

The Relationship between Experiencing Intimate Partner Violence and Modern
Contraceptive Use in 10 Countries

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Abstract: We examined the relationship between currently married women's experiences of intimate partner violence (IPV) in their current relationship and their reports of ever use and current use of modern contraception. The analyses use nationally representative DHS data from 10 developing countries. In 7 of the 10 countries studied, there is a statistically significant positive association between ever use of a modern contraceptive and experience of IPV. In contrast, women's experience of IPV is generally not associated with current modern method use in most settings, with the exception of Bolivia (OR=1.28), Bangladesh (OR=1.28) and Zimbabwe (OR=1.25). The paper, using indicators of discontinuation, sequencing of first experience of IPV and first use of a contraceptive, and desire for more children explores potential pathways between IPV and contraceptive use.

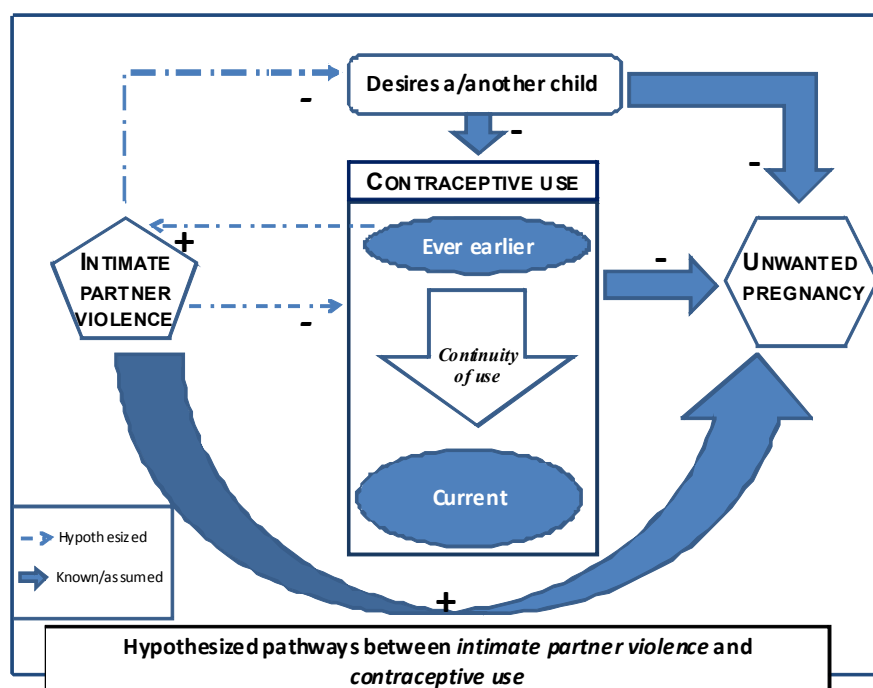
Intimate partner violence (IPV) is one of the most common forms of violence against women worldwide. In most countries, at least one in three women report having experienced physical or sexual violence by an intimate partner (United Nations 2006). A burgeoning of research on IPV from the 1990s onwards has not only documented the global scope of IPV, but has sought its causes, economic costs, and demographic and health consequences for women and children. In addition to the physiological and psychological harm caused by IPV, population-based research in developing countries has documented a positive relationship between women's experience of IPV and unwanted pregnancy (Kishor and Johnson 2006, Stephenson et al. 2008, Pallitto and O'Campo 2004, Silverman et al. 2007, Cripe et al. 2008) among other reproductive health outcomes.

The relative consistency of the positive relationship of IPV and unwanted pregnancy across countries suggests that women's ability to control their desired fertility is compromised for women who experience violence. The expectation therefore is that women who are abused would be less likely to be using modern contraception than women who are not abused. In addition, lack of sexual autonomy, depression, and low self-esteem—all associated with women's experience of physical and sexual abuse (Campbell 2002, Ellsberg et al. 2008)—are likely to limit access to and use of modern contraception among abused women. However, this argument ignores the temporal sequencing of contraceptive use and IPV. For some women, contraceptive use may itself become a cause for IPV resulting in a positive association between IPV and the use of contraception.

Despite the many unanswered questions, there is only limited research that explores whether, and how, contraception is related to IPV in developing countries. Further, the research that does exist provides only a mixed picture regarding the direction of the relationship between IPV and contraceptive use. This paper uses comparative data from 10 developing countries on IPV and modern contraceptive use to explore the factors that can explain the inconsistency often observed in the IPV-contraceptive use relationship. Within the limitations of cross-sectional data, the paper examines the temporal sequencing of the experience of violence and first contraceptive use, since the use of contraception can itself become a cause for violence. Finally, since the motivation for contraceptive use must arise from a desire to end childbearing or at least postpone it, the paper also examines the question of whether IPV is related to women's desire for more children.

Theoretical model and literature review

Although the positive association of IPV and unwanted births suggests that IPV and contraceptive use will have a negative association; theoretically, there are two plausible pathways linking IPV and contraceptive use, both suggesting opposite findings as shown in the figure below.



Pathways to a negative association between IPV and contraceptive use: Current contraceptive use by women reflects their control over fertility. Hence, if women who experience IPV are more likely to be having unwanted births (Kishor and Johnson 2006, Stephenson et al. 2008, Pallitto and O’Campo 2004, Silverman et al. 2007, Cripe et al. 2008) they will be less likely to be using contraception. In addition, an inability to negotiate sex, particularly if the IPV experience involves sexual abuse, as well as mental health problems common among abused women (Campbell 2002, Ellsberg et al. 2008) are likely to limit abused women’s access and use of contraception. Finally, it is also possible that women who experience violence may not want to risk contraceptive use for fear of further violence (Bawah et al. 1999, Blanc et al. 1996).

In keeping with the expected negative association of IPV and contraceptive use, a recent study in Jordan found that women’s reports of experiencing IPV or controlling behavior by their husbands was positively associated with interference (by the husband or other family member) in women’s attempts to limit or avoid pregnancy (Clark et al. 2008). An analysis using nationally representative data for Egypt found that women who experienced three or more incidents of physical violence in the past year were about half as likely (OR=0.51) to report female-controlled modern contraceptive use at the time of the survey (Diop et al. 2006). Two studies that take temporal sequencing explicitly into consideration and provide strong evidence for a negative association between IPV and contraceptive use are both based on data from India. In Uttar Pradesh, India, Stephenson and colleagues (2006) explored the relationship between IPV and subsequent contraceptive use by matching men’s reports of perpetrating violence with their wives’ reports of contraceptive use. This study found that couples in which husbands had reported subjecting their wives to violence were significantly less likely to report subsequent

adoption of modern contraception (Stephenson et al. 2006). Similarly, Stephenson and colleagues (2008), using data for two points of time from four Indian states, found that adoption of contraception was lower among women who had experienced physical violence.

Although these studies all support the expectation that IPV and contraceptive use are negatively associated, it is notable that the contraceptive use variable found to be related to IPV is different in each study. In the Jordan case, it is not any contraceptive use or even current contraceptive use, but ‘attempts at using contraception’; in the Egypt case, it is ‘female-controlled method use’; and in both the India studies, it is ‘adoption of a method’ which in India is most often female sterilization, a method that once adopted cannot be discontinued.

Pathways to a positive association between IPV and contraceptive use: Contraceptive use could be higher among women if it becomes a cause for IPV. If a woman is using a method without her husband’s knowledge, her husband could become violent if and when he finds out about the use. A second mechanism for a positive association between violence and contraceptive use would be that women who have experienced IPV are more motivated than women who are not abused to control their fertility. A possible scenario is that, despite the disempowerment associated with being abused, women who are abused are cognizant of their own lack of control over their lives, including their sexual lives, and find ways to use contraception to avoid unwanted pregnancy or to avoid putting future children at risk out of concern for the next generation. This may be even truer for women who experience violence during pregnancy which is quite common (Heise et al. 1999; Kishor and Johnson 2004). Finally, ever use of a modern method may also be related to selective recall of IPV—women who use a modern method may be more likely to report violence than women who do not use a method.

In accordance with the proposed positive association between IPV and contraceptive use, Emenike et al. (2008) find that women who reported ever using any method of contraception in the 2003 Kenya Demographic and Health Survey were significantly more likely to report ever experiencing IPV. Additionally, a Demographic and Health Surveys comparative report also found in a bivariate analysis of the data that women who had not experienced violence were more likely to have never used contraception in eight of the nine countries studied than women who had experienced violence (Kishor & Johnson 2004). The same study did not find any difference in current use of modern contraception in most of the countries in the report. If, as suggested by the report, IPV is positively associated with ever use but not associated with current use, then the expectation follows that women who are abused are less able to sustain use of contraception than women who have not suffered abuse.

There is also both qualitative and quantitative evidence of covert contraceptive use by women as a coping strategy, despite the potential for violence if discovered (Wilson-Williams et al. 2008). A study in Zambia suggests that 6-20 percent of all contraceptive use is covert and that covert use is likely to be more common where overall contraceptive use is low (Biddlecom and Fapohunda 1998). Although this study does not address the issue of IPV, it suggests that covert use is more common when spousal communication about contraception is a problem.

These studies point to the possibility that abused women may be especially motivated to control their fertility, leading to attempts at contraceptive use despite the IPV, as also, because of it.

The review of literature suggests that multiple indicators of contraceptive use are warranted, given the varied associations observed. Thus, in this paper the relationship of IPV to three separate measures of contraceptive use are examined: ever use of contraception, current use of contraception, and contraceptive discontinuation. The expectation is that current use of contraception will indeed be lower among women who have experienced violence, but this will be largely because abused women are more likely to discontinue use than to not have ever used. To explain the associations found, evidence is provided on the timing of violence in relation to contraceptive use and the likelihood that women who are abused should be more likely to want to control their fertility than women who are not abused is explored. Finally, data on reasons given by women for discontinuing a modern method are examined by IPV status with the expectation that women who are abused will be more likely to provide reasons that are not related to wanting another child and more related to a lack of control.

Data and Methods

We analyzed data from 10 recent Demographic and Health Surveys (DHS): Bangladesh (2004), Bolivia (2003/2004), the Dominican Republic (2002), Haiti (2005), Kenya (2003), Malawi (2004), Moldova (2005), Rwanda (2005), Zambia (2001/2002), and Zimbabwe (2005/2006). The DHS program uses multi-stage probability sampling to obtain nationally representative samples of households. In each selected household, all women who meet the survey eligibility criteria are eligible to be interviewed. The sample sizes for the DHS surveys included in this study are provided in Table 1 column 3, and range from over 7,000 women in Moldova and Zambia to over 23,000 women in the Dominican Republic.

In all countries, except Bangladesh, all women age 15-49 in the selected households were eligible for individual interview; in Bangladesh, eligibility for the individual interview was restricted to ever-married women age 10-49. Further, the domestic violence questions are typically asked only in a subsample of DHS households; and, in this subsample, in keeping with the ethical guidelines provided by the World Health Organization on the conduct of domestic violence research (World Health Organization 2001), only one randomly selected eligible woman per household receives the violence module. The selection of the woman for the domestic violence module of questions is done using the Kish grid (Kish 1949). The purpose of this further subsampling within households is to maintain confidentiality and ensure respondents' security when answering the questions on the experience of domestic violence.

The one woman per household rule for the violence questions was followed in all the countries included in this paper, except Bangladesh and Bolivia. In Bangladesh, the domestic violence module of questions was implemented only for men, who were asked about their perpetration of violence against their wives. Hence, for Bangladesh, the analysis is based on the subsample of women whose husbands were interviewed by the DHS with the man's individual

questionnaire (which included the questions on domestic violence). In Bolivia, all eligible women within a household were administered the domestic violence module. As an added ethical precaution, in all countries except Bangladesh, the interviewer was required to discontinue the interview if privacy could not be maintained. Weights are used to make the data on violence nationally representative and to account for nonresponse.¹ The resulting sample is further restricted in this paper to women who are currently married and are in the age group 20-44. The 20-44 year age group was selected in order to focus on women for whom contraceptive use is most relevant. Currently married women are women who report themselves as currently married or as currently cohabiting with a man as if married. Accordingly, in this paper the term ‘husband’ includes cohabiting partners. The resulting unweighted sample sizes provided in Table 1 column 5 range from 1,945 women in Haiti to 8,997 in Bolivia.

This paper uses bivariate and multivariate regression techniques to explore the relationship of IPV with contraceptive use. IPV includes any act of physical or sexual violence perpetrated by the current husband against the woman. For bivariate analyses, chi-square tests are conducted to determine differences between the groups being compared and the associated p-values are presented. For multivariate logistic regression analyses, the odds ratios are presented. All analyses take into account the complex survey design of the DHS by incorporating sampling weights and adjust the standard errors for the cluster sampling of primary sampling units using Stata’s svy commands.

Dependent variables

In the DHS individual interview, women who reported knowing about any method of family planning are asked about their use of contraception. In this paper, three measures of contraceptive use are examined.

Ever use of a modern contraceptive: This measure describes whether women have ever used a modern method of contraception. Modern methods of contraception include the pill, the IUD (intrauterine device), injectables, implants (Norplant), the male condom, the female condom, the diaphragm, vaginal methods (spermicides, foams and jellies), emergency contraception, the lactational amenorrhea method (LAM)², and male and female sterilization. The analyses of ever use are based on all currently married women age 20-44.

Sequencing of contraceptive use and IPV: For women who had ever used contraception and who had experienced IPV, we approximated the sequencing of first occurrence of IPV and first use of contraception by using information from two questions available in the DHS. In the DHS

¹For sample and weighting details see the national level reports available from Macro International, Calverton, Maryland or download information from www.measuredhs.com. The analysis in this paper uses the domestic violence sample weights for all countries except Bolivia where the women’s weights are used and Bangladesh where the men’s weights are used.

² In the 2001-2002 Zambia DHS, many women confused LAM with simple breastfeeding. Thus, in the Zambia data, LAM was classified as a traditional method (see the Zambia 2001-2002 DHS Report).

domestic violence module, currently married women who report IPV from their current husband are asked how many years after marriage the violence first began. This information (summarized by assuming IPV took place in the middle of the specified year) combined with information on date of marriage provides an approximate (on average within 6 months) century-month-code (CMC) for the first occurrence of IPV (CMCv). However, information on date of marriage is available only for the first marriage. Hence, this comparison is restricted to women who have only been married once.

Similarly we estimate an approximate CMC for first use of contraception. We do this by using a question asked in the DHS of all women who have ever used contraception on how many living children they had when they first used contraception. This question provides information on the birth order of the child after whose birth contraception was first initiated. This information is converted into an approximate CMC for the timing of first use by using the date of birth of the child of the same birth order and assuming that contraceptive use began at least two months after the birth of the child (CMCc). Since women report on their number of living children, women with any child deaths were excluded from the comparison (in further analyses, this assumption will be relaxed and ways explored of making the comparison more precise).

A comparison of CMCv and CMCc yields the following groups: women who experienced IPV before first use of contraception; those for whom first contraceptive use and IPV occurred at about the same time; those for whom IPV first occurred after first use; and those for whom the relative timing could not be determined. Note that both the questions needed for this exercise were asked in only 7 of the 10 countries included here.

Current use of modern contraception: This second measure describes women's current use of modern contraception. In addition, the analysis of current use examines whether the relationship of current contraceptive use varies by the type of method being used, namely female-controlled methods (pill, the IUD, injectables, implants, the female condom, the diaphragm, vaginal methods, emergency contraception, LAM, and female sterilization) and male-controlled modern methods (male condoms and male sterilization). These variables are defined for married women age 20-44 who were not pregnant at the time of the survey.

Current discontinuation of modern contraception: This variable is a point estimate of contraceptive discontinuation and describes currently married women age 20-44 who had ever used a modern method of contraception but were not using one at the time of the survey. Since female sterilization, if ever used, cannot be discontinued and male sterilization, not easily, if at all, discontinued, the discontinuation variable is defined for two groups of women: all married women who have ever used a modern contraceptive method and all married women who have ever used a modern contraceptive method who are not sterilized and whose husbands are not sterilized. A woman has currently discontinued use if she has ever used a modern method but is not currently using one.

Desire for more children: The desire for a/another child is a proximate determinant of contraceptive use and is shown in the theoretical model as lying in the pathway of modern of contraceptive use. Thus understanding how IPV is related to women's desire for children will help to further explain findings related to contraceptive use and IPV. DHS asks all women if they want a/another child within the next two years, want a child but not in the next two years, or do not want a child at all. The dependent variable 'desire for more children' categorizes all currently married women by whether they want another child, or do not want another child at all. Sterilized women or women whose husbands are sterilized are assumed to not want any more children.

Key independent variables

Intimate partner violence: Currently married women interviewed with the DHS domestic violence module of questions are asked about their experience of violence at the hands of their current husband using a modified version of the Conflict Tactics Scales (CTS) (Straus 1990; Straus 1979). These questions ask women whether their current husband ever perpetrated any of a series of behaviorally specific acts of physical or sexual violence.³ Women who say yes to a particular item are then asked about the frequency of perpetration in the 12 months preceding the interview in all countries except Bolivia. In this paper, women have experienced IPV if they report experiencing at least one of these physical or sexual acts of abuse ever during their current marriage. Further, women are counted as having experienced IPV in the past 12 months if they experienced at least one of these acts in the 12 months preceding the survey.

The information on violence in the 12 months preceding the survey, as well as ever in the relationship, can be used together to introduce a temporal component to the IPV variable being analyzed. Accordingly, two IPV variables are defined for currently married women: a two-category variable which assigns women to the categories of never experienced IPV and ever experienced IPV; and a three-category variable which assigns women to the following categories: never experienced IPV; ever experienced IPV, but not in the past 12 months; and experienced IPV in the past 12 months. All relevant analyses were conducted using both the two-category and the three-category IPV variables. However, in most cases, the three-category variable did not yield additional information compared with the two-category variable. Hence, we show results by the two-category variable and, only selectively, by the three-category IPV variable.

All of the countries included in this report, except Zambia, implemented the standard DHS domestic violence module with only minor variations. Bangladesh also followed the modified CTS template, with most (although not all) of the same questions; however, as noted, these questions were included in the men's questionnaire rather than the women's

³ Acts included as physical violence include pushing, shaking, throwing things, slapping, arm-twisting, hair pulling, punching with a fist or something else, kicking, dragging, attempting to choke or strangle, burning on purpose, threatening or attacking with a weapon. Acts included as sexual violence are being forced to have sexual intercourse or forced to perform any unwanted sexual acts.

questionnaire. Bolivia also generally followed the modified CTS approach, although fewer types of aggressive or violent behaviors were included, and no questions on violence in the recent past were asked. Only Zambia did not use the modified CTS approach to measuring intimate partner violence; rather, it assessed violence by asking women a single question about their experience of violence and two questions about their experience of sexual violence. Thus, despite the large proportion of women responding positively to these questions in Zambia, it is possible that more women would have been identified as having experienced violence if the CTS approach had been used which provides more opportunities for disclosure and covers a broader and more specific range of violent behaviors.

Other independent variables

The analyses examining the relationship of IPV with the three indicators of contraceptive use and with women's desire for more children control for variables found to be relevant in research related to these topics. Specifically, women's age in number of years, number of years of education, number of living children, and number of children who have died, area of residence (urban or rural), and household wealth status are used as controls. The wealth status of the household is determined using a widely accepted wealth index constructed separately for each country. The wealth index uses data on household ownership of specified assets, including ownership of specific consumer items such as televisions, bicycles, cars, etc. and dwelling characteristics such as source of drinking water, sanitation facilities, and type of flooring material. Each asset/characteristic is assigned a weight generated through principal components analysis. The resulting asset scores are standardized in relation to a normal distribution with a mean of 0 and a standard deviation of 1 (Gwatkin et al. 2000). Each household is then assigned a score for each asset, and the scores are summed for each household. Individuals are ranked according to the score of the household in which they were interviewed. Within each country the sample is then divided into quintiles from one (lowest) to five (highest). This wealth index is consistent with expenditure and income measures and has been validated in a large number of countries (Rutstein et al. 2000; Rutstein and Johnson 2004).

Table 2 provides information on the contraceptive use and desire for more children related dependent variables and on the key independent variables. At least half of currently married women have ever used a modern contraceptive method in 9 of the 10 countries included in this report; and in four (Bangladesh, the Dominican Republic, Moldova, and Zimbabwe) at least 8 out of 10 women have done so. By contrast, less than one-fourth of women in Rwanda have ever used a modern method. Current use of a modern method ranges from 73% in the Dominican Republic to 11% in Rwanda. Notably, current contraceptive use is dominated in all countries by female-method use. A male method is being used only by 1-9% of women in these 10 countries.

Although there is great variation across countries in both the ever use and current use of modern contraception, the proportion of all married women who have ever used a modern method of contraception but are not currently using one, does not vary much across most of

the countries. With the exception of Rwanda and the Dominican Republic, the proportion of all women who have discontinued use ranges from 20% to 33%. In the Dominican Republic, where contraceptive use is dominated by the use of sterilization, discontinuation is necessarily less common (17%). In Rwanda, where ever use is very low, the proportion of women who have ever used and are not currently using is only 12%.

The other dependent variable examined in this paper is women's desire for a/another child. The percentage of women who do not want a/another child is highest at 71-73% in Bolivia, Bangladesh, and the Dominican Republic, followed by 64% in Moldova. In all of the sub-Saharan African countries in this study, less than half of women— from 36% in Zambia to 50% in Kenya—want no more children.

The prevalence of IPV ever in the relationship, a key independent variable, ranges from a low of 16% in the Dominican Republic and 19% in Haiti, to a high of 52% in Bolivia and 75% in Bangladesh. The prevalence of recent IPV ranges from 10% in the Dominican Republic to 33% in Bangladesh. Notably, in all countries except Bangladesh, more than half of women who have ever experienced IPV have also experienced it in the past 12 months. In Haiti and Zimbabwe about 9 out of every 10 currently married women who have ever experienced IPV by the current husband have also experienced it in the past 12 months.

Information on the distribution of other independent variables is also provided in Table 2, and shows great variation in the levels of fertility, child mortality, urbanization, and education in the 10 countries. The only variable that varies little by country is the wealth quintile. The wealth quintile by definition, divides the population of each country into five equal groups based on the distribution of wealth in that country. Any variation from an equal grouping into quintiles reflects deviation in the distribution of the subsample of currently married women from the sample on which the wealth index is based (household population).

Results

Ever use of a modern method: Table 3 shows the bivariate and multivariate associations between ever use of a modern contraceptive method and women's experience of IPV. The bivariate results describe the prevalence of ever having used a modern contraceptive method among currently married women age 20-44 reporting IPV compared with those not reporting IPV. In all countries, a higher proportion of women who report IPV than women who do not report IPV have ever used a modern method of contraception and this difference is significant in 7 of the 10 countries studied (Bangladesh, Bolivia, the Dominican Republic, Haiti, Kenya, Malawi, Zimbabwe).

Table 3 also shows the results of the multivariable logistic regression analysis with ever use of a modern method as the dependent variable and experience of IPV as the key independent variable. The model adjusts for women's age (continuous variable), number of

years of education (continuous variable), number of living children, number of children who have died, household wealth quintile, and urban-rural area of residence

After multivariable adjustment, the results for ever use of modern contraception are largely consistent with those observed in the bivariate analysis, with the same seven countries showing a significant association with IPV. In Bangladesh (OR=1.73), Bolivia (OR=1.61), the Dominican Republic (OR=1.55), Haiti (OR=1.51), Kenya (OR=1.79), Malawi (OR=1.33), and Zimbabwe (OR=2.08), the odds of ever having used a modern contraceptive method are significantly higher among women who report IPV than among those who do not. While the consistency of the results is striking, the interpretation is complex, in part because modern method use could have occurred before or after the exposure to violence.

To examine the question of when IPV occurs in relation to the first use of contraception, Table 3 shows the percent distribution of women who have ever used contraception by whether they used it before having experienced IPV from their current husband, at about the same time, or after. This analysis is based on a comparison of information in the DHS on how many living children the woman had when she first used contraception with the information available on how many years after marriage the IPV first occurred. Since the information on both events is not precise, the comparison necessarily yields only approximate timing and will be affected by the assumptions made. These data are not available for Bangladesh, Bolivia, and Zambia. For the Dominican Republic and Moldova, where relatively high proportions of women have used contraception before any birth, the relative timing variable is indeterminate for about one in four women.

Among women who have experienced IPV and have ever used contraception, women in five of the seven countries for which these data are available, are most likely to have first used contraception before the first experience of IPV. In Malawi, about equal proportions of women first used contraception before experiencing IPV and after first experiencing IPV. The only country where women are much more likely to have used contraception after IPV first began is Haiti.

Although very approximate, these data suggest that for a significant proportion of women, violence follows contraceptive use. Further, the data on how long after the start of contraceptive use IPV first occurs (not shown here) suggests that the time gap between the two events is very short for the vast majority of women. Among those for whom violence follows contraceptive use, most have experienced IPV within a year of first use.

Current use of a modern method: The temporal connection is somewhat more clearly defined for the association between current use of modern contraception and IPV, as both variables are clearly embedded within the current relationship, and IPV either precedes or is concurrent with contraceptive use. The analysis for current contraceptive use excludes women who are currently pregnant, since pregnancy necessarily precludes a woman's use of contraception. In analyses not shown here, current pregnancy was unrelated to IPV in 8 of the 10 countries. In Bolivia and Moldova, the two countries where the relationship was significant, women who had

never experienced IPV were more likely than women who had experienced IPV to be currently pregnant but the absolute differential in both countries was small (2-3 percentage points). The results for the bivariate and multivariate analyses for current contraceptive use are shown in Table 4.

The results for the analysis of current use of a modern method of contraception by women's experience of IPV are mixed. Most countries show no significant association. In the bivariate analyses, Bolivia and Zimbabwe are the only countries where the proportion of women currently using contraception is significantly related to IPV, and even among these countries the relationship is only marginally significant in Zimbabwe. Nonetheless, in both countries, current modern method use is more often reported by women who have experienced IPV than by those who have not. For example, 43% of women in Bolivia who have ever experienced IPV by their current husband are currently using contraception, compared with 38% of women who have not experienced any IPV. The absolute differential in contraceptive use between the two groups of women is similar, at 4 percentage points, in Zimbabwe.

Even after multivariable adjustment (controlling for age, education, number of living and number of dead children, area of residence and household wealth), most countries show no association between current modern contraceptive use and IPV. The exception is Bolivia where women who experienced IPV are more likely to report modern method use at the time of the survey (adjusted OR=1.28) after controlling for potential confounders. The same is also true in Bangladesh and Zimbabwe, although the relationship is significant only at a 10% level in these two countries.

Modern contraceptive methods vary by whether they are primarily female controlled or male controlled. It may be that IPV affects the use of female methods but not male methods or vice versa. For example, women wishing to use a method without their husband's knowledge—something that may happen if women are determined to control their fertility but fear their husbands or someone else—can only use a female-controlled method. The second panel in Table 4 shows that in all but three countries, the percentage of women using a female-controlled method is higher among women who have ever experienced IPV than among women who have not. Further, although use of male-controlled methods is limited irrespective of IPV, it is, in keeping with expectations, lower among women who have ever experienced IPV in almost all countries.

An examination of current contraceptive use by the temporally ordered three-category IPV variable yields little additional information. In general, there is very little difference between any modern contraceptive use by the timing of IPV (any time in the past 12 months/only before the past 12 months) in most countries. Nonetheless, it is notable that in eight of the nine countries for which information for the three-category IPV variable is available, a higher proportion of women who have ever, but not recently, experienced violence are using modern contraception than both women who have experienced IPV in the past 12 months and (in seven of these countries) women who have not experienced IPV. The only

exception is Zimbabwe, where 72% of women who have experienced recent IPV are currently using a modern method of contraception compared with 56% of women who have ever experienced violence but not recently. Since most contraceptive use involves female-controlled methods, female-method use is similarly highest for women who have not recently experienced violence but have ever experienced it in seven of the nine countries. The relationship of the three-part IPV variable with male-controlled method use is less clear, although male-controlled method use is least for women who have recently experienced violence in six countries.

In summary, there is remarkable consistency in the relationship between the two indicators of modern contraceptive method use and women's experience of IPV in the current relationship: whereas the experience of IPV is positively associated with ever use of modern contraception in a majority of countries, it appears to not be significantly or substantially related to current use of contraception in most countries. These results point to the likelihood of greater discontinuation of use among women who have experienced IPV than women who have not. Further, the significantly higher ever use of modern contraception among abused women suggests the need to examine whether the desire for more children is affected by the experience of IPV or not. These two issues are examined below.

Discontinuation of modern method use: Table 5 shows results for the analysis of current discontinuation of modern method use for two groups of women: currently married women who have ever used a modern method (top panel) and currently married women who have ever used a modern method but are not sterilized and do not have a husband who is sterilized (bottom panel). Women who have ever used a modern method but are not currently using one are counted as having discontinued use.

Results in Table 5 provide only weak support for the expectation that current discontinuation among women who have ever used contraception will vary by the experience of IPV. Although women who have ever experienced IPV are more likely than women who have never experienced IPV to have currently discontinued modern contraceptive use in most countries, the differential tends to be negligible and is significant only in Kenya and Rwanda. If women who are sterilized or whose husbands are sterilized are also excluded from the analysis, the differential becomes marginally larger in most countries and is significant in one additional country—the Dominican Republic.

The results after multivariable adjustment are not very different from the results of the bivariate analysis. Among all women who have ever used contraception, the odds of discontinuing use are significantly higher for women who have experienced IPV only for Rwanda (OR=1.46). If the three-category IPV variable is used, a significant association of discontinuation is seen in Rwanda for women who have experienced IPV in the past 12 months (OR=1.59). In addition, a significant relationship is observed between discontinuing contraceptive use and past (but not recent) experience of IPV for women in Kenya (OR=1.46) and in Zimbabwe (OR=1.50). Further, if the multivariable analysis excludes sterilized women

and women whose partner is sterilized, the relationship of discontinuation with IPV ever becomes significant in the Dominican Republic (OR=1.47).

In summary, among women who have ever used contraception, discontinuation is more common in 4 of the 10 countries among women who have ever or recently experienced violence even after relevant controls. In no country is discontinuation significantly lower among women who have experienced violence.

The DHS does not provide any specific information on whether contraceptive use was discontinued due to IPV. However, an examination of DHS data collected on the reasons for discontinuation can shed some light on the circumstances of discontinuation. Even in these data however, there is no code that relates to fear of violence or experience of violence. Thus, we explore only whether the types of reasons given vary by women's experience of violence. Table 6 displays this information for women who have ever used contraception. The reason for discontinuation relates to the last episode of use and the analysis here is restricted to women who do not want any more children or no children within the next two years. Note that the data on reasons for discontinuation were collected in only 6 of the 10 countries.

The distributions of women by reason for discontinuation differ significantly by experience of IPV only in Bangladesh, the Dominican Republic, and Moldova. Nonetheless, these data give fairly consistent results across countries in keeping with the expectation that women who are abused have less control of their use of contraception than other women.

In five out of the six countries, women who have experienced violence are somewhat more likely to have become pregnant when using a method, than women who have not experienced violence. Averaging across the six countries shows that about 18% of abused women give method failure as a reason compared with 14% of women who have not experienced IPV. Further, while husbands' disapproval is the least cited reason among all women, it is more often cited by women who have ever experienced IPV than women who have not experienced IPV in all countries except Haiti. Similarly, abused women are also more likely to cite side effects and health concerns than women who have not experienced violence in most countries as reasons for discontinuing. Notably, desire for more children, a reason given by a significant proportion of all women who have discontinued, is notably much less often cited by women who have experienced violence than by women who have not in all countries except Zimbabwe.

Desire for more children: An argument made in the theoretical model was that women who have been abused may be more motivated to control their fertility than women who have not been abused. Accordingly Table 7 provides information on how desire for a/another child varies by women's experience of IPV. In all countries except Zimbabwe, women who have experienced IPV ever in their relationship are more likely to not want any more children than women who have not experienced violence and this differential is substantial and significant in 8 of the 10 countries. Further, an examination of the bivariate relationship of desire for more

children and the three-category IPV variable shows that, in the seven countries where the relationship is significant, it is always the women who have ever experienced IPV but not in the past 12 months who are most likely to not want another child. This result is consistent with the fact that younger women are more likely to be subject to recent violence (Kishor and Johnson 2004) and younger women are at the life cycle stage where having children is both desired and often obligatory.

Since desire for more children is likely to depend on women's life cycle stage and not just their IPV status, two logistic regressions for the dependent variable 'wants another child' were run for each country: one with the two-category and one with the three-category IPV variable. Other explanatory variables in the multivariable analysis were: women's age, education, number of living and number of dead children, wealth quintile, and area of residence.

The adjusted odds for the two-category IPV variable show that, even after adjusting for age and number of children, women who have experienced IPV in their current relationship are significantly less likely to want more children than women who have not experienced IPV in Kenya (OR=0.64) and Malawi (OR=0.80). The multivariable analysis with the three-category IPV variable further shows that in Malawi and Zambia, it is women who have not currently experienced violence who have significantly lower odds of wanting another child; women who have experienced IPV in the past 12 months do not differ in their desire for another child from women who have not experienced IPV. In Kenya, however, women who have experienced IPV are much less likely to want another child irrespective of when IPV occurred. Finally, in Moldova, women who have recently experienced violence are significantly less likely to want another child than women who have not experienced violence even though the relationship with the ever experience of violence is not significant.

Although the adjusted relationship of IPV and desire for more children is not significant in more than half of the countries, it is notable that when the relationship is significant, it always shows that abused women are less likely to want another child than women who are not abused even when controlling for women's age and number of children.

Discussion and Conclusions

The theoretical model guiding the analysis in this paper recognized the potential for both positive and negative effects of IPV on contraceptive use. Accordingly, the central hypothesis of this paper was that contraceptive use will be lower among women who have experienced IPV, but this would be explained not by women's inability to have ever used contraception, but their inability to sustain use. The analysis in this paper does not, however, provide support for the basic premise of this hypothesis: in no country is contraceptive use lower for women who have experienced IPV. What the analyses in this paper do suggest is that contraceptive use is either unrelated to IPV or is higher for women who have experienced IPV. The results vary greatly by which measure of contraceptive use is examined.

Specifically, this paper finds unequivocal evidence that in most countries, irrespective of women's age, education, wealth, and parity, women who have experienced IPV are more likely to have ever used a modern contraceptive method. Importantly too, the paper does not find any evidence of ever use being higher for women who have not ever experienced IPV. Simultaneously, the paper also does not find any evidence that current use of a method is lower for women who have experienced IPV than for those who have not. In fact, in more than half the countries, current contraceptive use is unrelated to IPV; and in the countries where it is related (Bangladesh, Bolivia, and Zimbabwe), women who have ever experienced violence have a higher likelihood than women who have not to report currently using a modern method.

The argument could be made that disempowerment related to IPV will not have the same effect on women's ability to use all methods equally. Women are more likely to have control, if at all, on female-controlled methods. Hence, the paper also examined the relationship of IPV with female-controlled modern methods. However, this analysis also found that current use of a female method is more common for women who have experienced IPV than for those who have not in most countries (7 out of the 10), although the differential is not always significant.

Given the initial hypothesis of higher discontinuation of use among abused women, the paper explored discontinuation of use by women's experience of IPV. The analysis shows that if we control for ever use of any modern method, discontinuation is either higher for women who have experienced IPV (Kenya, Rwanda, Zimbabwe, and the Dominican Republic (if users of female or male sterilization are excluded)) or unrelated to IPV experience (all other countries). Thus, IPV is associated with women's inability to sustain use in some, if not the majority of countries. A review of reasons provided by women who had discontinued use for why they had discontinued also pointed to abused women's inability to use modern methods in an efficacious and sustained manner. Particularly, women who had experienced IPV were somewhat more likely than women who had not experienced IPV to have discontinued use because of method failure (became pregnant) or because their husbands objected to the method use.

One possible explanation provided in the theoretical model for a positive association of contraceptive use and IPV was the possibility that contraceptive use could, for some women, be a cause for IPV. The preliminary analyses comparing the approximate timing of the start of IPV with an equally approximate timing of the first use of contraception suggest that in a number of countries first contraceptive use does precede the first experience of IPV for a majority of women. Although this analysis does not address the issue of causality, it does underscore the possibility that the relationship of IPV and contraceptive use will vary across women because of the different sequencing in time of IPV and contraceptive use.

The final piece in the theoretical model related contraceptive use and IPV via the desire for more children. This potential pathway was based on the argument that IPV may affect women's desire for a/another child, which in turn would affect the motivation for contraceptive use. It was argued that women who have experienced IPV, including IPV during pregnancy, may be more strongly motivated to not want any more children than women who have not

experienced IPV. The data do in fact show that in most countries (8 out of 10) a significantly higher proportion of women who have experienced violence do not want a/another child. However, the significant differences in desire for more children by IPV are largely explained away by women's age and number of children in all but four countries (Kenya, Malawi, Moldova, and Zambia). This loss of significance does not, however, negate the expected positive association of IPV and desire for no more children; instead, it points to a potential mechanism through which the effect of IPV may be working in some countries and for some women. It suggests that women who experience violence are less likely to want another child because they are more likely to already have more children than women who have not experienced IPV. Thus overall this analysis suggests either a direct or an indirect positive effect of IPV on women's desire for no more children.

In conclusion, the paper finds no evidence in any of the 10 countries studied of lower contraceptive use, ever or current, among women who have experienced IPV. In fact, every significant association always shows higher contraceptive use among women who have experienced violence. Consistent with a positive association of contraceptive use and IPV are the findings that contraceptive use precedes the first occurrence of IPV for a majority of women in several countries, and that women who have experienced violence are much more likely than those who have not to not want any more children. Counteracting these potential positive influences is the finding that, although more likely to have ever used contraception, women who have experienced IPV, are more likely to discontinue use than women who have not experienced violence in all countries where the relationship is significant.

While the analysis in this paper was greatly limited by the cross-sectional nature of the DHS datasets, the significance of the countervailing pathways suggested by this study underscores the need to reexamine the relationship of IPV and contraceptive use. To be meaningful this reexamination should ideally be based on comparable data from a large number of countries that would allow the precise documentation of the sequencing of IPV and contraceptive use and permit an analysis of both use and discontinuation over time.

References

- Bawah A.A., Akweongo, P., Simmons, R., and Phillips, J.F. 1999. Women's fears and men's anxieties: The impact of family planning on gender relations in northern Ghana. *Studies in Family Planning* 30(1): 54-66. 1
- Biddlecom, A.E. and Fapohunda, B.M. 1998. Covert contraceptive use: Prevalence, motivations and consequences. *Studies in Family Planning* 29(4): 360-372.
- Blanc, A.K., Wolff, B., Gage, A.J., Ezeh, A.C., Neema, S., and Ssekamatte-Ssebuliba, J. 1996. *Negotiating reproductive outcomes in Uganda*. Institute of Statistics and Applied Economics and Macro International.
- Campbell, J. C. 2002. Health consequences of intimate partner violence, *Lancet*, Vol. 359 (9314), pp. 1331-1336.
- Clark, C.J., J. Silverman, I.A. Khalaf, B. bu Ra'ad, Z. bu Al Sha'ar et al. 2008. Intimate partner violence and interference with women's efforts to avoid pregnancy in Jordan. *Studies in Family Planning* 39(2):123-32
- Cripe, S.M., S.E. Sanchez, M.T. Perales, N. Lam, P. Garcia, and M.A. Williams. 2008. Association of intimate partner physical and sexual violence with unintended pregnancy among pregnant women in Peru. *International Journal of Gynecology and Obstetrics* 100(2):104-8
- Diop, S., J.C. Campbell, and S. Becker. 2006. Domestic violence against women in Egypt - Wife beating and health outcomes. *Social Science and Medicine* 62(5):1260-77
- Ellsberg, M., H.A. Jansen, L. Heise, C.H. Watts, and C. Garcia-Moreno. 2008. Intimate partner violence and women's physical and mental health in the WHO multi-country study on women's health and domestic violence: an observational study. *The Lancet* 371(9619):1165-72
- Emenike, E., S. Lawoko, and K. Dalal. 2008. Intimate partner violence and reproductive health of women in Kenya. *International Nursing Review* 55(1):97-102
- Gwatkin, D.R., S. Rutstein, K. Johnson, R.P. Pande, and A. Wagstaff. 2000. *Socio-economic differences in health, nutrition and poverty*. The World Bank, Washington, DC
- Heise, L., M. Ellsberg, M., and M. Gottemoeller. 1999. Ending Violence Against Women. *Population Reports*, Series L. No. 11.
- Kish, L. 1949. A Procedure for Objective Respondent Selection Within the Household, *Journal of the American Statistical Association*, 1949
- Kishor, S. and K. Johnson. 2004. *Profiling domestic violence: A multi-country study*. ORC Macro, Calverton, Maryland
- Kishor, S. and K. Johnson. 2006. Reproductive health and domestic violence: are the poorest women uniquely disadvantaged? *Demography* 43(2):293-307

Pallitto, C.C. and P. O'Campo. 2004. The relationship between intimate partner violence and unintended pregnancy: Analysis of a national sample from Colombia. *International Family Planning Perspectives* 30(4):165-73

Rutstein, S., K. Johnson, and D.R. Gwatkin. 2000. Poverty, health inequality and its health and demographic effects, Population Association of America Meetings.

Rutstein, S. and K. Johnson. 2004. *The Wealth Index*. ORC MACRO, Calverton, Maryland

Silverman, J.G., J. Gupta, M.R. Decker, N. Kapur, and A. Raj. 2007. Intimate partner violence and unwanted pregnancy, miscarriage, induced abortion, and stillbirth among a national sample of Bangladeshi women. *BJOG: An International Journal of Obstetrics and Gynaecology* 114(10):1246-52

Stephenson, R., M.A. Koenig, R. Acharya, and T.K. Roy. 2008. Domestic violence, contraceptive use, and unwanted pregnancy in Rural India. *Studies in Family Planning* 39(3):177-86

Stephenson, R., M.A. Koenig, and S. Ahmed. 2006. Domestic violence and contraceptive adoption in Uttar Pradesh, India. *Studies in Family Planning* 37(2):75-86

Straus, M.A. 1979. Measuring Intra-Family Conflict and Violence - Conflict Tactics (CT) Scales. *Journal of Marriage and Family* 41(1):75-88

Straus, M.A. 1990. Measuring intrafamily conflict and violence: The conflict tactic (CT) scales. In *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families*, ed. MA Straus, RJ Gelles, 29-47. Piscataway, NJ: Transaction Publishers.

Wilson-Williams, L., R. Stephenson, S. Juvakar, and K. Andes. 2008. Domestic violence and contraceptive use in a rural Indian village. *Violence Against Women*, Vol. 14, No. 10, 1181-1198

World Health Organization. 2001. *Putting women first: Ethical and safety recommendations for research on domestic violence against women*. Department of Gender and Women's Health, Geneva, Switzerland

United Nations. 2006. Secretary General's Study on Violence Against Women. Background documentation for 61st session of the General Assembly. Item 60(a) on the Advancement of Women.

Table 1 Description of the Demographic and Health Surveys (DHS) included in this report and associated domestic violence modules

Country	Dates of fieldwork	Number of women interviewed ¹	Eligibility of women interviewed	Number of currently married/cohabiting women age 20-44 interviewed with the DV module ¹	Eligibility criterion for domestic violence module for questions on violence by current or most recent husband/partner	Explicit instruction to discontinue interview if privacy not possible
Bangladesh	January 2004 – May 2004	11,440	<i>Ever married women 10-49</i>	2,393 (men)	All currently married men	No
Bolivia	July 2003 - January 2004	17,654	<i>All women 15-49</i>	8,997	All eligible ever-married women 15-49 years	Yes
Dominican Republic	June 2002 - December 2002	23,384	<i>All women 15-49</i>	5,026	One randomly selected ever-married woman 15-49 years per household	Yes
Haiti	October 2005 - May 2006	10,757	<i>All women 15-49</i>	1,945	One randomly selected ever-married woman 15-49 years per household	Yes
Kenya	April 2003 - September 2003	8,195	<i>All women 15-49</i>	3,433	One randomly selected ever-married woman 15-49 years per household	Yes
Malawi	October 2004 - January 2005	11,698	<i>All women 15-49</i>	6,300	One randomly selected ever-married woman 15-49 years per household	Yes
Moldova	June 2005 –August 2005	7,440	<i>All women 15-49</i>	3,223	One randomly selected ever-married woman 15-49 years per household	Yes
Rwanda	February 2005 - July 2005	11,321	<i>All women 15-49</i>	2,121	One randomly selected ever-married woman 15-49 years per household	Yes
Zambia	November 2001 - June 2002	7,658	<i>All women 15-49</i>	2,957	One randomly selected ever-married woman 15-49 years per household	Yes
Zimbabwe	August 2005 - February 2006	8,907	<i>All women 15-49</i>	3,517	One randomly selected ever-married woman 15-49 years per household	Yes

Table 2 Percent distribution of all currently married/cohabiting women age 20-44 who received the domestic violence questions by selected characteristics, DHS surveys 2002-2006

	Bangladesh ¹	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Dependent variables										
Modern contraceptive method use										
Ever used	85.5	59.5	88.8	59.4	57.7	58.9	82.7	23.3	57.1	88.9
Currently using										
...a female-controlled method	54.6	33.2	70.7	23.2	35.6	32.8	40.3	9.9	23.6	66.8
...a male-controlled method	6.0	4.7	1.8	5.5	1.4	2.0	8.8	1.2	4.9	2.0
Ever used but not currently using	25.2	20.2	16.6	29.6	22.5	25.4	32.8	11.7	26.0	21.1
Does not want a/another child	71.4	73.2	71.1	53.4	49.8	42.4	63.6	40.4	36.4	47.5
Explanatory variables										
Experienced IPV										
Ever	74.9	52.4	16.2	18.7	42.4	26.8	20.2	32.2	47.8	33.2
In past 12 months	33.0	na	10.2	17.1	30.9	19.8	13.8	21.5	27.6	29.8
Age										
20-24	27.0	18.1	17.7	19.9	22.8	32.5	16.5	19.1	26.9	28.7
25-29	26.2	21.8	22.0	26.7	25.2	26.5	20.5	24.4	26.5	25.0
30-34	20.9	22.7	22.4	20.7	20.8	17.4	21.3	25.6	19.5	20.7
35-39	15.7	20.2	22.2	18.3	17.1	12.7	19.0	15.4	14.7	14.0
40-44	10.3	17.2	15.6	14.4	14.2	10.9	22.7	15.5	12.3	11.6
Number of living children										
0	4.4	4.5	5.8	11.9	4.9	6.0	10.8	6.1	6.4	6.2
1	15.0	16.5	15.6	22.8	15.4	16.9	31.0	16.3	15.2	22.2
2	30.2	23.6	26.5	19.1	19.4	23.4	40.8	20.6	19.1	28.4
3	23.3	20.1	27.5	14.7	18.7	18.6	12.0	17.7	17.8	17.9
4+	27.1	35.3	24.6	31.5	41.6	35.1	5.4	39.4	41.5	25.2
Number of children dead										
0	72.8	73.0	86.5	74.6	72.7	63.2	95.2	58.3	58.8	85.5
1	19.7	17.5	10.8	18.8	17.5	22.1	4.3	24.5	24.8	11.8
2+	7.5	9.5	2.7	6.5	9.8	14.7	0.6	17.2	16.4	2.7
Education										
No education	44.2	7.4	4.7	29.4	13.6	26.0	0.2	27.1	13.4	3.8
Primary	28.7	55.9	48.6	38.1	58.4	62.0	0.7	63.7	61.4	32.7
Secondary	21.8	26.0	29.7	29.0	22.4	11.5	78.1	8.7	22.3	59.6
Higher	5.3	10.7	17.0	3.5	5.6	0.5	21.0	0.5	3.0	3.8
Mean number of years	3.2	7.1	8.2	4.6	7.0	4.3	11.5	3.9	5.6	8.0
Wealth quintile										
Lowest	20.9	17.8	16.3	16.7	19.9	14.4	17.0	20.4	19.3	17.9
Second	20.5	18.7	21.3	19.1	19.0	21.6	16.9	21.7	18.2	18.3
Middle	19.1	21.9	20.8	16.4	18.8	22.5	21.9	20.1	21.6	16.9
Fourth	18.9	22.9	20.9	25.1	19.0	21.0	22.0	21.4	20.2	25.4
Highest	20.7	18.7	20.7	22.6	23.2	20.5	22.2	16.3	20.7	21.6
Place of residence										
Urban	24.4	65.3	64.8	43.5	21.9	16.4	39.5	13.3	37.7	35.9
Rural	75.6	34.7	35.2	56.5	78.1	83.6	60.5	86.7	62.3	64.1
Number (unweighted)	2,393	8,986	5,008	1,943	3,430	6,299	3,222	2,109	2,953	3,507

¹The data for Bangladesh are drawn from the couples file.

na= Not available

Table 3 Prevalence and adjusted odds ratios (OR) of ever use of modern contraceptive method by women's experience of physical or sexual violence perpetrated by their current husbands among currently married women age 20-44, DHS Surveys 2002-2006

Outcome	Bangladesh ¹		Bolivia		Dominican Republic		Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
	*	**	***	**	*	**							
Ever used a modern method									***				***
No violence (%)	82.4	88.1	54.6	88.1	57.5	54.8	56.8	82.2	56.8	22.7	55.9	86.8	
Violence (%)	86.5	92.8	63.9	92.8	67.6	61.7	64.4	84.3	64.4	24.6	58.3	93.1	
Adjusted odds ratio (OR)²				*	*	***	***	1.00	1.00	1.00	1.00	1.00	***
No violence	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	1.73	1.55	1.61	1.55	1.51	1.79	1.33	1.30	1.33	1.17	0.98	2.08	
Number (unweighted)	2,393	5,008	8,986	5,008	1,943	3,430	6,299	3,222	6,299	2,109	2,953	3,507	
Approximate timing of first use of a contraceptive method relative to start of IPV among those who have ever used a modern method													
IPV began before first use	na	15.5	na	15.5	38.5	18.5	33.5	16.0	33.5	33.9	na	10.6	
IPV began around the time of first use	na	16.2	na	16.2	29.9	19.9	31.2	26.5	31.2	21.3	na	28.4	
IPV began after first use	na	41.6	na	41.6	18.9	51.9	32.0	33.1	32.0	42.5	na	56.9	
Timing indeterminate	na	26.7	na	26.7	12.6	9.8	3.3	24.3	3.3	2.3	na	4.2	
Number (unweighted)	na	377	na	377	108	589	526	409	526	88	na	788	

¹The data for Bangladesh are drawn from the couples file.

² Models adjusted for woman's age, number of years of education, area of residence, number of living children, and number children who died and household wealth quintile

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

na= Not available

Table 4 Prevalence and adjusted odds ratios (OR) of modern contraceptive current use by women's experience of physical or sexual violence perpetrated by their current husbands/partners among currently married age 20-44 who were not pregnant at the time of the survey, DHS Surveys 2002-2006

Outcome	Bangladesh ¹	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Currently using a modern method										
No violence (%)	57.4	***	72.8	29.6	37.6	34.2	51.2	13.2	31.5	†
Violence (%)	61.7	***	74.3	34.2	36.2	36.4	48.3	11.4	32.0	67.9
Adjusted odds ratio (OR)²	†	***	1.00	1.00	1.00	1.00	1.00	1.00	1.00	†
No violence	1.00	1.00	0.94	1.18	1.17	1.06	0.97	0.90	0.89	1.00
Violence	1.28	1.28								1.25
Current use by type of modern method										
Female-controlled method (%)	*	***					* ³			** ⁴
No violence	49.3	30.1	70.3	22.1	36.2	32.3	40.4	10.3	23.2	65.2
Violence	56.5	35.9	72.6	28.2	34.9	34.2	39.8	8.9	24.0	70.0
<i>Ever, not in past 12 months</i>	56.6	na	74.5	43.2	35.6	34.9	41.8	11.3	26.7	55.6
<i>In past 12 months</i>	56.4	na	71.6	26.6	34.4	34.1	39.4	8.1	21.9	71.9
Male-controlled method (%)										
No violence	8.1	4.9	1.8	5.7	1.4	1.9	9.4	1.3	5.2	2.2
Violence	5.3	4.5	1.5	4.9	1.3	2.1	6.0	1.1	4.4	1.5
<i>Ever, not in past 12 months</i>	6.4	na	2.2	1.6	2.7	2.4	7.1	1.2	4.1	0.6
<i>In past 12 months</i>	3.8	na	1.2	5.2	0.8	2.0	5.7	1.0	4.7	1.6
Not using a modern method (%)										
No violence	42.6	65.1	27.9	72.2	62.4	65.8	50.1	88.4	71.6	32.6
Violence	38.3	59.6	25.9	66.9	63.8	63.6	54.2	90.1	71.6	28.5
<i>Ever, not in past 12 months</i>	37.1	na	23.3	55.2	61.7	62.7	51.0	87.4	69.2	43.8
<i>In past 12 months</i>	39.9	na	27.2	68.2	64.8	63.9	54.9	90.9	73.4	26.5
Number (unweighted)⁵	2,251	8,272	4,644	1,725	3,010	5,297	3,086	1,760	2,483	3,157

¹The data for Bangladesh are drawn from the couples file.

² Models adjusted for woman's age, number of years of education, area of residence, number of living children, and number children who died and household wealth quintile

³ Significant only when the IPV variable is a two part variable only (no violence/violence);

⁴ Significant only when the IPV variable is a three part variable only (no violence/violence ever but not in the past 12 months/violence in the past 12 months)

⁵ Includes women with missing information on timing of IPV and on other independent variables

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001
na: Not available

Table 5 Prevalence and adjusted odds ratios (OR) of discontinuation of use among currently married women age 20-44 who have ever used a modern contraceptive method by experience of IPV perpetrated by their current husbands, DHS Surveys 2002-2006

Outcome	Bangladesh ¹	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Currently discontinued use (women who have ever used a modern method)										
No violence (%)	33.3	36.7	23.2	53.2	** 39.9	49.2	40.8	† 51.0	52.3	30.0
Violence (%)	32.8	37.2	25.1	56.1	47.3	51.9	43.7	61.1	53.4	30.1
Adjusted odds ratio (OR)² of current discontinuation										
No violence	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	0.98	1.03	1.25	1.14	1.19	1.10	1.09	1.46†	1.15	0.97
<i>Ever, not in past 12 months</i>	0.95	na	1.33	0.75	1.46*	1.00	1.10	1.28	1.10	1.50†
<i>In past 12 months</i>	1.02	na	1.19	1.20	1.11	1.14	1.05	1.59†	1.18	0.91
Number (unweighted)³	2,016	5,545	4,412	1,140	1,919	3,603	2,698	466	1,549	3,139
Currently discontinued use (women who have ever used a modern method <u>who are not currently using female or male sterilization</u>)										
No violence (%)	35.6	41.1	48.3	55.6	** 42.5	54.0	43.0	† 52.2	54.2	30.5
Violence (%)	35.3	41.5	56.5	57.0	50.6	57.2	46.4	61.6	56.1	30.6
Adjusted odds ratio (OR)² of current discontinuation										
No violence	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	0.97	1.00	1.47*	1.11	1.18	1.16	1.07	1.40	1.15	0.97
<i>Ever, not in past 12 months</i>	0.93	na	1.69	0.72	1.49*	1.11	1.09	1.22	1.11	1.69*
<i>In past 12 months</i>	1.02	na	1.34	1.16	1.09	1.17	1.03	1.54	1.18	0.91
Number (unweighted)³	1,901	4,931	2,040	1,111	1,811	3,308	2,561	459	1,507	3,094

¹The data for Bangladesh are drawn from the couples file.

² Models adjusted for woman's age, number of years of education, area of residence, number of living children, and number children who died and household wealth quintile

³ Includes women with missing information on timing of IPV and on other independent variables

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

na = Not available

Table 6 Among currently married women age 20-44 who have ever used contraception and do not want another child within the next two years or at all, the reasons for stopping use for the last episode of use according to their experience of violence perpetrated by their current husband, DHS Surveys 2002-2006

Reasons for discontinuation	Bangla-	Dominican	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
	desh [†]	Republic							
	†	*				***			
Became pregnant									
No violence (%)	10.1	19.9	na	11.7	8.6	17.8	na	na	14.1
Violence (%)	14.5	18.8	na	14.2	10.2	30.3	na	na	17.1
Wanted more children									
No violence (%)	33.2	25.4	na	31.4	40.1	16.0	na	na	53.1
Violence (%)	23.7	13.3	na	25.5	36.8	12.0	na	na	53.0
Husband disapproved									
No violence (%)	2.4	1.5	na	2.6	2.8	1.1	na	na	1.1
Violence (%)	2.9	1.2	na	5.7	4.5	1.3	na	na	2.8
Access/availability/cost/wants more effective method									
No violence (%)	15.4	15.5	na	10.9	10.2	27.0	na	na	11.1
Violence (%)	11.6	15.8	na	11.9	10.8	16.7	na	na	10.4
Side effects/health concerns									
No violence (%)	33.1	24.2	na	35.7	29.9	16.1	na	na	13.8
Violence (%)	39.7	37.6	na	35.8	30.8	20.4	na	na	10.6
Other									
No violence (%)	5.8	13.4	na	7.7	8.4	22.1	na	na	6.7
Violence (%)	7.7	13.4	na	6.9	7.0	19.4	na	na	6.0
Number (unweighted)	1,122	1,656	na	969	1,758	1,339	na	na	1,737

[†]The data for Bangladesh are drawn from the couples file.

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

na = Not available

Table 7 Percentage of currently married women age 20-44 who are currently pregnant by whether they have ever experienced any IPV and percentage who do not want any more children and adjusted odds ratios (OR) of not wanting any more children among women who have ever used a modern contraceptive method by women's experience of IPV perpetrated by their current husbands among currently married women age 20-44 who were not pregnant at the time of the DHS survey, DHS Surveys 2002-2006

Outcome	Bangladesh ¹	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Desire for more children										
Wants no more	**	***	*	†	***	**	***	**		
No violence	65.7	70.6	70.1	52.2	44.2	41.0	61.1	38.1	34.7	47.7
Violence	73.4	75.5	76.3	58.3	57.3	46.0	73.6	45.2	38.3	47.1
<i>Experienced violence:</i>	***		†		***	***	***	*	***	
<i>Ever, not in past 12 months</i>	79.4	na	79.0	49.5	67.4	55.4	77.6	49.2	49.3	50.4
<i>In past 12 months</i>	65.6	na	74.0	59.2	53.6	42.5	72.1	43.3	30.2	46.8
Adjusted odds ratio (OR)² of wanting another child										
No violence	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	0.81	1.06	0.95	1.01	0.64***	0.80*	0.82	0.86	0.85	0.95
<i>Ever, not in past 12 months</i>	0.80	na	1.18	1.87	0.61***	0.68**	0.90	0.98	0.76†	1.31
<i>In past 12 months</i>	0.83	na	0.90	0.95	0.65***	0.85	0.74†	0.81	0.93	0.92
Number (unweighted)³	2,393	8,984	5,002	1,942	3,430	6,294	3,212	2,108	2,945	3,499

¹The data for Bangladesh are drawn from the couples file.

²Models adjusted for woman's age, number of years of education, area of residence, number of living children, and number children who died and household wealth quintile

³Includes women with missing information on timing of IPV and on other independent variables

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

na=Not available