

Association of Intimate Partner Violence (IPV) and Current Contraceptive Use in the Democratic Republic of Congo (DRC): a secondary data analysis of the Demographic Health Survey (DHS) II 2013-2014

By

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Abstract

Objective

To characterize the association between intimate partner violence (IPV) and current contraceptive use among married or partnered women in the Democratic Republic of Congo (DRC).

Methods

A secondary data analysis of Demographic Health Survey II data collected during 2013-2014 in the DRC was conducted. After restricting the sample to women who were married or partnered and had answered all questions of interest, 4,038 women remained. Descriptive bivariate analysis was conducted to investigate prevalence of chosen confounders: rural/urban residence, polygamous marriage, woman's education, and partner's education. Multivariate logistic regression was then used to model the association between IPV and contraceptive use while controlling for confounding.

Results

No statistically significant association between IPV and current contraceptive use was found (OR: 1.08, 95% CI: [0.92, 1.27], $p = 0.357$). Rural residence halved the odds of currently using contraceptives (OR: 0.55, 95% CI: [0.46, 0.66], $p = 0.000$). The strongest predictor of current contraceptive use was a woman's educational attainment, with secondary and post-secondary education significantly increasing odds of use (OR: 2.66, CI: [2.01, 3.52], $p = 0.000$ and 3.76 95% CI: [2.05, 6.88], $p = 0.000$). Partner's educational attainment followed a similar pattern, increasing odds of contraceptive use by 1.77 (CI: [1.12, 2.81], $p = 0.014$) and 2.31 (CI: [1.35, 3.97], $p = 0.002$) times for those with secondary and post-secondary education, respectively.

Conclusions for practice

This study confirms a previous finding of a lack of association between IPV and current contraceptive use in the DRC. Further research is warranted to determine the association among unmarried women.

Keywords Intimate partner violence IPV Contraceptive use Democratic Republic of Congo

Significance

What is already known about this subject? While most data from both developing and developed countries show a negative association between IPV and current contraceptive use, recent data from Africa are mixed. DHS I from the DRC (2007) has shown no association between IPV and current contraceptive use. No analysis of DHS II data from the DRC has been done to see if the lack of association found from DHS I data still exists.

What does this study add? Multivariate analysis of DHS II data confirms the lack of association found from DHS I.

I. Introduction

The World Health Organization (WHO) defines Intimate Partner Violence (IPV) as a behavior by an intimate partner that causes physical, sexual or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse and controlling behaviors.¹ This definition covers violence by both current and former spouses and other intimate partners.¹ IPV, is a global, social and public health problem, perpetrated mostly by men against women.² Globally, the lifetime prevalence of IPV among ever-partnered women ranges from 15% to 71%, and studies indicate that nearly one in every three women has experienced physical aggression, sexual coercion, or emotional abuse in an intimate relationship.² The highest rates of IPV globally are found in Central Africa, where 66% of ever-partnered women report experiencing IPV.³

In the second Demographic Health Survey in the Democratic Republic of Congo 2013-2014 (EDS-RDC II), more than half of women (52%) report having ever experienced physical violence since the age of 15.⁴ Overall, 27% of women have ever experienced sexual violence.⁴ Among ever-married women age 15-49, 57% have ever experienced IPV (emotional, physical or sexual) committed by their current or former husband/partner.⁴

Negative health consequences of IPV include sexually transmitted infections, chronic pain, physical disability, psychological sequelae, and substance abuse.³ Although there is an increasing recognition that IPV is a global public health concern, more work is needed in developing countries on population-based studies of violence against women, its determinants, and consequences.⁵

Research in developing countries has consistently found that IPV is a risk factor for mistimed and unwanted pregnancy, largely through its influence on contraceptive use.³ The experience of

IPV has the potential to constrain contraceptive use through limiting access to health services and reducing a woman's ability to negotiate around sex.⁶ A number of social, psychological, and emotional factors may influence the use of contraceptives among women who have experienced IPV.⁶ Women's use of contraception may be limited because of fears about partner response and a lack of ability to negotiate the timing of sex or use of contraceptive methods with their partner.⁶ Women consequently either use no contraception or rely on methods that can be concealed from their partner.⁶ A qualitative study conducted in India by Wilson-William et al. found that covert contraceptive use precipitated domestic violence, although a direct link between the two remains unclear.⁷

Existing data show that Africa is home to both the highest rates of domestic violence in the world and the lowest rates of modern contraceptive use.⁸ The vast majority of women in the DRC (88%) know at least one modern method of contraception.⁴ Despite this high level of knowledge, just 8% of married women and 21% of unmarried sexually active women are using a modern method of family planning.⁴

IPV and contraceptive use in Central Africa may also be influenced by the geopolitical realities in the region; many African nations are currently conflict and/or war zones. Women in conflict settings typically have less access to family planning and may experience greater levels of IPV- a dangerous combination.³ Even for those without personal experience of IPV, heightened ecological IPV levels may deter women from initiating contraceptive use through fear of becoming a victim of IPV by beginning contraceptive use. Men in some cultures may perceive contraceptive use, especially if its use is recent or new for the woman, to be a sign of infidelity, an attack on the male's virility, or a deliberate effort to harm his social standing by not creating new children.³ These considerations are especially relevant in the DRC, which has been plagued

with almost non-stop violence for nearly twenty years. As of 2007, 3 to 5 million people are estimated to have died as a result of the conflict, and sexual violence has become systemic and a systematic tool used by participants in the warfare.³

The aim of the present study is to examine the association between IPV and contraceptive use among Congolese women. This study will compare the current use of modern contraceptives among women who had experienced IPV and those who were reportedly not exposed to any IPV, while controlling for potential confounders of maternal education level (none, primary, secondary or higher), residence (urban or rural), marriage regimen (polygamy [defined as having a co-wife] or monogamy), and partner's education level (none, primary, secondary or higher, unknown).

Women in polygamous relationships have higher exposure to perpetration and justification of IPV than those in monogamous marriages/unions.⁹ For women in polygamous marriages, the tendency for holding to the male superiority myth and having low achievement status have been observed to be higher, and these have been used to justify IPV.⁹

IPV perpetrators in rural areas, compared with those in urban areas, may perpetrate more chronic and severe IPV, which could be due to the higher rates of substance abuse and unemployment documented among rural perpetrators as well as more compromised community responses to IPV in rural areas.⁹ IPV victims in rural areas may have worse psychosocial and physical health outcomes due to the lack of services in rural areas and difficulty in accessing services that are available; IPV services in rural areas are generally less well funded and comprehensive than in urban areas.⁹ Attitudes about IPV vary to some extent across areas, with individuals in rural areas generally supporting less governmental involvement in IPV issues than in urban areas.⁹

Women with more education and hence more employment options may be less likely to be abused because they are perceived as more valuable by their husbands and may also have more power to leave abusive relationships.¹⁰

I hypothesize that:

- (1) Congolese women who have experienced IPV are less likely to use modern contraceptives compared with women who have not experienced IPV, i.e., the experience of IPV decreases modern contraceptive use;
- (2) residence in rural areas is a confounder of the relationship between IPV and contraceptive use since women in rural areas are less likely to use modern contraceptives and are more likely to report experience of IPV;
- (3) polygamy is a confounder of the relationship between IPV and modern contraceptive use since women in polygamous marriage are more likely to report experience of IPV and less are likely to use modern contraceptives; and
- (4) women's education and partner's education are confounders of the relationship between IPV and contraceptive use with the more women or their partners are educated, the less they report experience of IPV and the more they use modern contraceptives.

II. Methods

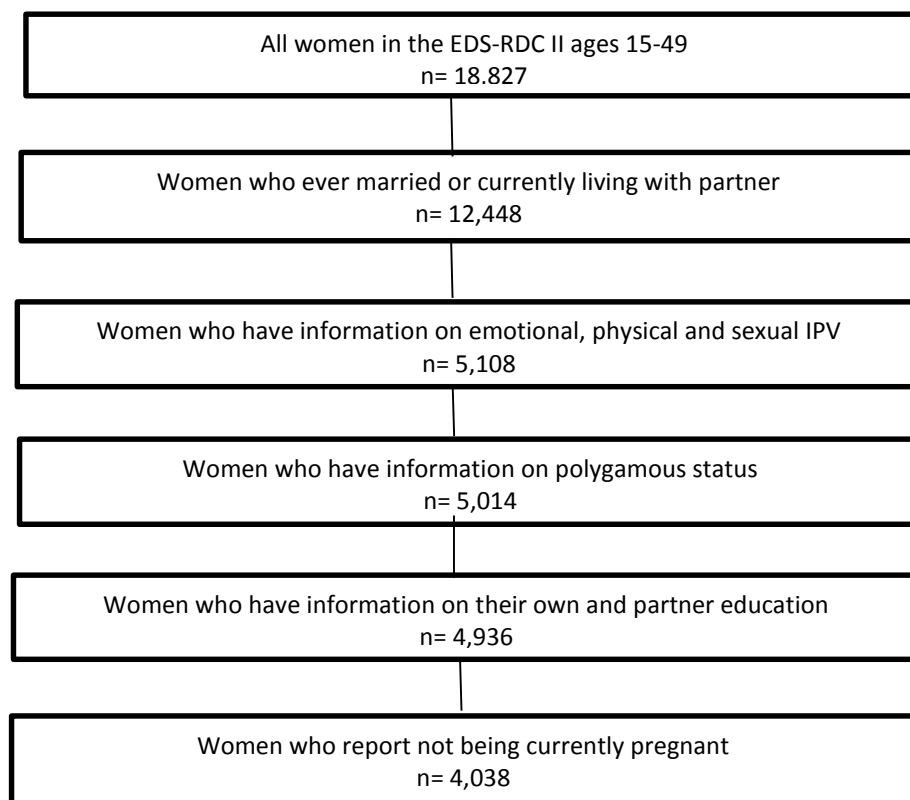
Data used in this study come from the second Demographic and Health Survey in the DRC, which was conducted by the Ministry of Monitoring, Planning and Implementation of the Modern Revolution [Ministère du Plan et Suivi de la Mise en oeuvre de la Révolution de la Modernité], in collaboration with the Ministry of Public Health [Ministère de la Santé Publique] from November 2013 to February 2014. The DHS is a population-level household survey administered by host country governments with technical assistance from ICF Macro and

funding from USAID. The DHS routinely collect information on population, health, HIV and nutrition in over 90 countries ([www. measuredhs.com](http://www.measuredhs.com)).⁴

Participants and Sampling

The EDS-RDC II is designed to provide data for monitoring the population and health situation in DRC. Data for this study came from the EDS-RDC II of women age 15-49 (n=18,827). The analysis was restricted to all married or currently living with partner women of reproductive age (15-49) who completed the domestic violence module, who reported any lifetime IPV experience with no missing data for all variables of interest and who were not pregnant during the survey (n= 4,038) (Figure 1).

Figure 1. Final analysis sample, all married women and experience of any IPV, DRC DHS II 2013-2014



Measures

All variables included in the analysis were based on respondents' self-report. All instruments in the DHS survey are standardized measures intended for comparison across multiple countries, and an extensive process is followed to ensure reliability and validity of measures as questionnaires are adapted and translated into the local language(s) for each specific country.^{3, 4,}

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Dependent variables.

Current contraceptive use. Respondents were initially asked whether they were using contraceptive during the time of the survey and, if the response was positive, additional information about types of contraception was obtained. Contraception methods were categorized into 3 subtypes: (1) modern (i.e., the pill, intrauterine device [IUD], injections, diaphragm, male and female condoms, vaginal spermicidal jelly or cream, and male and female sterilization); (2) traditional (i.e., abstinence, periodic abstinence, lactational amenorrhea, and withdrawal); and (3) folkloric (herbal plant and other).¹² To facilitate logistic regression analysis, a new dichotomous dependent variable was then created to measure the current use of contraceptives, coded positively if the respondent reported the current use of any modern contraceptive method.

Independent variables.

Independent variables in the analysis included the three types of IPV: physical violence, emotional violence and sexual violence. Physical violence included instances of pushing or shoving, throwing objects, slapping, arm twisting, punching, hitting with an object, kicking, dragging, attempting to strangle or burn, threatening with a weapon, or attacking with a weapon; emotional violence included verbal or physical public humiliation, or verbal threat to the woman or her family; and sexual violence referred to being forced to have sex or being forced to perform

sexual acts.¹² A new dichotomous independent variable was created to measure any IPV, coded positively if the respondent reported ever experiencing any of the three types of IPV.

Confounders.

Confounders were selected based on existing evidence, theoretical importance, and their association with IPV. Residence was a binary variable coded in the data set as urban or rural. The survey assessed the possibility of the partner having multiple wives (polygamous marriage) by asking the respondent if her partner had other wives or women with whom he cohabited. A binary variable was created to separate respondents into those whose partner had no other wives and those who reported the presence of other wives. Women's education attainment and partner's education attainment were left as originally collected in the DHS as no education, primary education, secondary education and higher education.

Data Analysis

Descriptive analyses were conducted for all sample characteristics by our main exposure IPV and main outcome, current contraceptive use (Tables 1 and 2), with Pearson chi-square tests. A criterion for inclusion of independent variables into the model was a significant bivariate relationship with the dependent variable. Logistic regression models were used to generate adjusted odds ratios (ORs) and 95% confidence intervals (CIs) for the use of contraception among women who had experienced IPV. All analyses were performed using Stata Statistical Software, Version 14 (College Station, TX).

III. Results

Table 1 presents sociodemographic characteristics of respondents who ever had experience of any type of IPV compared with respondents who have not experienced IPV. Slightly more than half of respondents reported having experienced IPV. Unlike other reports, the incidence of IPV was similar for rural and urban dwellers (54.5% and 57.3 %). Even considered separately, the proportion of different types of IPV follows the same pattern for rural and urban settings (35.61% and 34.65% for emotional violence; 24, 50% and 24.57% for sexual violence and 43.83%; 45.54% for less severe physical violence and 13.05% and 9.63% for severe physical violence). These differences are not statistically significant. IPV was more common in polygamous marriage (66%) and less common in women with high level education (40%) or women whose partners have a high level education (45.5%).

Table 1. Sociodemographic Characteristics of ever married Congolese women interviewed in the EDS-RDC II, Stratified by IPV experience (n=4,038)

	IPV experience				Total n	<i>p-value*</i>
	No		Yes			
	n	%	n	%		
	1,807	44.75	2,231	55.25	4,038	
Sociodemographic Characteristics						
Rural residence						0.116
No	475	42.75	636	57.25	1,111	
Yes	1,332	45.51	1,595	54.49	2,927	
Polygamous marriage						0.000
No	1,517	47.64	1,667	52.36	3,184	
Yes	290	33.96	564	66.04	854	
Woman's education						0.025
No education	421	46.47	485	53.53	906	
Primary	778	43.05	1,029	56.95	1,807	
Secondary	569	45.16	691	55.84	1,260	
Higher	39	60.00	26	40.00	65	
Partner's education						0.001
No education	139	49.82	140	50.18	279	
Primary	480	43.52	623	56.48	1,103	
Secondary	1,037	43.59	1,342	56.41	2,379	
Higher	151	54.51	126	45.49	277	

Source: DRC Demographic Health Survey II 2013-2014. 4,038 n = frequency; % = percent. *p-value from the Pearson chi-square test.

Table 2 presents sociodemographic characteristics of respondents who are currently using contraceptives compared with respondents who are not using contraceptives. 20.4% of respondents are currently using contraceptives. 20.8% of respondents who reported experience of IPV were currently using contraceptives. Only 15.4% of respondents living in rural settings and 15.8% of respondents in polygamous marriage reported currently use contraceptives. Contraceptive use is more common in women with higher education level (50.8%) or in women with partner's higher education level (41.2%). These low level of contraceptive use must be analyzed in the particular context of women's desire for having more children. Data indicate that 69.89% of married women desire more children while 20.93% do not want more children. The rest of women are undecided (4.20 %), sterilized (0.82%) or infecund (4.17%). These findings shows a logical relationship between the current use of contraceptives and the women's desire of having more children.

Table 2. Sociodemographic Characteristics of ever married Congolese women interviewed in the EDS-RDC II, Stratified by current contraceptive use (n=4,038)

	Current contraceptive use				Total	<i>p-value*</i>
	No		Yes			
	n	%	n	%	n	
Sociodemographic Characteristics	3,214	79.59	824	20.41	4,038	
Rural residence						0.000
No	737	66.34	374	33.66	1,111	
Yes	2,477	84.63	450	15.37	2,927	
Polygamous marriage						0.000
No	2,495	78.36	689	21.64	3,184	
Yes	719	84.19	135	15.81	854	
Woman's education						0.000
No education	814	89.85	92	10.15	906	
Primary	1,508	83.45	299	16.55	1,807	
Secondary	860	68.25	400	31.75	1,260	
Higher	32	49.23	33	50.77	65	
Partner's education						0.000
No education	256	91.76	23	8.24	279	
Primary	940	85.22	163	14.78	1,103	
Secondary	1,855	77.97	524	22.03	2,379	
Higher	163	58.84	114	41.16	277	

Source: DRC Demographic Health Survey II 2013-2014. 4,038 n = frequency; % = percent. *p-value from the Pearson chi-square test.

Table 3 presents the results of regression models examining the relationship among experience of IPV and current use of contraceptives, controlling for place of residence, type of marriage, women's and partner's level of education. Controlling for confounders, the difference in odds of current contraceptive use was not statistically significant for respondents who experienced IPV (OR: 1.08; 95% CI: [0.92, 1.27], $p = 0.357$) compared to women who did not experience IPV. In the adjusted model, the odds of contraceptive use for rural settings was 55% higher than for urban settings (OR: 0.55; 95% CI: [0.46, 0.66], $p = 0.000$). These result were statistically significant. The odds of contraceptive use in polygamous marriage was 79% higher than in monogamous marriage (O.R: 0.79; 95% CI: [0.64, 0.98], $p = 0.031$). These results were statistically significant. The odds of contraceptive use was statistically significant for women with higher education compared to women with no education (O.R: 3.76; 95% CI: [2.05, 6.88], $p = 0.000$). The odds of contraceptive use was statistically significant for women with partner's higher education compared to women whose partners have no education attainment (O.R: 2.31; 95% CI: [1.35, 3.97], $p = 0.002$)

Table 3. Crude and Adjusted Odds Ratios and 95% Confidence Intervals for Intimate Partner Violence and Current Contraceptive Use among Congolese women interviewed in the EDS-RDC II (n=4,038)

	Current Contraceptive Use					
	Crude OR	(95% CI)	<i>p</i>	Adj. OR	(95% CI)	<i>p</i>
Experience of IPV						
No	---	---				
Yes	1.05	(0.90, 1.22)		1.08	(0.92, 1.27)	
Rural residence						
No	---	---		---	---	
Yes	0.36	(0.31, 0.42)	***	0.55	(0.46, 0.66)	***
Polygamous marriage						
No	---	---		---	---	
Yes	0.68	(0.56, 0.83)	***	0.79	(0.64, 0.98)	**
Woman's education						
No education	---	---		---	---	
Primary	1.76	(1.37, 2.25)	***	1.50	(1.15, 1.93)	***
Secondary	4.12	(3.22, 5.26)	***	2.66	(2.01, 3.52)	***
Higher	9.12	(5.36, 15.53)	***	3.76	(2.05, 6.88)	***
Partner's education						
No	---	---		---	---	
Primary	1.93	(1.22, 3.05)	***	1.63	(1.02, 2.60)	**
Secondary	3.14	(2.03, 4.87)	***	1.77	(1.12, 2.81)	**
Higher	7.28	(4.77, 12.70)	***	2.31	(1.35, 3.97)	**

Source: DRC Demographic Health Survey II 2013-2014 **p*<0.1, ***p*<0.05, ****p*<0.01, OR = odds ratio, CI = confidence interval, Adj. = Adjusted

IV. Discussion

Despite overwhelming evidence from developing countries pointing to a relationship between IPV and reduced contraceptive use, recent studies from Africa remain mixed, with some studies reporting increased use of contraceptive with experience of IPV. Our analysis of this relationship in the DRC yielded no association between IPV and current contraceptive use. This study builds on previous literature by confirming Kidman et al.'s analysis of DHS I data which showed no association between IPV and current contraceptive use in the DRC.

Our findings differ from those in other developing countries and are part of an increasing conflicted body of literature about contraceptive use and IPV in African countries.^{9, 12} The conflict-plagued context of the DRC may be an important vehicle in driving these differing results. And the inability to establish a temporal relationship between experience of IPV and contraception use may contribute to increase this conflicted results found in African countries. Our analysis points to place of residence as a crucial determinant of contraceptive use, as predicted. In a country with already low levels of family planning access, conflict and poverty may exacerbate the inability of rural women to access contraceptives. Targeted interventions for married or partnered women experiencing IPV should concentrate on increasing accessibility of contraceptives and promoting education in rural areas. It is noteworthy that IPV prevalence differed little between urban and rural areas, in contrast to our predictions that it would be greater in rural areas. While undoubtedly access to contraceptives in rural regions of the DRC is limited, we also attribute low usage to cultural norms in these regions. Women's, as well as their partners' social status is directly linked to the number of children they have, thereby disincentivizing contraceptive use.⁹ In addition, with high infant mortality rates as well as conflict-

related casualties, having a significant number of children assures families of economic and food stability and provides elderly with guarantees of care in old age.

While previous literature from the DRC has shown that IPV is associated with living in a polygamous marriage,^{4, 12, 13} no studies we found examined the association between polygamous marriage and current contraceptive use. Our data showed that women in the DRC living in polygamous marriages were more likely to experience IPV and less likely to use contraceptives, as predicted. Potential reasons for lower contraceptive use among women in polygamous marriage may be lower rates of women's empowerment among polygamous wives, as well as a desire to win the husband's favor over other wives by providing him with more children. Finally, the greatest predictors of contraceptive use among women with experience of IPV were the woman's and partner's education level. Increasing education by each respective party greatly increased the levels of contraceptive use. Education provides two important safety valves against a number of vulnerabilities. Highly educated people are less likely to be poor, and that reduces the level of dependency on partners for economic survival.⁹ Promoting both boys' and girls' education, at least to completion of primary school, should be an integral part of any family planning effort in the DRC.

One important limitation of the present study is the inability to establish a temporal relationship between IPV and contraception use because of the cross-sectional nature of the data. Reverse causality—that is, contraceptive use causing IPV—could have occurred. The association between IPV and contraceptive use may operate in both directions: contraceptive use incites IPV; IPV discourages contraceptive use.³ Kidman et al. suggests that the null findings from their study on the combined measure of IPV and current contraceptive use may thus reflect

simultaneity bias.³ Further study in the DRC and elsewhere should utilize longitudinal data collection to better investigate the bi-directional causal nature of this relationship.

A greater limitation is that our study was based on cross-sectional data from DHS and thus cannot be used to infer causal relationships. We excluded women without partners or who were not married, which leaves out a significant and large portion of the female population from our analysis. In conflict zones such as the DRC, temporary arrangements, prostitution (forced or voluntary), and capture all may confound our measures of marriage and partnership. Further, the cross-sectional data does not provide the ability to measure the frequency of IPV, exactly when it was experienced, or by whom. Our study was therefore unable to explore whether IPV experienced many years ago has a similar effect on contraceptive use as recent IPV experience, as well as whether IPV by a previous partner affects contraceptive use differently than IPV from a current partner.

Finally, our findings may have limited generalizability outside of the DRC. The very low number of women currently using contraceptives in the DRC is partially indicative of poor family planning access. In locations with greater access, data may point to a different association between experience of IPV and current contraceptive use.

V. Conclusions

Despite these limitations, this study makes an important contribution to the field by building upon previous studies on IPV and contraceptive use in the DRC using more recent DHS data.

While most developing countries show a negative relationship between IPV and current contraceptive use, recent studies from Africa have yielded mixed, and often contradictory, results.^{3, 12} We examined this relationship using a national dataset, controlling for polygamy and partner's education which were not previously analyzed in the context of this relationship in the

DRC. Using the latest DHS II data, we found no association between IPV and current contraceptive use, confirming results from DHS I data in the DRC. Our findings suggest that the efforts to improve women's reproductive health through family planning initiatives in the DRC should focus on improving accessibility in rural regions and promoting education for both girls and boys, at least through primary school.

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