

**Original Research Article in the *Journal of Women's Health* – Author Version**

## **Sexual Violence as a Predictor of Unintended Pregnancy, Contraceptive Use and Unmet Need Among Female Youth in Colombia**

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Article available from the *Journal of Women's Health* [here](#).

### ***Suggested citation***

Gómez AM. (2011) "Sexual Violence as a Predictor of Unintended Pregnancy, Contraceptive Use and Unmet Need Among Female Youth in Colombia." *Journal of Women's Health* 20(9), 1349-56.

## **Abstract**

*Aims.* Violence against women is an important risk factor for unintended pregnancy and contraceptive use, though less is known about this relationship among youth. This study aims to investigate linkages between sexual violence and unintended pregnancy among Colombian female youth (ages 13-24).

*Methods.* Utilizing the nationally representative Colombian Demographic and Health Survey (2005), the association of sexual violence with unintended pregnancy, current modern contraceptive use and unmet need for contraception is examined using Pearson's chi-square tests and logistic regression models.

*Results.* 13% of female youth who have been pregnant in the past five years report experiencing sexual violence during their lifetimes, with 6% reporting sexual violence perpetrated by a spouse or partner, and 8% by someone else. Among female youth at risk of unintended pregnancy, sexual violence is reported by 11%. About 5% of these female youth report sexual violence from a spouse or partner, while 7% report being forced to have sex with someone else. In cross-tabulations, female youth who have experienced sexual violence report significantly higher levels of unintended pregnancy and unmet need for contraception, and lower levels of current modern contraceptive use compared to those who have not experienced sexual violence. In multivariate logistic regression models, sexual violence is associated with increased risk for unintended pregnancy (AOR 1.4; 95% CI 1.1-1.8) and unmet need for contraception (AOR 1.5; 95% CI 1.1-2.0), and decreased likelihood of current contraceptive use (AOR 0.8, 95% CI 0.6-1.0).

*Conclusions.* This analysis indicates that sexual violence is pervasive in Colombia and consistently linked to increased risk of unintended pregnancy among female youth. Because

youth are particularly vulnerable to sexual violence and may have difficulty accessing services, preventive efforts and clinical responses should be specifically crafted to curb violence against young women, as well as reduce the longitudinal impact of experiencing sexual violence.

## Introduction

Sexual coercion is an increasingly common experience among female youth throughout the developing world.<sup>1-14</sup> Sexual violence is broadly defined as “any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic, or otherwise directed, against a person’s sexuality using coercion, by any person regardless of their relationship to the victim, in any setting, including but not limited to home and work.”<sup>15</sup> Sexual violence is not only a violation of a young woman’s body and human rights but also an encroachment upon her right to control her reproductive and overall health. Strong evidence exists to demonstrate a relationship between gender-based violence, including intimate partner violence (IPV), sexual coercion, and child abuse, and the risk of adverse reproductive health outcomes.<sup>14, 16-29</sup> In Colombia, the setting of the present study, research has shown an increased risk for unintended pregnancy among women experiencing IPV.<sup>26, 30</sup> However, as is the case is globally, less is known about *sexual violence among female youth*, both in married/cohabitating and more casual relationships.<sup>24, 25</sup>

Much research on IPV in developing countries relies on data from the nationally representative Demographic and Health Surveys (DHS).<sup>26, 31-39</sup> In most countries, questions about IPV are only asked to ever-married women,<sup>40</sup> neglecting the experiences of many adolescent and young women who experience sexual violence prior to marriage or cohabitation. Given the increasing age of marriage and the vulnerability of female youth to sexual violence, investigating sexual violence with both non-marital and marital partners is essential to fully understanding the experiences of young women and to develop appropriate public health and clinical responses.<sup>41</sup> As Jejeebhoy and Bott note, “In particular, young people may be less

equipped than adults to avoid incidents of non-consensual sex and in reality may have fewer choices available to them when they do experience such incidents.”<sup>4</sup>

### *Study Setting*

Violence is endemic in Colombian society, in part due to the ongoing armed conflict between the government and the guerilla group, the *Fuerzas Armadas Revolucionarias de Colombia* (FARC), over the last 50 years. Colombia has one of the highest rates of homicide and death due to armed conflict in Latin America.<sup>42</sup> Furthermore, researchers estimate that in 1997 nearly a quarter of the country’s gross domestic product was lost due to violence.<sup>43</sup> Gender-based violence is a defining part of the conflict, and rape is used as a weapon of war, to torture or to bruise the “enemy’s honor.”<sup>44</sup> The violent context of Colombian society may promote violence against women.<sup>45</sup> In 2000 nearly 9% of ever-married, recently pregnant Colombian women ages 15-44 reported experiencing sexual IPV in their lifetimes.<sup>26</sup> It is estimated that 32,500-45,000 unintended pregnancies in Colombia would be avoided each year if IPV were eliminated.<sup>26</sup>

Colombia is in the late stages of the fertility transition, with a total fertility rate (TFR) of 2.4.<sup>46</sup> Though the fertility transition in Colombia is thought to be stalled,<sup>47</sup> fertility has declined dramatically from a TFR of 6.0 in 1968.<sup>48</sup> The unwanted fertility rate also appears to be stagnant, at 0.7 in both 1990 and 2005.<sup>49</sup> Over the past three decades, adolescent fertility has been on the rise. In 1986 about 13% of 15- to 19-year-olds in Colombia were pregnant or mothers, steadily climbing to 21% in 2005.<sup>46</sup> Family planning methods are generally available, with more than 90% of married and unmarried sexually active women reporting that they have ever used a modern family planning method. Among unmarried, sexually active, female youth, more than 65% are currently using modern contraceptives.<sup>46</sup> Moreover, among both 15-19- and 20-24-year-

olds, unmet need for contraception – non-use of contraception a woman who would like to delay or cease childbearing – declined between 1986 and 2005.<sup>46</sup> Thus, while contraceptive use is generally high and unmet need is falling among Colombian female youth, the scourge of violence against women may inhibit further reductions and contribute to thousands of unintended pregnancies each year.

Given the rising levels of adolescent pregnancy and the high prevalence of sexual violence, the present paper sets out to identify the effect of sexual violence on unintended pregnancy, current use of a modern contraceptive method, and unmet need for contraception among female youth ages 13 to 24 in Colombia. It is hypothesized that experiencing sexual violence will be associated with an increased likelihood of unintended pregnancy and unmet need for contraception, and a decreased likelihood of current contraceptive use.

## **Methods**

### *Data*

Data from the women's survey of the 2005 Colombia DHS are used in this analysis. The DHSs are a series of nationally representative surveys examining population, health and nutrition in Latin America, Africa, Asia and Eastern Europe. The Colombia DHS is implemented by Profamilia, an affiliate of the International Planned Parenthood Federation and Colombia's primary provider of reproductive and sexual health services. Multi-stage, probability sampling was used to identify households, with a total of 41,344 women ages 13-49 interviewed as part of the women's survey.<sup>49</sup> Data were collected in the households of the respondents by female interviewers. Field staff received extensive training on the survey instruments.<sup>45</sup> In all countries where the DHS includes a domestic violence module, guidelines must be followed to ensure the

ethical implementation of the module and to maximize the disclosure of actual violence.<sup>50</sup> These guidelines include: only administering the domestic violence module to one woman in each household; reiterating informed consent; ensuring privacy; provision of referrals to women experiencing domestic violence; emotional support for field staff; developing quality assurance procedures specifically for the domestic violence module; and collaborating with local women's groups. Furthermore, the guidelines require special training for staff in order to explain the goals of the module, administration of the module using the established safety procedures, how to deal with crisis situations, and how to emotionally prepare for the work.

### *Measures*

The independent variable of interest is a broadly defined dichotomous variable indicating whether the respondent has experienced sexual violence. A respondent is considered to have experienced sexual IPV if she has ever being physically forced to have sex with a spouse or cohabitating partner. The other sexual violence variable reflects whether the respondent has ever been: (1) forced by someone other than a husband to perform sexual acts; or (2) forced to have sex to obtain money or benefits for others. The overall sexual violence variable indicates an affirmative response to any of these three items.

Three outcome variables of interest related to pregnancy and contraception are examined. A respondent has experienced an unintended pregnancy if she describes a current pregnancy or any pregnancy resulting in a birth in the past five years as wanted later or not at all. Current modern family planning method use is defined as the respondent currently using oral, implanted and injectable contraceptives, intrauterine devices, female and male sterilization or condoms to

prevent pregnancy. The unmet need variable indicates that the respondent is not using contraception but wants to cease childbearing or delay pregnancy for at least two more years.

Individual-level control variables are also considered based on literature showing their importance to risky sexual behavior, reproductive health and sexual violence. Control variables include the respondent's current age (13-15, 16-18, 19-21 or 22-24 years)<sup>14, 51, 52</sup>; highest education level (primary or less, secondary, or higher)<sup>14, 53</sup>; being in union (married or cohabitating, versus being single, divorced, widowed, or in a non-cohabitating relationship)<sup>14, 54</sup>; area of residence (rural or urban)<sup>29, 55</sup>; region (Atlantíca, Bogotá, Central, Oriental, Pacífica or the national territories)<sup>30</sup>; parity (having given birth to one child or more, versus never having given birth)<sup>23, 56</sup>; and sexual initiation before age 15<sup>57</sup>. Ordinal principal components analysis (PCA) is used to calculate a proxy measure of socioeconomic status for the entire sample of women due to its improved performance compared to PCA using only dummy variables.<sup>58</sup> Included in the PCA are the following household characteristics: separate ordinal variables indicating the quality of walls, floors and toilets, and dummy variables indicating whether her household has electricity and owns a radio, television, refrigerator, motorcycle and car.

### *Sample*

The present secondary data analysis focuses on female youth ages 13-24. Women are excluded from the analysis if they are older than 24 (n = 24,658). Additionally, women younger than 24 are not included if they are not sexually experienced (n = 7,473) or not asked any questions about sexual violence (n = 83). Two different subsamples are examined relative to the primary outcomes of interest. First, for the outcome of unintended pregnancy, the subsample consists of 4,913 female youth who have been pregnant in the past five years or are currently

pregnant (subsequently referred to as the recently pregnant subsample). Second, for the outcomes of current modern contraceptive use and unmet need for contraception, the subsample includes 5,809 female youth who are at risk of unintended pregnancy (subsequently referred to as the contraception subsample). That is, they are sexually active, not planning to become pregnant in the next two years, and not infecund. The DHS classifies women as infecund if they are not menopausal, not postpartum amenorrheic, not pregnant, have had no birth in the five years before the survey, and have been continuously married for the past five years.<sup>59</sup> Additionally, if a woman says she cannot get pregnant, is menopausal, or has had a hysterectomy, she is considered infecund in the present analysis.

#### *Analytic Approach*

All analyses are conducted using Stata 11.0 statistical analysis software (StataCorp, College Station, TX). Descriptive statistics for sociodemographic and reproductive health characteristics are calculated. Pearson's chi-squared tests are used to assess significant differences in the prevalence of the selected reproductive health outcomes among female youth who report sexual violence versus those who do not. Multivariate logistic regression models are used to assess the relationship between each of the three outcome variables with sexual violence, controlling for the sociodemographic characteristics, parity, and age of sexual debut. To adjust for the design features of the Colombia DHS, survey commands are employed, including application of sampling weights, adjustments for clustering and usage of Taylor series linearized standard errors for logistic regression models. Because interaction terms between sexual violence and education, age, and region are not associated with outcome variables at statistically significant levels, results from these models are not shown here.

## **Results**

### *Descriptive Characteristics*

In Table 1 descriptive characteristics are provided for each subset. Among female youth in the recently pregnant subsample, 13% report sexual violence, with 6% reporting perpetration by a spouse or cohabitating partner, and 8% reporting being forced to have sex with someone else. Among female youth in the contraception subsample, 11% report sexual violence, with 5% perpetrated by a spouse or cohabitating partner, and 7% by someone else. About 62% of recently pregnant females describe a pregnancy as unintended. Among female youth in the contraception subsample, 68% report currently using a modern contraceptive method, while 13% report not using contraception despite their desire to delay or cease childbearing (i.e., unmet need).

The weighted mean age of female youth in both subsamples is 21 years (results not shown), with 19-21-year-olds and 22-24-year-olds representing the majority of respondents. Additionally, in both subsamples, the mean age of sexual debut is 16 years (results not shown). The majority of women in both subsamples have completed secondary or higher education, though more women in the contraception subsample have completed higher education (21%), compared to the recently pregnant subsample (10%). The respondents are largely urban residents. About 63% of women in the recently pregnant subsample and 54% of the contraception subsample are currently in union. As expected, the majority (89%) of women in the recently pregnant sample have given birth to at least one child, compared to 60% of the contraception subsample.

To better understand the correlates of sexual violence, logistic regression models for each subset are employed with sociodemographic characteristics and parity as independent variables

(results not shown). For both subsets, having completed secondary or higher education is protective against sexual violence at a statistically significant level ( $p \leq 0.001$ ). Additionally, among the women in each subset, being ages 19 to 21 is protective against sexual violence in comparison to women ages 22 to 24 ( $p \leq 0.01$ ). Having given birth to one or more children elevates the risk of sexual violence in both subsets (pregnancy subset,  $p \leq 0.05$ ; contraception subset,  $p \leq 0.01$ ). For only the recently pregnant subset, union status is protective against sexual violence; that is, women in union are less likely to report sexual violence ( $p \leq 0.05$ ). No other sociodemographic characteristics are associated with sexual violence in either subsample.

### *Sexual Violence and Reproductive Health*

Table 2 shows the percentage distributions of the independent variables of interest by the experience of sexual violence. Among women who have experienced sexual violence and have been recently pregnant, 69% report unintended pregnancies. In contrast, 61% of women who did not report sexual violence describe a birth or current pregnancy as unintended in the past 5 years. Differences between the two subgroups are statistically significant ( $p \leq 0.01$ ). Respondents reporting sexual violence also have statistically significant lower levels of current modern family planning use than those who do not (respectively, 63% versus 68%;  $p \leq 0.05$ ). In terms of unmet need for contraception, levels are higher among female youth who have experienced sexual violence (17%), compared to those who have not experienced sexual violence (9%). This difference is statistically significant ( $p \leq 0.05$ ).

Logistic regression models explore the association between sexual violence and unintended pregnancy, modern contraceptive use, and unmet need for contraception, controlling for sociodemographic characteristics, parity and age of first intercourse (Table 3). In bivariate

and multivariate models (Models 1 and 2), respondents reporting sexual violence have a consistently higher risk of unintended pregnancy, both in terms of actual pregnancy experience and current contraceptive use. Among women who have been pregnant in the past five years, sexual violence is associated with statistically significantly higher odds of unintended pregnancy (AOR 1.4, 95% CI 1.1-1.7). Among women at risk of unintended pregnancy, women who have experienced sexual violence are less likely to be currently using a modern family planning method (AOR 0.8, 95% CI 0.6-1.0) and more likely to report unmet need for contraception (AOR 1.5, 95% CI 1.1-2.1).

To explore the differential effect of type of sexual violence, Models 3 and 4 consider sexual IPV and other sexual violence separately. Less consistent associations are found compared to Models 1 and 2, though forms of sexual violence are somewhat predictive of the outcome variables. An interaction term reflecting whether the respondent has experienced both sexual IPV and other sexual violence was initially included; however, due to its lack of statistical significance, the interaction was dropped from the analysis. In both bivariate and multivariate models, sexual IPV is associated with an increased likelihood of unintended pregnancy in the recently pregnant subsample. Female youth who report sexual IPV are more likely to describe a pregnancy as unintended (AOR 1.5, 95% CI 1.1-2.2) compared to those who have not experienced sexual IPV. A positive but not statistically significant relationship is found between other sexual violence and unintended pregnancy. Female youth who report sexual violence are less likely to be currently using modern contraception (AOR 0.7, 95% CI 0.5-0.9). Finally, sexual IPV and other sexual violence are both positively associated with unmet need for contraception, with other sexual violence nearing statistical significance ( $p \leq 0.10$ ).

## Discussion

As hypothesized, female youth who have experienced sexual violence are consistently at greater risk of unintended pregnancy, both in terms of history of recent unintended pregnancy as well as lower likelihood of modern contraceptive use and higher likelihood of unmet need for contraception. Logistic regression models exploring different types of sexual violence indicate that sexual IPV may be more predictive of unintended pregnancy, while other sexual violence is more important to current family planning use and unmet need. This is one of the first studies to examine unmet need in relation to sexual violence, finding that female youth who have experienced sexual violence are less likely to be using contraception when they do not desire to become pregnant.

These results support the findings of previous researchers, who have noted that violence against women is a risk factor for unintended pregnancy.<sup>14, 16, 18, 23, 26, 28</sup> There are several mechanisms that may explain this relationship. First, there is the possibility that an unintended pregnancy is the direct result of coercive sex – that contraception was not used because the sex was forced. Second, sexual violence may be a disempowering experience, particularly when it happens to a young woman.<sup>15, 60</sup> Women who have experienced sexual violence may face difficulties in negotiating condom and contraceptive use and thus be at increased risk for unintended pregnancy, abortion, STIs, HIV and subsequent sexual coercion.<sup>14</sup> In the present analysis, young women at risk of unintended pregnancy who have experienced sexual violence are less likely to be using contraception despite a stated desire to delay or avoid pregnancy. Third, childhood sexual abuse is strongly associated with increased risk for unsafe sexual practices.<sup>5, 61</sup> Childhood sexual abuse may disrupt normal developmental processes around sexuality and be associated with compromised mental health (including depression, post-

traumatic stress disorder, and dissociative disorders), adult drug use, and social network characteristics that increase exposure to adverse reproductive health outcomes.<sup>62</sup>

This analysis makes an important contribution to the knowledge base about sexual violence and reproductive health among young women in developing countries. It is worth noting that among all Colombian women (ages 13-49) who were forced to have sex by someone other than a spouse or partner, 89% report that the violence occurred at age 24 or younger. Taken together with the results of this study and acknowledging the violent political context of Colombia, there is evidence that sexual violence is an ongoing and long-lived phenomenon and that young women are particularly vulnerable to victimization. Moreover, because female youth are more likely to have recently experienced sexual violence by virtue of their age, there is a need for programs to specifically target this population for services, especially to prevent unintended pregnancy in the near future. Adolescents may already have a difficult time accessing contraception; experiencing sexual violence may compound their reproductive health risk.<sup>63</sup> An additional strength of this analysis is the consideration of sexual violence outside of marital and cohabitating relationships, particularly since many female youth are not in union. To better inform program development to meet this population's needs, research should consider violence in the broader context of young women's lives, particularly since relationship patterns formed during youth may be influential throughout the life course.

The finding that sexual IPV is associated with unintended pregnancy at a statistically significant level while other sexual violence is not may reflect a limitation in the unintended pregnancy measure. The measure used in this analysis is based on pregnancy intentions for current pregnancies and pregnancies resulting in births in the past five years. Women who experience forced sex from a spouse or cohabitating partner may be less likely to have an

abortion than women experiencing sexual violence perpetrated by someone else. Between 173,000 and 450,000 clandestine abortions per year are estimated to occur in Colombia each year.<sup>64</sup> Because of the high likelihood that a pregnancy due to sexual violence would end in abortion,<sup>65</sup> the incidence of unintended pregnancy among women experiencing sexual violence outside an intimate relationship is likely an underestimate.

This study faces a number of other limitations. First, there may be issues around the accuracy of sexual violence data. While the Colombia DHS includes more detailed data about sexual violence than other countries, the survey was not specifically designed to measure sexual violence. Furthermore, though a broad definition of sexual violence that goes beyond vaginal intercourse to include other sexual acts is used, these other acts were not explicitly defined in the questionnaire. Questions about attempted sexual violence and less severe forms of sexual coercion were not included. To thoroughly investigate gender-based violence among female Colombian youth, it will be important to understand the dynamics that drive this violence; without using more sensitive instruments to measure the phenomenon, this may prove difficult. Moreover, the data may be subject to recall bias, particularly around the sensitive issue of sexual violence. The lifetime measures of sexual violence do not provide information about the timing of sexual violence; because the unintended pregnancy measure reflects respondents' experiences over the past five years, it is possible that an unintended pregnancy occurred before the sexual violence. Another limitation is the self-reported, retrospective nature of some of the variables, particularly pregnancy intentions. Many researchers have noted ambivalence in the pregnancy intentions and fertility motivations of women, and standard survey measures such as those used in the Colombian DHS may misclassify the actual desires of women, as a complex constellation of factors influences whether a woman describes her pregnancy as intended or unintended.<sup>66-70</sup>

Colombia's legal framework does provide a foundation for preventing sexual violence. Rape, both in marriage and by outside partners, is a criminal offense, though enforcement of the laws is erratic.<sup>64, 71, 72</sup> Profamilia, the non-governmental organization responsible for implementing the Colombia DHS, has a youth program that includes sexuality education, youth-only health clinics, and services related to IPV and sexual violence, though youth with limited economic resources may have difficulty accessing services.<sup>73, 74</sup> The organization has also developed the nationwide AVISE program, described as a "comprehensive services program that offers medical, psychological and legal services to victims of sexual violence," with the specific goal of preventing unintended pregnancy.<sup>75</sup> However, despite the comprehensive scope and reach of the program, violence reportedly makes it difficult for Profamilia to work in some areas of the country, particularly since doctors are increasingly the target of attacks and kidnappings.<sup>71</sup> Clearly, the dangerous context of Colombian society may not only normalize violence in relationships but can also make the provision of services and dissemination of programs extremely challenging. Given that IPV is associated with 32,500-45,000 unintended pregnancies in Colombia each year, efforts to reduce sexual violence victimization provide the opportunity to not only support the human rights of female youth but also a way to reduce the burden of unintended pregnancy.<sup>26, 46</sup> Additional research to understand barriers of young women who have experienced sexual violence in accessing contraception will enable targeted program development and clinical responses.

While this analysis demonstrates a strong association between sexual violence and unintended pregnancy, current contraceptive use, and unmet need for contraception, it does not form the basis for a causal relationship. Particularly since there is a lack of research focusing on sexual violence among women younger than age 24 in the developing world, there is a need for

more focused quantitative and qualitative research to better understand how and why victims of sexual violence are at increased risk of adverse reproductive health outcomes. However, the well-established link between violence against women and reproductive health provides an impetus for programs to focus on these issues. While this analysis is limited to the experiences of female youth, there is also a need globally for primary prevention with young men and more research to understand what factors put men at risk of violence perpetration. Though there is evidence that gender norms are rapidly changing in Colombia,<sup>30</sup> the history of violence in this country suggests that clinicians and public health programs may have an important role in further promoting gender equity and reducing levels of violence against women.

**TABLE 1: Characteristics of sexually experienced Colombian female youth (ages 13-24), Colombia Demographic and Health Survey, 2005**

	Female youth pregnant in past 5 years (n = 4,913 ) %	Female youth at risk of unintended pregnancy (n = 5,809) %
<b>Experienced sexual violence</b>	12.8	11.1
Perpetrated by spouse or partner	6.3	4.6
Perpetrated by someone else	7.8	7.3
Forced to have sex for money or benefits on behalf of someone else	0.3	0.3
Experienced more than one form of sexual violence	10.8	10.1
<b>Reproductive health outcomes</b>		
Unintended pregnancy in the previous 5 years	62.2	--
Current use of modern contraceptive method	--	67.7
Unmet need for contraception	--	12.8
<b>Highest education level</b>		
Primary or less	28.4	20.3
Secondary	61.8	58.4
Higher	9.8	21.3
<b>Sexual debut before age 15</b>	25.5	22.1
<b>Wealth quintile</b>		
Richest	3.6	6.7
Richer	22.7	30.5
Middle	22.3	22.5
Poorer	23.0	20.2
Poorest	28.4	20.2
<b>Current age</b>		
13-15	2.8	3.8
16-18	17.4	18.2
19-21	34.9	33.9
22-24	44.9	44.0
<b>In union</b>	63.4	53.7
<b>At least one child</b>	89.0	60.4
<b>Resides in rural area</b>	29.5	22.7
<b>Region</b>		
Atlántica	22.5	18.1
Bogotá	17.0	19.0
Central	24.0	25.9
Oriental	17.2	16.1
Pacífica	17.7	19.3
National Territories	0.2	0.2

Note: All frequencies are weighted.

**TABLE 2: Percentage distributions of selected measures of reproductive health, according to the experience of sexual violence**

	Experienced sexual violence	
	Yes	No
<b>Unintended pregnancy in the past 5 years<sup>a</sup></b>		
Yes	69.0	61.2
No	31.0	38.8
<i>χ<sup>2</sup> p-value</i>	0.005	
<b>Current use of a modern contraceptive method<sup>b</sup></b>		
Yes	62.5	68.4
No	37.5	31.6
<i>χ<sup>2</sup> p-value</i>	0.024	
<b>Unmet need<sup>b</sup></b>		
Yes	17.1	12.3
No	83.0	88.8
<i>χ<sup>2</sup> p-value</i>	0.016	

Notes: Frequencies are weighted. <sup>a</sup>Restricted to recently pregnant subsample (n = 4,913). <sup>b</sup>Restricted to contraception subsample (n = 5,809).

**TABLE 3: Odds ratios (and 95% confidence intervals) from logistic regression models assessing the association of reproductive health outcomes and sexual violence**

	Unintended pregnancy in the past 5 years <sup>a</sup>	Current use of modern contraception <sup>b</sup>	Unmet need <sup>b</sup>
<i>Model 1 (Bivariate)</i>			
Experienced sexual violence			
Yes	1.41 (1.11 - 1.79)**	0.77 (0.62 - 0.97)*	1.47 (1.06 - 2.03)*
No	1.00	1.00	1.00
<i>Model 2 (Multivariate)</i>			
Experienced sexual violence			
Yes	1.35 (1.05 - 1.73)*	0.76 (0.59 - 0.96)*	1.52 (1.10 - 2.10)*
No	1.00	1.00	1.00
<i>Model 3 (Bivariate)</i>			
Sexual IPV			
Yes	1.54 (1.08 - 2.20)*	1.07 (0.75 - 1.52)	1.48 (0.94 - 2.33)+
No	1.00	1.00	1.00
Other sexual violence			
Yes	1.24 (0.91 - 1.68)	0.71 (0.54 - 0.92)*	1.31 (0.91 - 1.87)
No	1.00	1.00	1.00
<i>Model 4 (Multivariate)</i>			
Sexual IPV			
Yes	1.49 (1.03 - 2.16)*	1.05 (0.75 - 1.52)	1.54 (0.96 - 2.49)+
No	1.00	1.00	1.00
Other sexual violence			
Yes	1.19 (0.87 - 1.62)	0.70 (0.53 - 0.94)*	1.33 (0.91 - 1.97)
No	1.00	1.00	1.00

Notes: + p≤0.10. \* p≤0.05 \*\* p≤0.01 \*\*\* p≤0.001. <sup>a</sup>Restricted to recently pregnant subsample (n = 4,913).

<sup>b</sup>Restricted to contraception subsample (n = 5,809). Multivariate models controlled for current age, Educational attainment, union status, rural residence, parity, region, wealth quintile, and sexual debut before age 15.

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