Mar-2013

Jordanian Social Norms and the Risk of Intimate Partner Violence and Limited Reproductive Agency

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Recommended Citation

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Abstract

Intimate partner violence (IPV) is a pervasive global problem that violates the rights of millions of women each year and has been linked with a multitude of adverse physical, mental, and reproductive health outcomes. In Jordan, socio-cultural constructs of masculinity and female sexuality legitimize control exerted on and violence perpetrated against women. These include the gendered social norms that keep women in disempowered positions and limit their ability make fundamental reproductive decisions such as whether and when to become pregnant. This paper explores some of the mechanisms by which low levels of gender equity increase Jordanian women's risk of violence and affect their exercise of reproductive agency.

Grounded in an empowerment framework and informed by a social ecological model, this research tested the hypothesis that experiencing IPV increases women's risk of compromised reproductive agency, as evidenced by: increased odds of unintended pregnancy and unmet need for family planning (FP). These analyses revealed important social influences at the individual, interpersonal, and community levels that place women at increased risk for experiencing IPV. They also revealed that exposure to IPV is an independent risk factor for limited reproductive agency, with women who had experienced violence having a 39% increased risk of unintended pregnancy and 43% increased risk of unmet need for FP. The magnitude of these associations was even greater when community norms regarding IPV and women's autonomy were considered in the model, showing increased risk of 46% and 69%, respectively.

These analyses reveal that IPV is significant barrier to the achievement of gender equity in Jordan, as it perpetuates gendered imbalances in power and also imposes great social and health costs on women. This paper discusses the implications of these analyses for designing research and programming initiatives to promote lasting change in support of gender equity and empowerment for Jordanian women.

Key words: Reproductive planning, violence, and women's empowerment

Introduction and Background

In Jordan, socio-cultural constructs of masculinity, gender norms, and female sexuality legitimize control exerted on and violence perpetrated against women.[1, 2] For many Jordanians,

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violence within a family is considered a private matter, and is rarely discussed beyond the household due to shame and fear of social disclosure.[3] These values influence interpersonal relationships at the family and community levels, and serve to perpetuate the unequal status of women in Jordanian society.[4] While previous studies have attempted to capture the prevalence of violence perpetrated against Jordanian women by their husbands, the first population-based estimates were provided by the 2007 Jordan Population and Family Health Survey (JPFHS).[5-7] In this nationally representative sample of Jordanian women, nearly one quarter (23%) of respondents had ever experienced physical or sexual violence by their husbands, and 15% reported such violence in the year preceding the survey.

A substantial body of research in other regions has provided strong evidence of the impact that exposure to intimate partner violence (IPV) can have on women's ability to exercise her reproductive agency, including through direct and deliberate interference by her partner on her attempts to avoid or delay pregnancy.[8-13] While relatively little published research has examined the connection between reproductive decision-making and IPV in Jordan, one recent study of 353 Jordanian women found that those who reported ever physical abuse by their husbands had more than twice the risk of experiencing interference with their attempts to prevent pregnancy.[11] In addition to overt interference by partners with women's desired contraceptive use, a number of sociodemographic and interpersonal variables inhibit women's achievement of their reproductive intentions, including level of education, socioeconomic status, familial and social norms, and access to information.[11, 14-18] As proposed by Kabeer, these critical predictors are elements of a woman's level of empowerment, which is derived from three dimensions of her ability to make life choices: resources, agency, and achievements..[19, 20] Agency includes a woman's ability to participate in household decisions and her relative power within her relationship, and achievements are the health and social outcomes such as uptake of post-natal care, and use of contraception.[19, 21] As such, her level of empowerment also levies substantial influence on her reproductive agency, or her ability to make decisions that support her intended reproductive goals.

This empowerment lens is particularly relevant to research in patriarchal societies such as Jordan, where discriminatory cultural and social norms frequently prevent women from having equal access to resources and fundamentally limit their exercise of agency.[22, 23] While such forms of interference and violence as described above are direct barriers to a woman's use of contraception, social context also levies substantial influence on women's ability to use a family planning method. Many fundamental behavioral theories highlight the influence of social interaction and norms on individual behavior, including the Theory of Planned Behavior, Social Comparison, and Social Learning.[24-27] The powerful influence that normative social behavior wields over family planning behaviors may be illustrated particularly well in the Jordanian context, where a woman's reproductive and sexual rights as specified in the Quran have been largely ignored by tribal and social norms.[23]

Erroneous beliefs about Islamic prohibition of family planning are widely held, influencing the perceived acceptability of FP use and decisions around its use for both spacing and limiting births.[28, 29] A majority of Jordanian married women (71.1%) and husbands (64.8%) believe that births should be spaced at least 3-5 years apart, with most citing the belief that proper spacing leads to better health for the mother and the next child.[15] Despite this shared individual belief, the mean birth interval in Jordan is 31.2 months for all women and 24.3 months for women between 20-29 years of age.[5] This disconnect between progressive attitudes toward birth spacing and actual birth spacing patterns is a product of powerful social expectations that

define womanhood by motherhood and, in particular, by the number of male children a woman bears. A recent study in Jordan found that the perceived acceptability of contraception and social pressure (i.e., of childbearing) are significant predictors of family planning use among married women of reproductive age.[30] The pressure to prove fertility is experienced both overtly and implicitly through perceived and injunctive norms that promote large family size and place childbearing as central to women's identity and value.[14, 31, 32] As such, even women who have access to modern contraceptive methods and believe that such methods are safe and effective may not practice family planning due to perceived or experienced normative pressure.[33-35]

The findings from this body of research illustrate the importance of understanding the individual and group characteristics that are critical determinants of both reproductive autonomy and exposure to violence. While these include community-level measures of gender equity and empowerment, the economic and demographic context of communities also has a significant effect on the health and agency of individuals. As has been shown elsewhere in the literature, women in communities with less favorable sociodemographic profiles (i.e., higher poverty and lower education) are more likely to experience negative health outcomes and have worse self-reported health.[36-38]Though IPV is experienced by women across socioeconomic and geographic lines in Jordan, the synergies of social and interpersonal disempowerment may place them at greater risk for suffering adverse reproductive health outcomes when they live with violence in their marriages.[5, 39]

This theoretical foundation and the Jordanian social context highlight the need to consider multiple sources of normative influence in a study of contraceptive behaviors. This paper estimates the magnitude of IPV as a risk factor for unintended pregnancy, unmet need for family planning, and current non-use of family planning, placing individual and community-level measures of empowerment in a central role as determinants of exposure to IPV and reproductive agency.[40, 41]

Methods

The present research uses data from the 2007 Jordan Population and Family Health Survey, a nationally representative household conducted between 14 June and 19 November 2007. Of the 18,960 women interviewed, 10,876 were ever-married women who were thus eligible for the survey. Of the 930 primary sampling units (PSU) identified in the sampling frame, a subsample of 310 PSUs were randomly selected to respond to domestic violence (DV) module, which was used for the first time in the current JPFHS.[5] Within these PSUs, a total of 3,476 women were randomly selected for the DV module. Of these 32 (0.3%) did not complete the module because privacy could not be ensured for the interview.[42] Analyses were performed using the subsample of 3,444 women who completed the DV questions.

The present analyses explore the association of exposure to intimate partner violence and three reproductive health outcomes. The JPFHS survey instrument employs a modified version of the Conflict Tactics Scale, which poses questions about whether a woman's current or last husband had done any of the following to her ever and in the 12 months prior to the survey: pushed, shaken, thrown something at, slapped, twisted her arm, punched, hit her with something that could hurt, kicked, dragged, beaten her up, choked, burned, threatened with a weapon (knife, gun or other), or physically forced her to have sexual intercourse.[5, 43] Exposure variables were created: ever IPV, recent IPV (past 12 months), and ever IPV only (i.e., no recent IPV reported). Earlier analyses determined that ever IPV only did not provide sound statistical fit for the

associations of interest. As such, only two exposure variables are included in the models in this paper: ever IPV and recent IPV. Each of these was coded as a binary variable with women who reported never experiencing IPV as the reference group.

Based on the theoretical framing of this research, three outcomes measured by the JPFHS were assessed: 1) having an unintended pregnancy in the five years preceding the survey, 2) current use of FP, and 3) current unmet need for family planning. Each of the outcomes was coded as a binary variable with "0" indicating the women who did not report having the outcome of interest and "1" indicating that: 1) she had at least one unintended pregnancy, 2) was currently using some method (traditional or modern) to avoid becoming pregnant, or 3) had unmet need for family planning. The latter means that though she was at risk for pregnancy and did not want to become pregnant in the next two years, she was not currently using any family planning method.

The selection of covariates is derived from findings in the literature regarding sociodemographic predictors of FP and IPV, as well as the empowerment framework that informed the conceptual model of these analyses. Based on this framework, the covariates are classified into three groups: sociodemographic characteristics, resources, and agency.

The sociodemographic variables included in this model have all been shown in the literature to have associations with exposure to IPV and/or the reproductive health outcomes of interest. These include: current age, parity, level of education, husband's level of education, rural residence and wealth quintile. The latter variable is divided into quintiles, with "1" as the poorest group and "5" as the wealthiest group.

The domains of agency include as individual-level variables are: decision making, gendered attitudes, and power parity. Decision making is measured based on women's report on whether they participate in four common household decisions. Gendered attitudes is a composite measure reflecting women's responses to hypothetical questions about justifications for wife beating and reasons for women to refuse sex with their husbands. Lower gender equitable attitudes are represented by lower scores on this measure. Power parity is measured by two dichotomous variables (early marriage and polygyny) and two continuous variables (age differential and education differential). Negative values for age and education differential indicate that a woman was older or had more education than her husband, while a positive value indicates the inverse.

Resources, within the same empowerment framework, include exposure to mass media, interpersonal communication, and social status. There are two measures of spousal communication, one regarding ideal family and the other reflecting the wife's report of her husband's opinion on family planning. Communication with a health worker is based on women's report of whether they were told about FP during a visit to a health facility or received information about FP during a home visit from a health worker. The measure of woman's social status is comprised of three items: employment, relative education level, and relative wealth. For these variables, women with higher than mean education or wealth are coded as "1", as were women who reported any form of current employment.

In addition to the above variables, which reflect individual and interpersonal factors relevant to a woman's empowerment and her risk for IPV and limited reproductive autonomy, a set of community-level variables was created. Each of these variables is an aggregate measure of the mean level or prevalence of the individual variables. However, in order to eliminate any overlap between individual and community-level measures and reducing the potential for confounding, non-self means were used to calculate each new variable.[44] For example, the

community-level non-self mean for age was constructed by generating an aggregate age variable for all the respondents in a given PSU. Then, each individual's age was subtracted from the total to create a new aggregate (non-self) total for each respondent. Finally, this new aggregate was divided by the total number of respondents in a PSU minus one to create a new non-self mean for age. This process was repeated for each of the sociodemographic and empowerment variables, as well as the outcome and exposure variables. Each of these 23 variables was created using the full data set of 10,876 women to maximize the number of data points included in each non-self mean.[45]

Statistical Analysis

Logistic regression models were constructed and analyses performed using Stata 10.[46] Bivariate logistic regressions assessed the association of each community-level measure with the two exposure variables and three outcome variables. The results of these analyses are presented in Table 1. The final multivariate models from single level analyses were used as the foundation for multi-level models in the present analyses assessing the relationship between IPV exposure and the RH outcomes of interest. First, all the community-level measures that were significantly associated with IPV or an outcome variable (at the 0.10 level) in bivariate analysis were added into a multivariate model of IPV on each outcome. A model regressing ever IPV on each outcome was constructed with significant community-level predictors from the bivariate analysis. Then, the individual and interpersonal level variables from the final individual-level models were added to assess changes in the magnitude and significance of the odds of the RH outcomes. For each association of interest, several iterations of this multi-level model were tried and model fit statistics were compared until the optimal fit was identified. Finally, this set of covariates was included in a model that contained data only from those PSU with at least 10 respondents. Various combinations of covariates were again tested to find the best model. The same iterative process was used to construct three final models, the results of which are in Tables 2-4.

Results

The results presented here include the associations between the outcomes and exposures with the community-level predictors constructed using non-self means, as described above. For the purposes of assessing these bivariate relationships, an association is considered significant if its p-value is below 0.10. The full results of these analyses are presented in Table 1.

Nine of the community-level variables were significantly associated with an individual woman's risk of ever experiencing IPV. Women were more likely to report ever IPV if they lived in communities with: higher mean parity, lower mean education for women and husbands, lower mean wealth, lower levels of decision making among women, higher justifications for wife beating, and lower mean social status of women. Individual increased risk of ever IPV was also highly associated with community-level prevalence of ever and recent IPV, as well as prevalence of unintended pregnancy. Risk of recent IPV was associated with many of the same community-level variables; experiences of IPV in the 12 months preceding the survey were more likely among women in communities with: higher parity, lower education and wealth, lower female decision making, higher prevalence of polygyny, and lower women's status. Individual risk of recent IPV was also significantly higher where community-level prevalence was high for ever or recent IPV and unintended pregnancy.

Individual risk of current unmet need for family planning was highest among women in communities with: higher mean parity, lower mean women's education, higher justifications for wife beating, lower mean age at first marriage, greater educational differences between spouses, and higher prevalence of polygyny. This risk also appeared to be higher in communities with greater prevalence of ever IPV, though this association was not statistically significant (p=0.109). Eight of the community-level covariates were statistically significantly associated with current use of any form of family planning. Women were more likely to be current users of FP if their communities were characterized by: higher mean education, higher wealth, higher levels of gender equitable attitudes (including both lower acceptance of wife beating and higher support for refusing sex). Use of FP was also more likely among women in communities where the mean age at marriage was higher, the education differential was smaller, the prevalence of polygyny was lower, and women's mean social status was higher.

Finally, eleven community-level variables were strong predictors of a woman's risk for unintended pregnancy. Communities with higher mean parity, lower education for women and husbands, and lower mean household wealth. Less gender equitable attitudes and lower mean social status for women were also associated with increased risk of unintended pregnancy, as were levels of communication with health workers about FP, prevalence of ever and recent IPV, and prevalence of unintended pregnancy within the community.

The first model fitted to assess the relationship between ever IPV exposure and unintended pregnancy introduced only the community-level mean variables to determine the extent to which these affected the association of interest (Table 2). In this model (Model 1), the odds of unintended pregnancy increased and remained statistically significant (OR 1.44, 95% CI 1.14, 1.82) as compared to the final one-level model. While seven community-level variables were included in this first model, only three of these were significantly associated with unintended pregnancy; lower community wealth, higher IPV prevalence, and higher community-level tolerance of wife beating. In multivariate models combining the individual and inter-personal variables with the community characteristics, IPV remained a significant independent predictor of unintended pregnancy (OR 1.46, 95% CI 1.09, 1.96). While the post-estimation statistics suggested retaining all the community-level variables, none of these was independently significant in the final model (Model 3). The results of these models can be found in Table 2.

In multivariate analyses including sources of community influence, exposure to IPV remained significant risk factor for unmet need at the 0.10 level. As shown in Table 3, women who experienced recent IPV had 50% increased odds of unmet need, accounting for eight community-level variables (OR 1.51, 95% CI 0.97, 2.36). Half of these were independently associated with unmet need: higher acceptance of wife beating, lower mean age at marriage, larger mean education differentials, and higher prevalence of polygyny. The odds of unmet need increased in magnitude and significance in a final model including both individual and community-level variables, with women who experienced IPV having nearly 70% greater odds of reporting unmet need for FP (OR 1.69, 95% CI 1.07, 2.68). The three community-level variables in this model were all significantly associated with increased odds for unmet need: lower mean age at marriage, higher educational differences, and higher prevalence of polygyny.

The final set of models explored the association between IPV exposure and current use of FP (Table 4). Among the set of community characteristics included, only mean age at marriage showed independent significance with current use of FP when accounting for the other variables in the model. A final model including both individual and community-level variables showed an increase of nearly 30% in the odds of reporting current use of FP, though this model was

significant only at the 0.10 level (OR 1.31, 95% CI 0.95, 1.80). In this final model (Model 3), many of the individual sociodemographic and empowerment variables significantly increased a woman's odds of reporting current use of FP, but none of the community-level variables did.

Discussion

These results show that while individual and interpersonal characteristics are independent determinants of a woman's risk for experiencing IPV and adverse reproductive health outcomes, the influence of her social context cannot be ignored. As has been shown elsewhere in the literature, high community-level poverty and low community-level educational attainment are associated with higher odds of negative health outcomes for individual women.[36-38] These analyses provide support for this association and for the hypothesis that community-level norms that perpetuate low levels of women's empowerment are also important determinants of individual risk for such experiences. This study also provides support for the main research hypothesis that exposure to intimate partner violence decreases women's ability to exercise their reproductive agency. The findings related to unintended pregnancy were particularly strong and are consistent with the growing body of literature documenting higher odds of reporting an unintended pregnancy among women who have experienced IPV.[47-49] The strength of this association increased in multivariate analysis after controlling for potential confounders representing key sociodemographic characteristics and measures of individual empowerment as well as several measures of community influence. These findings indicate that even after accounting for the normative influence of a woman's community, exposure to IPV is an independent risk factor for unintended pregnancy; in fact, controlling for her social environment strengthens the effect of IPV on her risk for unintended pregnancy.

It is interesting to note the direction of the relationship between one of the proposed community-level influences and individual risk for unintended pregnancy. In communities where more women had communicated with a health worker about FP in the year preceding the survey, individual women were more likely to report unintended pregnancy. While the direction of this relationship is contrary to the conceptual model presented here, it is important to note the most plausible time order of these events: this might suggest that medical and public health staff targeted communities with historically high birth rates and unintended pregnancies for intervention in the year preceding the survey. It is also plausible that in communities where health workers are accessible, women with previous unintended births are more likely to access professionals as resources to help prevent future unintended pregnancies.

These analyses also confirm that exposure to recent IPV increases a woman's odds for having unmet need for family planning even after controlling for numerous individual and community-level variables. The most significant community-level variables predicting unmet need were age at marriage, educational differences, and polygyny. Despite polygamous marriage being relatively uncommon in Jordan, its important influence on reproductive agency and power parity is underscored by these findings. This is consistent with previous research suggesting that rivalry among wives and half-siblings can serve as an important barrier to limiting childbearing.[4] Also of note, these analyses indicate that an individual's gendered attitudes are more influential on her risk for unmet need than are community-level attitudes. However, the gendered norms of a community are reflected in high prevalence of polygyny, early marriage, and relatively low education for girls, as these are indicative of a community's

relegation of women to a more disempowered role. Such inferior status places them at risk for both IPV and low exercise of reproductive agency.

Results for the relationship between exposure to IPV and current use of FP were less clear and did not conform to research hypotheses, as they showed that women who reported recent IPV tended to be more likely to be current FP users. This is consistent with some previous research indicating that women who report current IPV are more likely to be current users of certain methods of FP, including condoms.[50] However, this same study also showed that women who reported IPV were less likely to be current users of their preferred method, highlighting the importance of multiple measures of FP use and method choice in order to accurately capture use dynamics and decisions. One possible explanation for increased FP use by women who experience IPV is that they view their partners as undesirable fathers and therefore aim to prevent future pregnancies with them.[51] It is also reasonable to assume that earlier exposure (i.e., ever IPV only) that hasn't carried into the present would not be as strong a predictor of current reproductive decisions. These analyses also indicate that individual and interpersonal level variables (parity, decision making, interpersonal communication about FP, social status) are more directly influential on family planning use than community-level characteristics. However, it is important to note that one of these variables is communication with a health worker about FP, which may be a reflection of the extent to which a community is connected to the public health infrastructure and to basic services. Likewise, the composite variable social status reflects a woman's poverty, education status, and employment status, all of which are likely indicators of the community's socioeconomic profile as well.

Limitations introduced by the structure of the research instrument may have constrained our ability to accurately capture the domains and concepts of interest. This likely produced an underestimate of the true prevalence of unintended pregnancy, unmet need, and exposure to IPV. It is also important to note that the data did not have sufficient power to calculate differences in unmet need or current use of FP between women exposed and not exposed to IPV even if such differences truly existed. Another limitation to consider in the present analyses is the use of the primary sampling unit (PSU) as a grouping equivalent to a community. In rural areas, geographic proximity is likely to render one's geographic neighbors their de facto community and, thus, a source of normative influence. However, early research on social networks suggests that in the urban communities, which comprise 85% of this sample, the extent of shared norms among those connected only by geographic proximity may be diluted.[52] As such, the construction of non-self means using PSUs as markers of community may be a better approximation of individual's social network and sources of influence in rural areas than in urban areas.

Despite these limitations, the present research provides important evidence that the reproductive agency of Jordanian women is compromised if they experience violence from their husbands. While these data were collected more than five years ago, they were the first and remain the only population-based estimates available for experiences of IPV and associated health risks in Jordan. As the burgeoning youth population in Jordan comes of age, the impact of unmet need and unintended pregnancy will be substantial. As such, it is of critical importance to the public health and social service sectors in Jordan to address the fundamental inequalities that place women at additional risk for such adverse reproductive health outcomes. These include the acute empowerment disparities that limit women's access to the resources and agency necessary to achieve their reproductive intentions. Chief among these is violence perpetrated by their husbands and implicitly and explicitly sanctioned by their social environment. However, these entrenched sources of disempowerment cannot be addressed without a more nuanced

understanding of the complex mechanisms by which such individual, interpersonal, and community-level factors serve as barriers to women's reproductive agency.

These findings illuminate areas of research that will be instrumental in identifying potential ways to promote women's empowerment and chip away at the social norms that keep women from making autonomous decisions to achieve their reproductive intentions. First would be a research delving into the specific community characteristics that perpetuate women's disempowerment, including socioeconomic deprivation, high prevalence of early marriage, low levels of female education, and norms that encourage early and frequent childbearing, and gendered attitudes that promote violence against women. Research should also focus on the interpersonal dynamics within marriage and between women and their social networks to identify influential sources of norms on reproductive decision making and violence. These include notions of masculinity that promote violence and control as proof of manhood and norms of femininity that encourage acquiescence and silence as models of womanhood. Using qualitative methods to learn more about how these gendered influences affect reproductive agency will help inform interventions and programs to stimulate social change at the individual and community levels. It will also be important for the research community to join forces with the growing corps of advocates dedicated to eliminating gender bias in family law both on paper and in practice. These advocates call attention to the prevalence and social impact of violence against women, and are beginning to be recognized as leading voices in the advocacy movement that has been growing in Jordan over the last decade.[53]

This study contributes to the nascent body of literature demonstrating the effects of experiencing IPV on women's health in Jordan, and illustrates the role that disempowerment plays in placing women at risk for violence. IPV is a crucial public health concern that crosses social and economic lines, and one that must be addressed in order to prevent great social and health costs to individual women, families, and to society. Combined with research such as that suggested above, these findings can stimulate targeted dialogue and action among public health professionals, researchers, advocates, and policy makers in Jordan. In the age of social media and increased exposure to mass communication, the potential to apply lessons learned in research to well-designed and well-informed action that will reach a majority of Jordanians is great. Success will require partnerships between researchers, programmers, secular and religious leaders, and national stakeholders. Such an effort will also require the engagement of both women and men as keepers of the social traditions that dictate women's inferior status in Jordan. Sustained efforts to actively combat norms that perpetuate gender inequality and force women into subordinate positions can have an immeasurable impact on the health and well-being of Jordanian women as well as the society as a whole.

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Table 1 Community-Level Predictors of Exposure to IPV and RH Outcomes
Results of bivariate logistic regression of exposure and outcomes by community-level characteristics*
 Jordan 2007 (N=3,444)

Sociodemographic/ Fertility Characteristic	Any IPV Coeff. (p-value)	Recent IPV Coeff. (p-value)	Unmet need[†] Coeff. (p-value)	Current FP use[†] Coeff. (p-value)	Unint. preg. Coeff. (p-value)
Mean Age (yrs)	0.014 (0.573)	0.002 (0.962)	-0.005(0.697)	0.027 (0.202)	-0.015 (0.626)
Mean Parity	**0.178 (0.064)**	**0.211 (0.078)**	**0.186 (0.089)**	-0.054 (0.590)	**0.181 (0.028)**
Mean Education (yrs)	**-0.067 (0.028)**	**-0.061 (0.093)**	**-0.092 (0.022)**	**0.088 (0.001)**	**-0.126 (<0.001)**
Mean Husband's Ed. (yrs)	**-0.075 (0.014)**	**-0.081 (0.034)**	-0.066 (0.114)	0.037 (0.186)	**-0.103 (0.001)**
Mean Wealth Quintile	**-0.171 (0.028)**	**-0.198 (0.035)**	-0.143 (0.139)	**0.120 (0.084)**	**-0.346 (<0.001)**
Empowerment: Agency					
Mean Decision Making	**-0.317 (0.012)**	**-0.326 (0.031)**	-0.168 (0.278)	0.130 (0.130)	-0.136 (0.259)
Mean Gendered Attitudes	-0.329 (0.150)	-0.334 (0.151)	-0.291 (0.162)	**0.386 (0.021)**	**-0.628 (0.001)**
Justif Wife Beating	**0.201 (0.046)**	0.163 (0.156)	**0.301 (0.007)**	**-0.204 (0.003)**	**0.415 (<0.001)**
Reas for Refusing Sex	0.147 (0.683)	-0.134 (0.755)	-0.250 (0.534)	**0.517 (0.074)**	-0.346 (0.297)
Mean Age at Marriage	0.018 (0.672)	0.008 (0.897)	**-0.125 (0.020)**	**0.084 (0.018)**	-0.048 (0.232)
Mean Age Differential	-0.031 (0.444)	-0.015 (0.812)	-0.001 (0.982)	-0.044 (0.121)	-0.053 (0.167)
Mean Ed. Differential	-0.079 (0.283)	-0.122 (0.104)	**0.132 (0.082)**	**-0.103 (0.022)**	-0.034 (0.636)
Prevalence Polygyny	0.657 (0.355)	**1.262 (0.108)**	**2.124 (0.006)**	**-0.415 (0.536)**	-0.161 (0.838)
Empowerment: Resources					
Mean Exp to FP: Media	-0.039 (0.821)	0.178 (0.372)	-0.351 (0.148)	0.104 (0.560)	-0.368 (0.045)
Mean Spousal Comm: #	0.510 (0.448)	1.170 (0.132)	-0.098 (0.903)	0.109 (0.852)	-0.172 (0.783)
Mean Spousal Comm: FP	0.624 (0.449)	-0.106 (0.905)	0.188 (0.830)	-0.430 (0.520)	-0.059 (0.940)
Mean IPC w/HW: FP	0.316 (0.336)	0.562 (0.141)	-0.235 (0.587)	0.321 (0.189)	**0.858 (0.013)**
Mean Woman's Status	**-0.349(0.007)**	**-0.330 (0.026)**	**-0.254 (0.147)**	**0.281 (0.039)**	**-0.578 (<0.001)**
Exposure and Outcome Vars					
Prevalence Ever IPV	**1.630 (0.002)**	**1.57 (0.004)**	**0.925 (0.109)**	-0.165 (0.644)	**1.418 (0.003)**
Prevalence Recent IPV	**1.817 (0.008)**	**1.817 (0.008)**	0.728 (0.317)	0.308 (0.430)	**1.399 (0.009)**

Prevalence Unmet Need	1.061 (0.186)	1.204 (0.182)	-0.439 (0.722)	**-0.118 (0.844)**	0.480 (0.477)
Prevalence Any FP Use	-0.154 (0.711)	0.023 (0.963)	0.236 (0.700)	0.220 (0.576)	-0.220 (0.611)
Prevalence Unintended	**1.128 (0.030)**	**1.202 (0.022)**	-0.019 (0.970)	-0.193 (0.597)	**1.605 (0.001)**

*Non-Self Mean Values   [†] *n=3,289 currently married women*

Table 2: Odds of Unintended Pregnancy by IPV Exposure, Empowerment Variables, and Community Influence (n=3,444 ever married women)				
Exposure Variables	**Final One-Level Model OR (95% CI)**	**Model 1 OR (95% CI)**	**Model 2 OR (95% CI)**	**Model 3 OR (95% CI)[‡]**
Any IPV (ref. never IPV)	**1.39[**] (1.04, 1.86)**	**1.44[**] (1.14, 1.82)**	**1.42[*] (1.05, 1.91)**	**1.46[*] (1.09, 1.96)**
Sociodem/Fertility Variable				
Age Category	**0.23[**] (0.17, 0.30)**	----	**0.25[**] (0.19, 0.33)**	**0.26[**] (0.19, 0.36)**
Parity	**1.76[**] (1.58, 1.97)**	----	**1.71[**] (1.53, 1.91)**	**1.48[**] (1.53, 1.90)**
Education (yrs)	**1.08[**] (1.03, 1.12)**	----	**1.09[**] (1.04, 1.14)**	**1.09[**] (1.03, 1.14)**
Unmet Need for FP	**3.12** (2.19, 4.44)**	----	**3.01** (2.08, 4.36)**	**2.97** (1.99, 4.43)**
Empowerment: Agency				
Gendered Attitudes	**0.73[*] (0.56, 0.95)**	----	**0.75[*] (0.57, 0.99)**	**0.78[+] (0.58, 1.04)**
Early Marriage	**0.65[**] (0.49, 0.86)**	----	**0.67[**] (0.40, 0.91)**	**0.68[*] (0.49, 0.96)**
Empowerment: Resources				
Woman's Social Status	----	----	----	----
** Wealth Status**	**0.64[**] (0.46, 0.90)**	----	**0.69[+] (0.47, 1.00)**	**0.67[+] (0.44, 1.01)**
Community-Level Variables				
Mean Parity	----	1.04 (0.90, 1.20)	0.96 (0.57, 1.11)	1.03 (0.88, 1.22)
Mean Education	----	0.96 (0.88, 1.06)	0.94 (0.84, 1.05)	0.91 (0.79, 1.04)
Mean Husband's Ed	----	1.02 (0.93, 1.12)	1.03 (0.93, 1.15)	1.06 (0.93, 1.21)
Mean Wealth Quintile	----	**0.81[*] (0.67, 0.98)**	0.97 (0.77, 1.23)	1.05 (0.80, 1.38)
Gendered Attitudes (Justif)	----	**1.20[*] (1.02, 1.41)**	1.10 (0.90, 1.34)	1.16 (0.92, 1.46)
Ever IPV Prevalence	----	**2.08[+] (0.89, 4.83)**	1.81 (0.70, 4.67)	1.76 (0.59, 5.30)
Prevalence Unintended	----	1.91 (0.67, 5.42)	2.19 (0.17, 6.79)	1.31 (0.28, 6.18)

[‡] Model includes only those PSUs with at least 10 women; n=2,582

Exposure Variables	Final One-Level Model OR (95% CI)	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3[‡] OR (95% CI)
Table 3: Odds of Unmet Need for FP by IPV Exposure and Empowerment Variables (n=3,289 currently married women)				
Recent IPV (ref. never IPV)	**1.43+ (0.94, 2.18)**	**1.51+ (0.97, 2.36)**	**1.44+ (0.93, 2.22)**	**1.69* (1.07, 2.68)**
Sociodem/Fertility Variable				
Age Category	1.11 (0.84, 1.47)	----	1.17 (0.88, 1.56)	----
Parity	1.08 (0.70, 1.65)	----	1.04 (0.69, 1.59)	----
Education (yrs)	1.00 (0.97, 1.05)	----	1.02 (0.98, 1.07)	----
Empowerment: Agency				
Gendered Attitudes	0.94 (0.65, 1.35)	----	1.01 (0.67, 1.52)	----
Reas for Refusing Sex	**0.25** (0.09, 0.69)**	----	**0.23** (0.08, 0.61)**	**0.27** (0.11, 0.68)**
Early Marriage	**1.46+ (0.95, 2.23)**	----	**1.50+ (0.98, 2.29)**	1.23 (0.81, 1.87)
Polygyny	**2.18* (1.15, 4.13)**	----	**1.91+ (0.99, 3.69)**	**2.07* (1.01, 4.23)**
Community-Level Variables				
Mean Parity	----	1.12 (0.89, 1.41)	----	----
Mean Education	----	1.03 (0.92, 1.14)	----	----
Mean Decision Making	----	1.11 (0.80, 1.54)	----	----
Gendered Attitudes (Justif)	----	**1.20+ (0.97, 1.48)**	1.21 (0.94, 1.57)	----
Mean Age at Marriage	----	**0.90* (0.82, 1.00)**	**0.90* (0.82, 1.00)**	**0.84** (0.74, 0.95)**
Mean Education Differential	----	**1.17+ (0.99, 1.37)**	**1.16+ (0.99, 1.35)**	**1.22* (1.03, 1.44)**
Prevalence of Polygyny	----	**7.62* (1.10, 52.80)**	**4.44+ (0.82, 24.13)**	3.93 (0.63, 24.54)
Recent IPV Prevalence	----	1.49 (0.43, 5.19)	1.62 (0.37, 7.09)	----

[‡] Model includes only those PSUs with at least 10 women; n=2,414

Table 4: Odds of Current Use of FP by IPV Exposure and Empowerment Variables (n=3,289 currently married women)

Exposure Variables	Final One-Level Model OR (95% CI)	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3[‡] OR (95% CI)
Recent IPV (ref. never IPV)	**1.36* (1.01, 1.83)**	1.18 (0.87, 1.60)	**1.35+ (1.00, 1.82)**	**1.31+ (0.95, 1.80)**
Sociodem/Fertility Variable				
Age Category	**0.98* (0.96, 1.00)**	----	**0.88 (0.72, 1.09)**	**0.88* (0.70, 1.11)**
Parity	**3.42** (2.53, 4.63)[§]**	----	**3.09** (2.28, 4.18)**	**3.04** (2.15, 4.31)**
Rural Residence	**0.82* (0.64, 1.06)**	----	**0.85 (0.66, 1.22)**	**0.85 (0.61, 1.18)**
Empowerment: Agency				
Decision Making	1.22 (0.96, 1.55)	----	1.19 (0.94, 1.52)	**1.27+ (0.97, 1.66)**
Gendered Attitudes	**1.26+ (0.96, 1.67)**	----	1.21 (0.89, 1.65)	1.12 (0.80, 1.57)
Polygyny	0.79 (0.44, 1.45)	----	0.80 (0.44, 1.45)	0.90 (0.47, 1.73)
Empowerment: Resources				
Spousal Comm: Fam Size	**1.74* (1.01, 3.02)**	----	**1.79* (1.04, 3.07)**	**1.69+ (0.94, 3.03)**
Comm Health Worker: FP	**1.52** (1.25, 1.85)**	----	**1.57** (1.09, 1.92)**	**1.55** (1.28, 1.89)**
Woman's Social Status	**1.27** (1.09, 1.48)**	----	**1.25** (1.09, 1.43)**	**1.14+ (0.98, 1.32)**
Community-Level Variables				
Parity	----	1.07 (0.88, 1.30)	----	----
Mean Education	----	1.05 (0.91, 1.22)	1.02 (0.92, 1.13)	----
Mean Husband's Education	----	0.97 (0.86, 1.09)	----	----
Mean Wealth Quintile	----	0.96 (0.75, 1.23)	0.97 (0.76, 1.23)	----
Mean Decision Making	----	1.03 (0.85, 1.25)	----	----
Gendered Attitudes (Justif)	----	0.85 (0.70, 1.05)	0.89 (0.72, 1.09)	----
Mean Age at Marriage	----	**1.07+ (0.99, 1.16)**	**1.07+ (0.99, 1.16)**	1.08 (0.98, 1.19)
Mean Education Differential	----	0.95 (0.82, 1.10)	----	0.95 (0.82, 1.10)
Mean Polygyny	----	1.23 (0.27, 5.56)	1.69 (0.36, 7.88)	1.84 (0.24, 14.36)
Woman's Social Status	----	1.10 (0.66, 1.85)	0.99 (0.59, 1.67)	1.23 (0.79, 1.92)
Prevalence of Unint. Preg.	----	1.17 (0.54, 2.54)	----	----
Recent IPV Prevalence	----	1.22 (0.58, 2.59)	----	----

[‡] Model includes only those PSUs with at least 10 women; n=2,323