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Permalink

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Journal

AJOG Global Reports, 1(2)

ISSN

2666-5778

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Publication Date

2021-05-01

DOI

10.1016/j.xagr.2021.100011

Peer reviewed

Is there an association between fertility and domestic violence in Nepal?



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BACKGROUND: Intimate partner violence and nonpartner violence are common in Nepal, yet the relationship between violence and fertility is unclear. The risk of violence for young, newly married women in Nepal may be associated with becoming pregnant and giving birth due to either the family's desire to protect the fetus (reducing violence) or the added household stressors that accompany a pregnancy (increasing violence).

OBJECTIVE: This study aimed to investigate changes in partner and nonpartner violence over time in early marriage and explore the hypothesis that conception and childbirth may be associated with risk of domestic violence.

STUDY DESIGN: We surveyed newly married women aged 18 to 25 years and living in the Nawalparasi district of Nepal in 4 rounds of data collection at 6-month intervals over 2 years. At each survey, interviewers asked whether participants had experienced any violence within the previous 6 months, including details about the type and perpetrator of the violence, and whether they had ever been pregnant or given birth.

RESULTS: A cohort of 200 participants completed the baseline survey and 183 (92%) completed all 4 survey rounds. The proportion of participants experiencing any recent violence increased substantially over time. By the end of the study, 58% of participants reported experiencing intimate partner violence, nonpartner violence, or both in the previous 6 months. Most participants had been pregnant (148 [79%]) and given birth (117 [64%]) during the study period. Multivariate models were used to estimate the odds of any intimate partner violence during the previous 6 months. The odds of experiencing any intimate partner violence were more than 2 times higher for participants who became pregnant (odds ratio, 2.2; 95% confidence interval, 1.0–4.7) and gave birth (odds ratio, 2.9; 95% confidence interval, 1.2–7.2) than for those who did not. After adjusting for covariates, pregnancy and birth were not statistically associated with a change in the odds of reporting any nonpartner violence.

CONCLUSION: Our study indicates that newly married young women in Nepal are vulnerable to violence in the home from both partners and nonpartners. Our findings support the hypothesis that risk of intimate partner violence may be greater during the perinatal period. The longitudinal nature of the study contributes to the existing literature by adding evidence that violence increases in early marriage and is positively associated with pregnancy and birth.

Key words: domestic violence, intimate partner violence, Nepal, nonpartner violence, perinatal period

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The authors report no conflict of interest.

This research was funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (grant number 1K01HD086281-01A1). The funder was not involved in the design or execution of the research study.

Cite this article as: Raifman S, Puri M, Arcara J, et al. Is there an association between fertility and domestic violence in Nepal? *Am J Obstet Gynecol Glob Rep* 2021;1:100011.

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2666-5778/\$36.00

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<http://dx.doi.org/10.1016/j.xagr.2021.100011>

Introduction

Violence against women is an important and widespread public health and human rights problem in Nepal, with many negative physical, mental, and sexual health consequences.¹ In 2009, Nepal passed the Domestic Violence Act, which defined violence as “any form of physical, mental, sexual, and economic abuse perpetrated by any person to the other person with whom he has a family relationship.”² Typically, domestic violence is categorized as any acts of physical aggression, sexual assault and coercion, psychological abuse, and controlling behaviors committed by a current or former intimate partner or by a nonpartner typically living in the same household.³ Women who report any domestic violence typically experience a combination of intimate partner violence (IPV) and nonpartner violence (NPV). The extent and context of domestic violence are well studied in industrialized countries,⁴ but in low-income countries,

such as Nepal, limited data exist about the risk factors of domestic violence.

The 2016 Demographic and Health Survey reported roughly 23% of married women in Nepal ever experienced physical violence, 12% experienced emotional violence, and 7% experienced sexual violence.⁵ Estimates from other nationally representative samples indicate slightly higher prevalence estimates.⁶ Newly married women in Nepal may be at particularly high risk of domestic violence because of gender inequality, a high prevalence of marrying young, and pressure to conceive soon in marriage.⁷ Domestic violence increases notably with age, more than doubling after the age of 19 years,⁵ which is the average age of marriage for women in Nepal. Partner violence increases with the number of living children per woman, with 18% of women with no living children and 32% of women with 5 or more children reporting physical, sexual, or emotional

AJOG MFM at a Glance

Why was this study conducted?

In low-income countries, such as Nepal, limited data exist about the risk factors of domestic violence, especially among newly married young women and in relation to fertility. This study investigated changes in violence over time in early marriage and explored the hypothesis that conception and childbirth are associated with risk of violence.

Key findings

Newly married women in Nepal experience increasing levels of violence over time. Intimate partner violence was positively associated with recent pregnancy and childbirth. The study found no evidence of an association between nonpartner violence and fertility.

What does this add to what is known?

These longitudinal data enable investigation of change in violence over time, thereby adding evidence that violence increases with time and strengthening evidence of the relationship between violence, marriage, and pregnancy in Nepal.

violence. Domestic violence is more common in Province 2, Province 5 (both bordering India), and Province 3⁸ and more common among divorced, separated, or widowed women compared to married women and women who are unemployed or not employed for pay. The prevalence of violence declines with education (particularly partner's education). Limited data on NPV in Nepal suggest that it is most commonly perpetrated by mothers-in-law or other in-laws, although NPV may be less common than partner violence.^{9,10} In Nepal, multigenerational households are common, with women typically moving into their partners' households after marriage, where their in-laws also live. It is possible that newly married women who live in multigenerational households with their partners' families, compared with those who live alone with their partners, may be more vulnerable to violence from both their partners and nonpartners living in the household. Few studies have investigated this specifically; however, one study did not find a statistically significant association between family size and family structure and risk of violence against young married women.¹¹

In Nepal, fertility is highly valued, and a woman's ability to become pregnant and to give birth is often closely linked to her worth. Therefore, becoming pregnant and giving birth may protect newly married women from violence perpetrated in

the home by partners and family members, due to a desire from the family to ensure that the fetus is healthy. However, evidence suggests that there is an elevated risk of violence during pregnancy and the perinatal period, possibly because of changes in physical, emotional, social, and economic needs that accompany these major life milestones.^{1,12,13} Violence during the perinatal period may take on different forms; in Nepal, culturally specific types of violence experienced by pregnant women include pressure to give birth to sons, denial of food, and forced hard physical work during pregnancy.¹⁴ Some women who become pregnant are accused by in-laws of conceiving to escape from the burdens of housework, which can lead to justifications of violence.¹⁴ Violence during the perinatal period is associated with negative physical and mental health for women and their babies, including depression, suicidality, poor maternal nutrition, preterm delivery, low birthweight, and infection.^{3,15,16} Although it is more common than several severe maternal health conditions, including preeclampsia and placenta previa, violence during the perinatal period receives far less attention.¹⁷

In this article, we investigated changes in partner violence and NPV in early marriage and explored hypotheses related to a potential association between conception and childbirth and risk of

domestic violence, leading to either a reduction or an increase in violence, using longitudinal data. One hypothesis posits that becoming pregnant and giving birth may be associated with a reduction in violence, with women gaining status in their household through establishing their fertility. Alternatively, becoming pregnant and giving birth may be associated with an increase in violence, because of the additional relationship and household stress caused by a pregnancy. Few studies in Nepal have investigated the extent to which pregnancy and childbirth are risk factors of partner violence and NPV, particularly using longitudinal data. Those who have explored the relationship between violence and reproductive history have primarily employed cross-sectional study designs and focused on violence as a predictor of pregnancy.^{7,18–21} Therefore, limited data exist about changes in violence in early marriage and the extent to which pregnancy and childbirth are associated with violence in Nepal over time. In the present study, we leveraged a longitudinal dataset of newly married women who are not yet pregnant at baseline to rigorously investigate this association.

Materials and Methods**Sample**

Beginning in 2018, we collected data from newly married women living in the Nawalparasi district of Nepal, a plains region bordering India. We surveyed participants in 4 total rounds of data collection, including at baseline recruitment and in 3 consecutive follow-up surveys roughly 6 months apart. Eligible participants were recently married (within the 4 months before the baseline), 18 to 25 years old at recruitment, and living in the same household as their mother-in-law. In-laws often play an important role in household decision-making, and the parent study's primary focus was to understand newly married women's decision-making and empowerment. We screened 18,906 households in 2 municipalities, identified 302 eligible participants, and selected 200 participants at random to reach the desired sample size of the parent study. Moreover, we excluded 1 participant who

had a child from a previous marriage. The remaining pregnancies and births reported were assumed to be from the current marriage, given that all participants had been married ≤ 4 months at baseline and sexual contact outside of marriage is socially unacceptable in Nepal.²² Those who reported that they were < 4 months' pregnant at baseline were included in the sample, as these pregnancies were assumed to be from the current marriage.

The desired sample size of the parent study was determined to be sufficient to estimate a 50% difference in child malnutrition between the children of more and less empowered women. Although the sample was not powered for this specific analysis, we believed that the sample size was sufficient given the high prevalence of IPV. Trained Nepali female research assistants with at least bachelor's degree level of education and experience in conducting similar types of data collection recruited all eligible women in their homes with oversight by the second author of this article. The recruitment of participants occurred between February and April of 2018, just after the time of year when most marriages occur in Nepal. Research assistants obtained written informed consents and conducted survey interviews in person in a private space. Non-literate participants provided thumb prints to confirm consent. The study team provided participants with an equivalent of \$3 at each visit, in line with local incentive standards.

Measures

The survey included measures of women's empowerment, relationship quality, food insecurity, dietary assessments, anthropometry, pregnancy and birth outcomes, healthcare seeking, and physical and emotional violence from partners and other adults in the home. Interviewers asked participants about experiences with both IPV and NPV in a series of yes or no questions. At baseline, interviewers asked whether participants had ever experienced violence and whether they had experienced violence within the last year. At each of the follow-up surveys, interviewers asked

whether participants had experienced IPV and NPV within the previous 6 months (since the prior survey). Specifically, survey questions assessed 4 types of violence in 17 questions, modeled after the World Health Organization multicountry study measure of violence.²³ The 4 types of violence include: (1) physical aggression (being pushed, slapped, twisted, punched, kicked, choked, or threatened with a weapon); (2) sexual coercion (being forced to have sex against your will, forced to perform sex acts, or being offered food, clothing, or other resources in exchange for sex); (3) controlling behavior (being prohibited from working, losing earnings or property against one's will, being evicted from the household, or threatening children if respondent did not obey); and (4) psychological abuse (being humiliated, threatened, or insulted).

The primary outcome measures of interest in this analysis were any IPV and any NPV in the last 6 months, defined as binary variables (having experienced any of the 4 types of violence described above versus reporting none). Recent violence at baseline was defined as within the past 12 months, and recent violence at each follow-up was defined as within the past 6 months. Those who reported NPV could list up to 5 people who perpetrated the violence. The primary predictors of interest were pregnancy and birth, defined as 2 separate binary variables. Participants were asked if they had ever been pregnant and had ever given birth at each interview.

Covariates of interest included the following time-invariant characteristics measured at baseline: participant age at marriage (categorized as ≥ 20 years versus < 20 years), wealth (in quintiles), caste (categorized as Brahmin or Chhetri, indigenous groups, or so-called untouchables or religious minority group), marriage type (love versus arranged marriage), partner's education level (continuous), and partner's age at baseline (≥ 25 years vs < 25 years). Time-varying covariates of interest included whether the participant reported paid work in the previous year (yes or no)

and the participant's self-reported ideal time between marriage and first child (categorized as < 2 years vs ≥ 2 years). We created a wealth score using principal component analysis from a series of questions related to assets, household ownership, and land ownership and categorized the components into quintiles.

Analysis

We generated proportions of women experiencing violence, by violence type and time since marriage. Moreover, we used chi-square tests to assess bivariate relationships between covariates and reports of violence at end line. To assess the relationship of pregnancy and childbirth with violence, respectively, we estimated the odds ratios (ORs) using mixed effects logistic regression models to account for repeated measurement of correlated data over time. The ORs for any violence (and each type of violence separately) were adjusted for participant age at marriage partner age at marriage, wealth, caste, marriage type, recent work experience, pregnancy intention, time since marriage, and partner's age at marriage and baseline education. The selection of possible confounders and cut points for categorization of continuous variables were based on findings from cross-sectional bivariate analyses at each time point and previously published literature.^{18,20,24} We used Stata (version 15.1; StataCorp, College Station, TX) for all analyses. This study was approved by institutional review boards at the University of California, San Francisco and the Nepal Health Research Council.

Results

200 participants completed the baseline survey, 192 completed round 2 of the survey, 191 completed round 3 of the survey, and 187 completed round 4 of the survey. Importantly, there was complete follow-up (completion of all 4 surveys) for 183 (92%) participants. However, 5 participants were missing at round 2 or 3 of the survey and then returned for the following round. At baseline, 17 participants (9%) reported ever having been pregnant; 16 were < 4 months' pregnant at baseline and 1 participant had given birth before baseline

(and was removed from the sample for analysis).

Demographic characteristics are presented in [Table 1](#) by report of any IPV and any NPV at end line. The median duration of marriage at end line was the same for those who experienced violence and those who did not (650 days or roughly 21 months). The median baseline participant age was 1 year older for those who did not report violence than those who did. Bivariate analyses indicated that the proportion who reported recent violence at end line was markedly higher among participants <20 years old, who had lower income, and were of a lower caste ([Table 1](#)). A significantly higher proportion of those whose partners were <25 years old at baseline reported NPV at end line, but the proportion of participants reporting IPV at end line did not vary substantially by partner's age ([Table 1](#)). Those who reported a shorter ideal time between marriage and first birth were more likely to report recent violence at end line. And violence was less commonly reported at end line by participants who had worked for pay in the past year compared to those who had not.

A summary of recent violence reported at each survey is presented in [Table 2](#), by type of violence. By the end of the study, 58% of participants reported experiencing IPV, NPV, or both in the previous 6 months. The proportion of participants reporting any IPV was 25% (n=49) at baseline, 46% (n=88) at round 2, 51% (n=97) at round 3, and 49% (n=92) at round 4. Most of those who experienced any recent IPV reported 3 or more incidents of violence. From baseline to round 4 of the survey, physical partner violence increased from 2% to 12%, sexual partner violence increased from 16% to 29%, controlling behavior increased from 13% to 33%, and psychological partner violence increased from 6% to 34%, with most of the increases being in the first 6 months of marriage. Although relatively fewer participants reported experiencing NPV, the rate of violence increased from 2% (n=4) at baseline to 22% (n=42) at round 2, 40% (n=77) at round 3, and

47% (n=88) at round 4. Psychological violence and controlling behavior were the most common types of NPV, reported by 47% and 35% of participants, respectively, who experienced any NPV at end line. Most NPV incidents (74% by end line) were perpetrated by the mother-in-law; the second most common perpetrator was the sister-in-law (21% of NPV incidents reported at end line). By end line, most participants who reported any NPV said they had experienced it from more than 1 person, including from 2 people (42%), from 3 people (23%), and from 4 or 5 people (5%).

Most participants became pregnant (148 [79%]) and gave birth (117 [64%]) by the end of the study period, roughly 20 months after marriage. Furthermore, 28 participants became pregnant more than once, and 3 participants gave birth twice, for a total of 120 births (64 males and 56 females) during the study period. Nine participants (5%) gave birth between baseline and the first follow-up survey about 6 months later; 73 (38%) gave birth between the first and second rounds of the survey (roughly 6–12 months after the baseline survey), and 37 (20%) gave birth between the third and fourth rounds of the survey (roughly 12–18 months after baseline). At baseline, one-third of participants (64 [32%]) indicated that they would prefer to wait for 2 or more years before having their first child. By end line, roughly 20 months after marriage, 20 (17%) of those who had a child reported that their ideal time between marriage and first birth was 2 or more years.

Multivariable adjusted analyses indicated that the odds of reporting IPV and NPV increased over time since marriage, after adjusting for time-invariant and time-varying covariates ([Table 3](#)). The odds of any IPV during the previous 6 months were more than 2 times higher for participants who became pregnant during that interval (OR, 2.2; 95% confidence interval [CI], 1.0–4.7). Separate models for each of the 4 types of IPV showed that becoming pregnant was significantly associated with increased odds of sexual

partner violence (OR, 2.9; 95% CI, 1.5–5.4) but not with odds of physical partner violence (OR, 1.4; 95% CI, 0.47–3.6) or psychological partner violence (OR, 1.0; 95% CI, 0.5–4.1). Previous birth was significantly associated with increased odds of any IPV (OR, 2.9; 95% CI, 1.2–7.2) and physical IPV specifically (OR, 3.7; 95% CI, 1.2–11.6). In all multivariable logistic regression models, the odds of IPV were lower for those with higher wealth quintiles and caste levels, those who had worked for pay in the previous year, those who were in a love marriages, and those who were ≥20 years old at marriage compared to their counterparts. Lower odds of any NPV were associated with higher caste and wealth levels and with having an older partner. There was no evidence of an association between pregnancy and birth and reports of any NPV, after adjusting for covariates. However, the odds of recent physical NPV specifically were significantly higher for participants who became pregnant during that time (OR, 4.7; 95% CI, 1.4–16.1).

Comment

Principal findings

Our findings suggested that reports of violence perpetrated by one's partner escalated quickly after marriage for young women in Nepal in our sample. Reports of violence perpetrated by someone other than one's partner also increased throughout the study period but remained relatively low overall. After adjusting for other predictors of violence, becoming pregnant or giving birth was associated with increased odds of IPV but not of NPV.

Results

This study underscored the hypothesis that women experience a heightened risk of violence during the perinatal period. The proportion of this study's participants who experienced IPV within the first 2 years of marriage (nearly 50%) exceeded previous national (26%) and regional estimates (29%) in Nepal.⁵ Our findings extended the existing literature,

TABLE 1**Sociodemographic characteristics (reported at baseline and survey round 4) by type of violence reported at survey round 4**

Characteristic	IPV reported at survey round 4		NPV reported at survey round 4	
	No (n=92)	Yes (n=92)	No (n=99)	Yes (n=85)
Duration of marriage at survey round 4 (d)	651 (644–664)	650 (641–665)	650 (644–668)	650 (642–660)
Baseline age (y)	21 (19.0–23.0)	20 (18.0–21.0)	21 (19.0–23.0)	19 (18.0–21.0)
Partner's baseline education (y)	11 (9.0–12.0)	9 (6.5–12.0)	11 (9.0–12.0)	9 (6.0–11.0)
Baseline age at marriage (y)	<i>P</i> =.001		<i>P</i> =.001	
<20	24 (34)	46 (66)	26 (37)	44 (63)
≥21	68 (60)	46 (40)	73 (64)	41 (36)
Marriage type	<i>P</i> <.006		<i>P</i> <.05	
Arranged	56 (43)	73 (57)	63 (49)	66 (51)
Love	36 (65)	19 (35)	36 (65)	19 (35)
Caste or ethnic group	<i>P</i> <.001		<i>P</i> <.001	
Brahmin or Chhetri	32 (82)	7 (18)	34 (87)	5 (13)
Indigenous group	47 (48)	52 (53)	51 (52)	48 (48)
So-called untouchables or religious minority group	13 (28)	33 (72)	14 (30)	32 (70)
Baseline wealth (quintiles)	<i>P</i> <.001		<i>P</i> <.001	
Lowest	7 (19)	30 (81)	11 (30)	26 (70)
Second	14 (37)	24 (63)	13 (34)	25 (66)
Middle	21 (53)	19 (48)	23 (58)	17 (43)
Fourth	25 (63)	15 (38)	27 (68)	13 (33)
Highest	25 (86)	4 (14)	25 (86)	4 (14)
Partner's baseline age (y)	<i>P</i> =.133		<i>P</i> <.01	
<25	50 (45)	60 (54)	49 (45)	61 (56)
≥25	42 (57)	32 (43)	50 (68)	24 (32)
Recent pregnancy (reported at survey round 4)	<i>P</i> =.07		<i>P</i> =.10	
No	24 (63)	14 (37)	25 (66)	13 (34)
Yes	68 (47)	78 (53)	74 (51)	72 (49)
Recent birth (reported at survey round 4)	<i>P</i> <.01		<i>P</i> =.23	
No	50 (43)	67 (57)	59 (50)	58 (50)
Yes	42 (63)	25 (37)	40 (60)	27 (40)
Ideal time between marriage and first child (reported at survey round 4)	<i>P</i> <.05		<i>P</i> <.001	
<2 y	67 (46)	78 (54)	66 (46)	79 (54)
≥2 y	28 (67)	14 (33)	33 (79)	9 (21)
Participant completed paid work in last year (reported at survey round 4)	<i>P</i> <.01		<i>P</i> =.08	
No	66 (45)	7 (18)	75 (51)	73 (49)
Yes	26 (72)	10 (28)	24 (67)	12 (33)

Data are presented as median (interquartile range) or number (percentage).

IPV, intimate partner violence; NPV, nonpartner violence.

Raifman. Pregnancy, birth, and domestic violence in Nepal. *Am J Obstet Gynecol Glob Rep* 2021.

TABLE 2
Reported violence, by type and survey round

Variable	Baseline survey (n=199) n (%)	Survey round 2 (n=191) n (%)	Survey round 3 (n=188) n (%)	Survey round 4 (n=183) n (%)
IPV				
Any IPV	49 (25)	87 (46)	97 (52)	91 (50)
Physical violence	4 (2)	19 (10)	29 (15)	22 (12)
Sexual violence	32 (16)	65 (34)	49 (26)	53 (29)
Controlling behavior	25 (13)	52 (27)	73 (39)	62 (34)
Psychological violence	12 (6)	43 (23)	63 (34)	64 (35)
NPV	n (%)	n (%)	n (%)	n (%)
Any NPV	4 (2)	41 (22)	77 (41)	84 (46)
Most recently from mother-in-law	3 (75)	25 (60)	53 (69)	65 (74)
Most recently from father-in-law	1 (25)	3 (7)	1 (1)	3 (3)
Most recently from sister-in-law	0 (0)	10 (24)	17 (21)	18 (21)
Most recently from other in-laws	0 (0)	4 (9)	6 (8)	2 (2)
Physical violence	2 (1)	11 (6)	24 (13)	21 (12)
Sexual violence	0 (0)	0 (0)	2 (1)	0 (0)
Controlling behavior	4 (2)	34 (18)	59 (31)	63 (34)
Psychological violence	4 (2)	41 (22)	77 (41)	84 (46)

IPV, intimate partner violence; NPV, nonpartner violence.

Raifman. Pregnancy, birth, and domestic violence in Nepal. *Am J Obstet Gynecol Glob Rep* 2021.

which has mostly focused on IPV rather than NPV, and suggested that many young married women experience violence from multiple familial sources, including their partner and at least 1 other family member in the household. A relatively high proportion of participants in this sample experienced sexual

violence compared with the national average (14.7%), and a relatively low proportion of participants experienced physical violence compared with the national average (23.4%). The results were consistent with previous evidence suggesting that sexual violence was more common than physical and

emotional violence among younger women than older women in Nepal.^{8,25}

Clinical implications

Given that proving one's fertility by giving birth for the first time is highly valued in Nepal's society, one might hypothesize that women who become

TABLE 3
Multivariate model estimates of odds of reporting IPV and NPV

Variable	Any violence OR (95% CI)	Physical violence OR (95% CI)	Psychological violence OR (95% CI)	Controlling behavior OR (95% CI)	Sexual violence OR (95% CI)
IPV					
Primary predictor					
Previous pregnancy	2.2 (1.0–4.7)	1.4 (0.5–4.1)	1.0 (0.5–2.0)	—	2.9 (1.5–5.4)
Previous birth	2.9 (1.2–7.2)	3.7 (1.2–11.6)	1.6 (0.8–3.4)	—	1.6 (0.8–3.3)
NPV					
Primary predictor					
Previous pregnancy	1.8 (0.7–4.3)	4.7 (1.4–16.1)	1.8 (0.7–4.3)	2.0 (0.7–5.5)	—
Previous birth	0.8 (0.3–1.9)	1.7 (0.6–4.6)	0.8 (0.3–1.9)	2.0 (0.7–5.5)	—

All models adjusted for baseline wealth, caste, marriage type (love or arranged), age of participant and partner at time of marriage, partner's education at baseline, participant's paid work in last year (yes or no and time varying), participant's ideal time between marriage and first child (<2 years vs ≥2 years and time varying), and time (survey round);

CI, confidence interval; IPV, intimate partner violence; NPV, nonpartner violence; OR, odds ratio.

Raifman. Pregnancy, birth, and domestic violence in Nepal. *Am J Obstet Gynecol Glob Rep* 2021.

pregnant are less likely to experience domestic violence because of a family's desire to ensure the fetus is healthy and an assumption that women who prove their fertility may benefit from an elevated status in the household, which would in turn prevent or reduce her risk of violence. However, these data supported the alternate hypothesis that the risk of violence is elevated during the perinatal period. Becoming pregnant in early marriage was associated with increased odds of sexual violence from one's partner and physical violence from nonpartners; giving birth was associated with increased odds of physical violence from one's partner. One possible explanation for these results is that becoming pregnant and having a baby can add stress to a household, including relationship stress and economic, physical, and emotional stress.^{26,27} These stressors likely affect an entire household, thereby straining not only the marital relationship but also other familial relationships in a multigenerational household. Added stress for a relationship or household may increase the risk of violence perpetrated by partners or nonpartners against newly married young women.²⁸ Controlling for household wealth should in theory help address concerns about the additional economic burdens of having a child on the household as those with higher baseline wealth may endure financial stress more easily than those with lower baseline wealth. However, even after adjusting for baseline wealth, we found that odds of IPV were still elevated for those who recently became pregnant and gave birth compared with those who did not. Another possible explanation for the association of pregnancy, birth, and violence could be that after a woman accomplishes the important "responsibility" of reproducing, her status diminishes and the risk of violence increases.²⁹ Past research in Nepal has found that women with more children were more likely to experience IPV, suggesting evidence of this theory, but more detailed analysis is needed.¹⁸ In addition, it is possible, although not yet documented in the literature, that women may become more vocal against

violence after giving birth to a child, which could lead to increased tension in the household and put them at risk of more violence.

Research implications

More research is needed to investigate the causal relationships of pregnancy, childbirth, and violence, specifically with respect to the timing of pregnancy and childbirth in relation to violent experiences in the home. Establishing temporal order of events would strengthen causal inference and help inform interventions to support women during pregnancy and childbirth and mitigate the risk of violence and its negative consequences.

Strengths and limitations

The longitudinal nature of the data collected in this study is a strength, adding evidence to the literature showing that violence increases with time since marriage and seems to be positively associated with pregnancy and birth. This analysis was limited by a lack of data on when participants experienced violence during each interval. It is possible that an individual became pregnant or gave birth after the violent incidents occurred; however, even if this is the case, we may still conclude that there is a heightened risk of violence during the perinatal period, which includes the time during pregnancy and after childbirth. Our results were also limited by potential unmeasured confounding: for example, the dowry system and whether the participant is living with her partner are likely associated with violence in marriage and with pregnancy and birth.³⁰ Attempts to assess the potential mediating role that sex of the fetus may play in the association between pregnancy and violence in violence was not feasible because of the small sample size. Finally, results from this analysis may not be generalizable to nonmultigenerational households or other communities outside the Nawalparasi district in Nepal. Additional studies among a nationally representative sample are needed to assess the relationship of pregnancy, birth, and different types of violence at a national level.

Conclusions

In our study, newly married young women in Nepal were vulnerable to violence in the home, from both partners and nonpartners, particularly during the perinatal period. Pregnancy and childbirth in early marriage may increase rather than decrease the risk of experiencing violence in the home for newly married women. ■

ACKNOWLEDGMENTS

We thank Jackie Shieh for her work cleaning and preparing the dataset. Jackie Shieh was financially compensated for her work on this study as a graduate research assistant at the University of California, San Francisco.

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