of HIV-positive and 23.0 % of HIV-negative women in Dar es Salaam, Tanzania [54]; 39.3 % and 30.2 % of HIV-positive and HIV-negative women, respectively, in New Delhi and Chennai, India ($p < .05$) [53]; and in the US, 22.0 % of HIV-positive and 22.0 % HIV-negative women [52].

In multivariate analyses, only one study found a significant association between sexual IPV and HIV infection. In their study of HIV-positive and HIV-negative women, Maman et al. found that HIV-positive women were two times more likely (AOR = 2.39; 95 % CI: 1.21, 4.73) than HIV-negative women to experience sexual IPV with a current partner [54]. Other studies showed only bivariate but not multivariate associations between sexual IPV and HIV infection/HIV risk behaviors [53, 58] or no association between sexual IPV and HIV infection/HIV risk behaviors in studies in the US and in Uganda [52, 56–58]. Of particular importance, Sareen et al. was unable to assess the association between sexual IPV and HIV status due to the low prevalence of sexual IPV in their population of 13,928 US women, possibly as a result of its assessment in the past year only (55). In their study, only 58 HIV-negative women reported a past-year experience of sexual IPV and no HIV-positive women reported a similar experience. None of the three studies that examined HIV risk behaviors as the outcome (vs. HIV infection only) focused on sexual IPV and HIV risk behaviors within a particular relationship. Overall, studies conducted in the US and low- and middle-income countries that used less specific terms for sexual IPV yielded conflicting data regarding associations between lifetime or past-year sexual IPV and HIV infection or HIV risk behaviors.

Discussion

This literature review sought to compile and synthesize articles published since 2000 that examined the relationship between coerced or forced sexual initiation, sexual IPV and HIV risk among women throughout the world. In doing so, the review has identified key areas of need, both in general and in research methodologies. Although we

Table 4 Studies using vague (broad) definitions of sexual violence in associations between sexual IPV and HIV risk

Author (Year) and setting	Study Sample	Sexual IPV definition and measures	HIV risk measures	Prevalence of sexual IPV	Findings
Burke (2005) Baltimore, MD, United States	<i>N</i> = 611 women (310 HIV+; 301 HIV-) aged 18–40+ years from outpatient clinics, a homeless shelter and community center	“Have you ever been forced into sexual activities by a husband, boyfriend, or female partner?”	HIV serostatus	23 % of total sample reported any sexual IPV (22 % HIV+; 22 % HIV-); 2 % of total sample reported only sexual IPV (no physical)	No significant difference in prevalence between HIV+/HIV- women and experiences of sexual IPV
Gupta (2008) New Delhi and Chennai, India	<i>N</i> = 459 women (216 HIV+; 243 HIV-) aged 18–61 years recruited from general hospitals	Forced sex in marriage	HIV serostatus	39.3 % HIV+ women vs 30.2 % HIV- women reported ever having forced/coerced sex in marriage	In bivariate model, HIV+ women more likely to report forced/coerced sex in marriage
Maman (2002) Dar es Salaam, Tanzania	<i>N</i> = 245 women (73 HIV+; 172 HIV-) aged 18–55 years, recruited from a voluntary HIV counseling and testing clinic	Lifetime sexual violence- current partner (from CTS) and “How many partners have you had who have physically forced you into sexual activity against your will?”	HIV serostatus	44.1 % HIV+ women vs 23.0 % HIV- women reported lifetime sexual violence with current partner; 16.3 % of total had at least 1 sexually abusive partner in lifetime	HIV+ women significantly more likely than HIV- women to experience sexual IPV with current partner (AOR 2.39; 95 % CI: 1.21–4.73). No significant difference in number of sexually abusive partners between HIV+ and HIV- women
Sareen (2009) United States	<i>N</i> = 13,928 women, aged 20–65+ years (population-based)	How often in past year has spouse or partner forced you to have sex?	Self-reported HIV status	No HIV+ women; 58 out of 13,842 HIV- women	No comparisons could be made for sexual IPV on HIV status due to low prevalence
Simoni (2004) New York metropolitan area, United States	<i>N</i> = 155 American Indian women, members of an American Indian community center, aged 18–87 years	Ever sexually abused or assaulted by a spouse/sexual partner.	Lifetime: unsafe sex, high-risk sex, injection drug use; Current: male and female sex partner past year, consistent condom use, substance use before or during sex, frequency of drug/alcohol use in past year	20 % reported lifetime sexual trauma by sex partner	In bivariate analyses, sexual trauma by partner associated with high-risk sex and injection drug use. Lifetime sexual trauma by partner not associated with any current sexual or drug risk behaviors
Teitleman (2008) United States	<i>N</i> = 2,058 sexually active adolescents aged 18–26 years (population-based)	Past year frequency of having their partner insist on or make them have sexual relations when they did not want to (from CTS2)	Past year condom use frequency, condom use at last vaginal sex, recent STI	11.8 % ever forced to have sex	Forced sex not associated with HIV risk

Table 4 continued

Author (Year) and setting	Study Sample	Sexual IPV definition and measures	HIV risk measures	Prevalence of sexual IPV	Findings
Zabloska (2009) Rakai, Uganda	$N = 3,422$ sexually active women aged 15–24 years, from the Rakai community cohort	Have any of your sexual partners ever physically forced you to have sex when you didn't want to? and frequency in past year	Condom use, number and characteristics of sexual partners, sex for money/gifts, alcohol use	22.4 % lifetime sexual coercion; 13.4 % in past year	HIV prevalence for women with histories of sexual coercion higher but not sig. different from HIV – group

AOR adjusted odds ratio, CI confidence interval

acknowledge that we may not have captured all relevant articles due to our review methodology (i.e., initial review of titles, subjects, and abstracts rather than the full text of the article), our search strategy included frequently used databases and studies with overall objectives of examining the intersecting epidemics of coerced/forced sexual initiation, sexual IPV, and HIV risk. Moreover, our findings were able to highlight the importance of using behaviorally specific terms when examining these intersections. We synthesize the findings and, based on the evidence, we make preliminary recommendations for research, practice, and policy.

Sexual violence or assault is severely underreported to law enforcement and health officials, with an estimated 60 % of assaults going unreported [59]. Although the coerced/forced sexual initiation and sexual IPV measures in the research reviewed here were based on self-report, it is heartening to see that sexual violence research may not face the same problem of underreporting. In fact, the studies of this literature review documented high rates of forced sexual initiation (5.3–46 % among women in low- and middle-income countries and 12.5 % in the US) and sexual IPV (prevalence ranging from 16 to 68 % internationally and 20–67 % in the US). The only exception to this is the US-based study by Sareen et al. [55] where the prevalence for sexual IPV is extremely low; the authors provide no discussion regarding why this might be. Overall, we conclude that self-reporting of sexual violence is not found to be a significant limitation in most studies.

Similar to sexual violence, HIV risk behaviors have historically been assessed through self-report, as they were in the studies reviewed here. Data collection through audio-computer self-interviews and self-administered interviews have generally yielded data less influenced by social desirability than face-to-face interviews [60] although only three studies in this review utilized these methods [42, 44, 58]. Although HIV risk behaviors were self-reported in all of the studies reviewed, biological measures of HIV/STI status were also used in approximately one-half of the studies. The use of objective, biological measures substantiate the significant findings and provide an opportunity to examine direct associations between forced sexual initiation, sexual IPV and HIV/STIs.

With concern over accurate measurement of the phenomenon, sexual violence researchers are making significant strides in recognizing the need to measure sexual violence using behaviorally specific terminology instead of general descriptors such as forced or unwanted [21]. Although some sexual violence instruments have been modified to include less severe forms of sexual violence such as the CTS-2 and SVAWS [28, 29], a need remains to integrate behaviorally specific acts into these instruments. Eight of the 21 reviewed studies used specific definitions of

sexual violence and/or coercion. When this becomes standard practice in sexual violence research, the techniques for communicating the construct of coercion or sexual violence will be parallel to those now commonly used to communicate what is meant by sexual intercourse [21]. In our review, prevalence of sexual IPV was generally higher in most of the studies using behaviorally specific measures of sexual IPV than in those using single questions or broad measures. Reducing confusion over terminology such as differentiating behaviors that are coercive, especially verbally coercive, in contrast to what is pressured, and differentiating unwanted sex from coerced sex will facilitate more accurate prevalence estimates of behaviorally specific sexual IPV incidents, allowing for adequate comparison across studies.

In terms of research, examining associations of behaviorally specific sexual IPV incidents with HIV risk and/or HIV/STI infection allows for more accurate relationships to be documented. Of the eight studies using specific definitions of sexual IPV, seven showed a relationship between sexual IPV and HIV risk behaviors. Interestingly, with the exception of one study, these studies did not examine HIV serostatus as an outcome. However, the seven studies using broad or vague definitions had more varying results, with three reporting strong associations between sexual IPV and HIV status or risk behaviors, one finding a positive, although not statistically significant, association, and three finding no relationship. These discrepant results may be related to several factors, including the participants' interpretations of the broad questions regarding sexual IPV and the cultures represented in the samples.

This emphasizes the urgent need to recognize that cultural differences may exist in the types of sexual IPV incidents and what behaviors are considered coercive and to incorporate these into research methods. Vague or broad questions pertaining to sexual IPV leave a great deal up for interpretation by the individual participants, which explain some of the variation in findings discussed in the preceding paragraph. Women in some cultures may view less severe forms of sexual IPV as normal behavior [61] and therefore, participants would not respond affirmatively when asked in general terms about experiencing sexual IPV. For example, researchers conducting qualitative interviews with adolescent women in Rakai, Uganda found that sexual coercion was perceived to be a normal part of intimate relationships [62]. Specifically, these young women frequently perceived lack of choice and nonconsensual sex as normal facets of intimate relationships. Additionally, sexual coercion was acceptable under certain circumstances, and men dominated decision making about sexual matters and female reproduction, factors that justified the use of sexual coercion. The lack of consistency in how sexual IPV is

measured and the differing cultural norms and gender roles surrounding relationships makes comparison difficult between studies that incorporate all aspects of the continuum with those that focus predominantly on the more severe forms of forced sex. Participants are likely to report differing prevalence depending on how sexual IPV is operationally defined and how it is perceived in their own cultures. These differences must not only be accounted for in research for sexual IPV and HIV infection but in treatment and prevention services as well.

There is an urgent need for culturally-tailored screening to identify victims of sexual IPV not only in clinic-based and domestic violence-related settings, but also in HIV-related settings (e.g., HIV testing and counseling locations, community-wide HIV prevention outreach efforts). Education should be provided for women at risk for sexual IPV and/or HIV infection, as well as those who are HIV-positive and may experience subsequent sexual violence. Through culturally-tailored screening and education efforts, more women will be identified as 'at-risk' and receive treatment, while others will gain increased awareness of these intersecting epidemics.

Finally, coerced/forced sexual initiation has received limited dedicated attention in terms of research, practice and HIV prevention interventions. Despite the growing bodies of literature investigating the intersection of HIV and violence against women and the link between child sexual abuse, which can include completed intercourse and therefore falls under the domain of coerced/forced sexual initiation, and HIV [63–65], very few focus directly on the aspect of sexual initiation. Only seven published studies were found that focused specifically on coerced/forced sexual initiation and associated HIV risk. However, even with the limited evidence available which comes predominantly from low- and middle-income countries, coerced/forced sexual initiation is highly prevalent in various population groups and is also associated with HIV risk behaviors and HIV/STI infection in the course of a woman's life span. The observed difference across studies documenting this association pertains to the timing of the engagement in particular HIV risk behaviors from lifetime to more recent behaviors [37, 39, 41, 42]. Nonetheless, convincing evidence remains linking coerced/forced sexual initiation to HIV risk. As a next step, mixed-methods, longitudinal studies could test causal pathways between coerced/forced sexual initiation, HIV risk behaviors and HIV/STI infection, while simultaneously obtaining life history interviews from abused women in order to contextualize the pathways identified. In addition, use of biological data (e.g., cortisol levels, cytokine levels, STIs, HIV) will facilitate a better understanding of the underlying pathways. The examined pathways would benefit from the integration of sexual revictimization in addition to other

forms of violence (e.g., IPV, emotional violence); mental health conditions (e.g., depression, post-traumatic stress disorder); and substance abuse histories (e.g., victim alcohol and drug use, alcohol or drug use in the context of violence) to further characterize intermediate points to target during treatment and HIV prevention intervention development.

Conclusions

The preponderance of evidence in the research reviewed supports an association of coerced/forced sexual initiation with HIV risk behaviors and HIV seroconversion in countries where there is a high prevalence of HIV-positive women. Additionally, there is inconsistent evidence regarding the association of sexual IPV with either HIV-positive status or HIV risk behaviors, although only two of the studies were conducted in countries with a substantial prevalence of HIV. Clearly, the lack of definitional precision about coercive sexual experiences has severely compromised the validity of findings. The lack of consideration of cultural context, as well as complex and multiple behavioral and physiological pathways between coercive sexual experiences during and at the start of intimate relationships and HIV risk also has hampered the research to date. It is crucial to advocate for federal funding to work towards addressing the complex interplay between coerced/forced sexual initiation, sexual IPV and HIV risk, in both the US and low- and middle-income countries. Given the urgency of the HIV/AIDS epidemic and its impact on women's morbidity and mortality, the current evidence of possible associations warrant further research on the topic to develop interventions that simultaneously prevent HIV/AIDS and curtail further transmission, while addressing sexual violence occurring at sexual debut and in ongoing intimate relationships.

Acknowledgments This work was supported by the National Institutes of Health (K01DA031593, L60MD003701, R25MH080664 for J.K.S. and T32HD064428 and L60MD006272 for M.B.L.). The contents of this article are solely the responsibility of the authors and do not necessarily represent the official views of the National Institutes of Health. The authors thank Serena Ruiz for her assistance on this manuscript.

References

1. Joint United Nations Programme on HIV/AIDS (UNAIDS). UNAIDS Report on the Global AIDS Epidemic. 2010. http://www.unaids.org/globalreport/documents/20101123_GlobalReport_full_en.pdf. Accessed August 5, 2011.
2. Centers for Disease Control and Prevention (CDC). Disparities in diagnoses of HIV infection between Blacks/African Americans and other racial/ethnic populations—37 states, 2005–2008. *MMWR Morb Mortal Wkly Rep*. 2011;60(4):93–98.
3. Maman S, Campbell J, Sweat MD, Gielen AC. The intersections of HIV and violence: directions for future research and interventions. *Soc Sci Med*. 2000;50(4):459–78.
4. Gielen AC, Ghandour RM, Burke JG, Mahoney P, McDonnell KA, O'Campo P. HIV/AIDS and intimate partner violence: intersecting women's health issues in the United States. *Trauma Violence Abuse*. 2007;8(2):178–98.
5. Campbell JC, Baty ML, Ghandour RM, Stockman JK, Francisco L, Wagman J. The intersection of intimate partner violence against women and HIV/AIDS: a review. *Int J Inj Contr Saf Promot*. 2008;15(4):221–31.
6. Rottingen JA, Cameron DW, Garnett GP. A systematic review of the epidemiologic interactions between classic sexually transmitted diseases and HIV: how much really is known? *Sex Transm Dis*. 2001;28(10):579–97.
7. Garcia-Moreno C, Jansen HA, Ellsberg M, Heise L. WHO Multi-country Study on Women's Health and Domestic Violence against Women Study Team. Prevalence of intimate partner violence: findings from the WHO multi-country study on women's health and domestic violence. *Lancet*. 2006;368(9543):1260–9.
8. Campbell JC. Health consequences of intimate partner violence. *Lancet*. 2002;359(9314):1331–6.
9. Campbell JC, Baty-Lucea M, Stockman JK, Draughon JE. Forced sex and HIV risk in violent relationships. *Am J Reprod Immunol*. 2012. doi:10.1111/aji.12026. [Epub ahead of print].
10. Thompson NJ, Potter JS, Sanderson CA, Maibach EW. The relationship of sexual abuse and HIV risk behaviors among heterosexual adult female STD patients. *Child Abuse Negl*. 1997;21(2):49–156.
11. Kalichman SC, Williams EA, Cherry C, Belcher L, Nachimson D. Sexual coercion, domestic violence, and negotiating condom use among low-income African American women. *J Womens Health*. 1998;7(3):371–8.
12. Molitor F, Ruiz JD, Klausner JD, McFarland W. History of forced sex in association with drug use and sexual HIV risk behaviors, infection with STDs and diagnostic medical care. Results from the Young Women Survey. *J Interpers Violence*. 2000;15:262–78.
13. McDonnell KA, Gielen AC, O'Campo P. Does HIV status make a difference in the experience of lifetime abuse? Descriptions of lifetime abuse and its context among low-income urban women. *J Urban Health*. 2003;80(3):494–509.
14. Campbell JC, Soeken K. Forced sex and intimate partner violence: effects on women's risk and women's health. *Violence Against Women*. 1999;5(9):1017–35.
15. Adams-Curtis LE, Forbes GB. College women's experiences of sexual coercion: a review of cultural, perpetrator, victim, and situational variables. *Trauma Violence Abuse*. 2004;5(2):91–122.
16. Gross AM, Winslett A, Roberts M, Gohm CL. An examination of sexual violence against college women. *Violence Against Women*. 2006;12(3):288–300.
17. Fisher BS, Cullen FT, Turner MG. The sexual victimization of women. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics; 2000. <https://www.ncjrs.gov/pdffiles1/nij/182369.pdf>. Accessed April 28, 2011.
18. Heise L, Ellsberg M, Gottemoeller M. Ending violence against women. Population reports, series L, no 11. Baltimore: Population Information Program, Johns Hopkins University School of Public Health; December 1999.
19. Laumann EO. Early sexual experiences: how voluntary? How violent? A monograph from Sexuality and American social policy: a seminar series. Washington, DC : Henry J. Kaiser Family Foundation; 1996.

20. Abma J, Driscoll A, Moore K. Young women's degree of control over first intercourse: an exploratory analysis. *Fam Plann Perspect.* 1998;30(1):12–8.
21. Hamby SL, Koss MP. Shades of gray: a qualitative study of terms used in the measurement of sexual victimization. *Psychol Women Q.* 2003;27:243–55.
22. Basile KC. Prevalence of wife rape and other intimate partner sexual coercion in a nationally representative sample of women. *Violence Vict.* 2002;17(5):511–24.
23. Basile KC, Chen J, Black MC, Saltzman LE. Prevalence and characteristics of sexual violence victimization among U.S. adults, 2001–2003. *Violence Vict.* 2007;22(4):437–48.
24. Koss MP, Oros CJ. Sexual experiences survey: a research instrument investigating sexual aggression and victimization. *J Consult Clin Psychol.* 1982;50(3):455–7.
25. Wyatt GE, Lawrence J, Vodounon A, Mickey MR. The Wyatt Sex History Questionnaire: a structured interview for female sexual history taking. *J Child Sex Abus.* 1992;1:51–68.
26. Centers for Disease Control and Prevention (CDC). National survey of family growth. NSFG cycle 6 main study female questionnaires. http://www.cdc.gov/nchs/data/nsfg/C6female_capiliteMar03final.pdf. Accessed on August 13, 2011.
27. Centers for Disease Control and Prevention (CDC). National survey of family growth. NSFG 2006–2010 CAPI reference questionnaires. http://www.cdc.gov/nchs/data/nsfg/NSFG_2006-2010_Y3_FemaleJ_CRQ.pdf. Accessed on September 1, 2012.
28. Straus MA, Hamby SL, Boney-McCoy S, Sugarman DB. The revised conflict tactics scales (CTS2): development and preliminary psychometric data. *J Fam Issues.* 1996;17(3):283–316.
29. Marshall LL. Development of the severity of violence against women scales. *J Fam Violence.* 1992;7(2):103–21.
30. Dickson N, Paul C, Herbison P, Silva P. First sexual intercourse: age, coercion, and later regrets reported by a birth cohort. *BMJ.* 1998;316(7124):29–33.
31. Erulkar AS. The experience of sexual coercion among young people in Kenya. *Int Fam Plan Perspect.* 2004;30(4):182–9.
32. Koenig MA, Lutalo T, Zhao F, et al. Coercive sex in rural Uganda: prevalence and associated risk factors. *Soc Sci Med.* 2004;58(4):787–98.
33. Black MC, Basile, KC, Breiding MJ, et al. The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 summary report. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2010.
34. Logan TK, Cole J, Shannon L. A mixed-methods examination of sexual coercion and degradation among women in violent relationships who do and do not report forced sex. *Violence Vict.* 2007;22(1):71–94.
35. Koss M, Gidycz C, Wisniewski N. The scope of rape: incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *J Consult Clin Psychol.* 1987;55(2):162–70.
36. Sa Z, Larsen U. Gender inequality increases women's risk of HIV infection in Moshi, Tanzania. *J Biosoc Sci.* 2008;40(4):505–25.
37. Dunkle KL, Jewkes RK, Brown HC, Gray GE, McIntyre JA, Harlow SD. Gender-based violence, relationship power, and risk of HIV infection in women attending antenatal clinics in South Africa. *Lancet.* 2004;363(9419):1415–21.
38. Williams CM, McCloskey LA, Larsen U. Sexual violence at first intercourse against women in Moshi, northern Tanzania: prevalence, risk factors, and consequences. *Popul Stud (Camb).* 2008;62(3):335–48.
39. Maharaj P, Munthre C. Coerced first sexual intercourse and selected reproductive health outcomes among young women in KwaZulu-Natal, South Africa. *J Biosoc Sci.* 2007;39(2):231–44.
40. Pettifor A, O'Brien K, Macphail C, Miller WC, Rees H. Early coital debut and associated HIV risk factors among young women and men in South Africa. *Int Perspect Sex Reprod Health.* 2009;35(2):82–90.
41. Koenig MA, Zablotska I, Lutalo T, Nalugoda F, Wagman J, Gray R. Coerced first intercourse and reproductive health among adolescent women in Rakai, Uganda. *Int Fam Plan Perspect.* 2004;30(4):156–63.
42. Stockman JK, Campbell JC, Celentano DD. Sexual violence and HIV risk behaviors among a nationally representative sample of heterosexual American women: the importance of sexual coercion. *J Acquir Immune Defic Syndr.* 2010;53(1):136–43.
43. El-Bassel N, Gilbert L, Wu E, et al. Intimate partner violence prevalence and HIV risks among women receiving care in emergency departments: implications for IPV and HIV screening. *Emerg Med J.* 2007;24(4):255–9.
44. Hoffman S, O'Sullivan LF, Harrison A, Dolezal C, Monroe-Wise A. HIV risk behaviors and the context of sexual coercion in young adults' sexual interactions: results from a diary study in rural South Africa. *Sex Transm Dis.* 2006;33(1):52–8.
45. Wingood GM, DiClemente RJ, Raj A. Adverse consequences of intimate partner abuse among women in non-urban domestic violence shelters. *Am J Prev Med.* 2000;19(4):270–5.
46. Morokoff PJ, Redding CA, Harlow LL, et al. Associations of sexual victimization, depression, and sexual assertiveness with unprotected sex: a test of the multifaceted model of HIV risk across gender. *J Appl Biobehav Res.* 2009;14(1):30–54.
47. Cole J, Logan TK, Shannon L. Risky sexual behavior among women with protective orders against violent male partners. *AIDS Behav.* 2007;11:103–12.
48. Panchanadeswaran S, Frye V, Nandi V, Galea S, Vlahov D, Ompad D. Intimate partner violence and consistent condom use among drug-using heterosexual women in New York City. *Women Health.* 2010;50(2):107–24.
49. Josephs LL, Abel EM. Investigating the relationship between intimate partner violence and HIV risk-propensity in Black/African-American women. *J Fam Violence.* 2009;24(4):221–9.
50. Wingood GM, DiClemente RJ, Raj A. Identifying the prevalence and correlates of STDs among women residing in rural domestic violence shelters. *Women Health.* 2000;30(4):15–26.
51. Cole J, Logan TK, Shannon L. Risky sexual behavior among women with protective orders against violent male partners. *AIDS Behav.* 2007;11(1):103–12.
52. Burke JG, Thieman LK, Gielen AC, O'Campo P, McDonnell KA. Intimate partner violence, substance use, and HIV among low-income women: taking a closer look. *Violence Against Women.* 2005;11(9):1140–61.
53. Gupta RN, Wyatt GE, Swaminathan S, et al. Correlates of relationship, psychological, and sexual behavioral factors for HIV risk among Indian women. *Cultur Divers Ethnic Minor Psychol.* 2008;14(3):256–65.
54. Maman S, Mbwapo JK, Hogan NM, et al. HIV-positive women report more lifetime partner violence: findings from a voluntary counseling and testing clinic in Dar es Salaam, Tanzania. *Am J Public Health.* 2002;92(8):1331–7.
55. Sareen J, Pagura J, Grant B. Is intimate partner violence associated with HIV infection among women in the United States? *Gen Hosp Psychiatry.* 2009;31(3):274–8.
56. Zablotska IB, Gray RH, Koenig MA, et al. Alcohol use, intimate partner violence, sexual coercion and HIV among women aged 15–24 in Rakai, Uganda. *AIDS Behav.* 2009;13(2):225–33.
57. Teitelman AM, Ratcliffe SJ, Morales-Aleman MM, Sullivan CM. Sexual relationship power, intimate partner violence, and condom use among minority urban girls. *J Interpers Violence.* 2008;23(12):1694–712.
58. Simoni JM, Sehgal S, Walters KL. Triangle of risk: urban American Indian women's sexual trauma, injection drug use, and HIV sexual risk behaviors. *AIDS Behav.* 2004;8(1):33–45.

59. Bureau of Justice Statistics. National crime victimization survey. Washington DC: US Department of Justice, Office of Justice Programs; 2005.
60. Williams ML, Freeman RC, Bowen AM, et al. A comparison of the reliability of self-reported drug use and sexual behaviors using computer-assisted versus face-to-face interviewing. *AIDS Educ Prev*. 2000;12(3):199–213.
61. Kalmuss D. Nonvolitional sex and sexual health. *Arch Sex Behav*. 2004;33(3):197–209.
62. Wagman J, Baumgartner JN, Waszak Geary C, et al. Experiences of sexual coercion among adolescent women: qualitative findings from Rakai district, Uganda. *J Interpers Violence*. 2009;24(12): 2073–95.
63. Chin D, Wyatt GE, Carmona JV, Loeb TB, Myers HF. Child sexual abuse and HIV: an integrative risk-reduction approach. In Koenig LJ, Doll LS, O’Leary A, Pequegnat W, editors. *From child sexual abuse to adult sexual risk: trauma, revictimization, and intervention*. Washington, DC: American Psychological Association; 2004. p. 233–50.
64. Gwandure C. Sexual assault in childhood: risk HIV and AIDS behaviours in adulthood. *AIDS Care*. 2007;19(10):1313–5.
65. Zierler S, Feingold L, Lafer D, Velentgas P, Kantrowitz-Gordon I, Mayer K. Adult survivors of childhood sexual abuse and subsequent risk of HIV infection. *Am J Public Health*. 1991;81(5): 572–5.