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Differential Impacts of an Intimate Partner Violence Prevention Program Based on Child Marriage Status in Rural Côte d'Ivoire

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Abstract

Purpose—Little is known about whether effectiveness of intimate partner violence prevention programming varies for women who were married as child brides, given their additional social vulnerabilities. This subanalysis sought to assess treatment heterogeneity based on child marriage status for an intervention seeking to reduce intimate partner violence.

Methods—A randomized controlled trial assessing the incremental effectiveness of gender dialogue groups in addition to group savings on changing past-year intimate partner violence was conducted in Côte d'Ivoire (2010–2012). Stratified models were constructed based on child marriage status to assess for effect modification. Analysis was restricted to married women with data on age at marriage (n=682).

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Results—For child brides (N = 202), there were no statistically or marginally significant decreases in physical and/or sexual violence, physical violence, or sexual violence. The odds of reporting economic abuse in the past year were lower in the intervention arm for child brides relative to control group child brides (odds ratio [OR] = .33; 95% confidence interval [CI] = .13–.85; *p* = .02). For nonchild brides (N =480), women were less likely to report physical and/or sexual violence (OR =.54; 95% CI =.28–1.04; *p* = .06), emotional violence (OR = .44; 95% CI = .25–.77; *p* = .004), and economic abuse (OR = .36; 95% CI = .20–.66; *p* = .001) in the combined intervention arm than their group savings–only counterparts.

Conclusions—Findings suggest that intervention participants with a history of child marriage may have greater difficulty benefiting from interventions that seek to reduce intimate partner violence.

Keywords

Domestic violence; Gender-based violence; Early marriage; Economic empowerment; Effect modification

Recent estimates suggest that more than 720 million girls are married before their 18th birthday, with the region of West Africa having one of the highest prevalence of child marriage [1]. In Côte d'Ivoire, more than one in three women aged 20–24 years reported being a child bride (i.e., married by the time they are 18 years old) [2]. Child brides often have higher rates and unique risks for poor sexual and reproductive health outcomes, including unplanned pregnancies, HIV risk, and rapid repeat pregnancies [3–7]. Such amplified maternal health vulnerabilities among young brides are thought to be driven by their low social status, minimal decision-making ability within their marital relationships, and pressure to bear children although their bodies are still underdeveloped [8,9]. A small number of studies have also documented poor mental health outcomes among child brides, including substance abuse and suicidality [10,11] and increased mortality and morbidities among young children of child brides [12].

Child marriage has also been directly linked with increased risk for intimate partner violence (IPV) victimization [13–16], which in turn can also magnify health risks for child brides [17]. This amplified risk of IPV may be due to power disparities between partners, potentially resulting from substantial age differences between girl child brides and their adult partners, decreased mobility, lower educational attainment, and reduced economic opportunities for girl child brides compared with women who marry as adults [13,14]. Given the detrimental health and development effects of child marriage, international bodies have prioritized the reduction of girl child marriage and the mitigation of its negative health impacts as key global public health goals [1,18].

Simultaneously, in recent years, there have been a growing number of women's social and economic empowerment interventions [19], which may confer higher status for women in the household [20], that have been identified as promising approaches toward reducing experiences of IPV. In particular, two trials demonstrate that economic empowerment approaches along with gender transformative components may have potential for reducing

IPV [21,22] potentially through improving equitable decision-making within the home and the financial agency of the woman.

One of these evaluations is a recently completed two-armed randomized controlled trial in rural Côte d'Ivoire, *Reduction of Gender-Based Violence Against Women in Côte d'Ivoire*. This study sought to understand the incremental effectiveness of gender dialogue groups (GDG; discussion groups developed to promote gender equality within couples) in addition to a group savings program on reduction of past-year IPV and economic abuse [21]. Those receiving the combined approach (GDG and group savings) had an 8% relative reduction and 61% relative reduction in economic abuse as compared with womenwho only participated in the group savings program. Among couples with high participation rates (attending >75% of GDG sessions), these reductions were magnified such that women in the combined arm had a 36% reduction in IPV, compared with the group savings–only arm [21]. Qualitative findings from male partners participating in the discussion groups highlighted improved couple communication and improvements in financial planning as potential pathways of change [23].

Despite these programmatic advances in social norms and economic approaches that have been found to be effective in reducing IPV among adult women [21,22], little is known regarding how particularly vulnerable groups of women (i.e., those who were married as child brides) may benefit from such intervention approaches. Child marriages are often characterized by additional social vulnerabilities, such as limited educational attainment, pervasive poverty, limited mobility, and lower status of young female brides [5]. These factors may be compounded throughout adulthood and the length of the marriage, thereby creating an environment in which long-standing IPV may be more severe, making male partners less open to changing ingrained abusive behaviors. Thus, such intervention approaches may not be as effective for women married as child brides, compared with women married as adults.

The previously described trial in Côte d'Ivoire offers a unique opportunity to examine the role of child marriage in the effectiveness of a combined social and economic empowerment program designed to reduce IPV and economic abuse among women. Using these data, we undertake a subanalysis with the objective of understanding potential effect modification of the intervention by child marriage status. We hypothesize that given the additional social vulnerabilities that child brides face, the incremental effects of the intervention on reducing IPV and economic abuse would be greater for women married as adults than women married as child brides (17 years).

Methods

Study design

Data are drawn from a randomized controlled trial conducted between 2010 and 2012 across 24 villages in rural Côte d'Ivoire [21]. The intervention was implemented by field staff with the International Rescue Committee (IRC), an international humanitarian organization with an established presence in Côte d'Ivoire, as part of a wider Women's Protection and Empowerment Program. IRC staff introduced the study to the community after which point

eligible women were invited to partake in the programming. Women were organized into groups of 15–30 women and completed the baseline survey in October 2010. In the overall trial, 934 partnered women completed the baseline. The group savings model used was village savings and loans associations (VSLAs) in which women pool their funds, request loans for livelihood activities, and receive share-outs from interest after loans are repaid by members in their group. After VSLAs were established and activities began, groups were randomized either to continue with the VSLA activities only or to receive the GDGs, which constituted the gender norms component of the program. Randomization occurred via a public lottery in which village leaders selected whether the groups would be randomized to the VSLA-only group or the VSLA + GDG group. At the conclusion of the trial, the VSLA-only group also received the GDG intervention. GDGs consisted of eight sessions for women and their male partner (or male family member if they were unpartnered in the parent trial) and included discussions on household budgeting, saving, and planning. All sessions were led by IRC male and female field staff, and themes of gender equality, the importance of nonviolence, and women's contributions to the household underscored all sessions. An endline survey was completed between July and August 2012.

All paper-based surveys were administered by trained external female research staff who were matched to participants based on language and ethnicity. All consenting procedures and interviews were conducted in private locations, consistent with the World Health Organization guidelines on conducting violence against women research [24]. Surveys were translated from English into French and were verbally translated into 11 local languages.

All study protocols were approved by the Yale University Human Subjects Committee (#1007007040) and Innovations for Poverty Action, a nonprofit organization that primarily conducts impact evaluations (506.11September-003) Human Subjects Committee. Further study details and the original CONSORT diagram for the parent study are provided elsewhere [21].

Sample

Women aged 18 years and older with no previous micro-finance experience were eligible to participate in the study. Approximately four fifths of women included in the baseline were married (n = 749), and 682 had data on age at marriage at baseline and were included in the current analyses (91.1% of married participants). At endline, 630 had complete data for any physical/sexual IPV, any physical IPV, and any sexual IPV, whereas 631 had data on any emotional IPV and 629 had data on economic abuse.

Measures

The outcomes (past-year physical and/or sexual IPV, physical IPV, sexual IPV, emotional IPV, and economic abuse) were drawn from the World Health Organization multi-country study on women's health and domestic violence [25,26]. Specific items for physical violence included whether the partner slapped or hit her with something that could hurt her; pushed, shoved, kicked or dragged her; choked or burned her intentionally; and threatened or used a gun, knife, or other weapon against the woman. Sexual IPV included being physically forced to have sex or being forced to have sex because of threats or intimidation. Emotional IPV

assessed whether the partner tried to forbid the woman from visiting friends, did something to frighten or intimidate her, threatened her or someone she cares about, or belittled or humiliated her in front of other people. Economic abuse asked the woman if her partner refused to give her money for household necessities even if there was money available, took money against her will, or obliged her to give him all or part of the money she earned. If a woman responded affirmatively to any item on the corresponding scale for the outcome, they were coded as experiencing that form of violence in a summary, binary variable.

Child marriage was captured via a single item, "At what age did you have a marriage ceremony?" and was assessed only among women who reported that they were currently married. Functional form of child marriage was assessed as a binary variable (married 17 vs. married 18 years), as a spline term (married 17 years [yes/no] by continuous age at marriage in years) and as a continuous variable. Analyses yielded that child marriage in a binary cutoff was deemed the functional form that optimized parsimony in statistical models.

Data analysis

The frequencies of baseline demographics and outcomes by treatment arm and child marriage status were examined through chi-square tests.

Four-level generalized linear mixed models were used to assess intervention effectiveness and accounted for nesting of the data within individuals across two time points, within VSLA groups, and within villages in intent-to-treat analyses. An interaction term of *time* and *intervention arm* was used to interpret the impact of the intervention effects on specified outcomes. To assess potential effect modification of the intervention, stratified models based on child marriage status (married 17 vs. married 18 years) were constructed. All analyses were conducted in SAS 9.3. [27].

Results

Demographics of participants are presented in Table 1 for married women, by treatment arm and child marriage status. Chi-square analyses revealed that none of the selected demographic variables significantly differed by treatment arm providing support that randomization was likely successful among these married participants. Overall, 29.6% of women were married before age 18 years. Child marriage status varied significantly by education, religion, ethnicity, and partner occupation, whereas child brides reported higher frequencies of having no education (82.6% vs. 70.0%), being of Muslim religion (25.7% vs. 12.9%), being Senoufa (11.8% vs. 5.6%) or Dioula ethnicity (3.9% vs. .6%), and having a partner whose occupation was farming (90.0% vs. 80.2%), compared with nonchild brides. Child marriage status was also significantly different by woman's current age, such that younger women reported being married before age 18 years at a higher frequency than older women. More than one fifth of all women (22.4%) reported experiencing any form of physical and/or sexual IPV in the past year. Approximately 5% (n = 33) reported both physical and sexual IPV. More than two fifths of women reported emotional abuse (44.0%), and nearly one-third reported economic abuse (32.6%).

Table 2 indicates frequencies of different forms of IPV (physical and/or sexual; physical; sexual; and economic) at baseline and endline in both arms and by child marriage status. Among child brides, frequency of physical and/or sexual IPV at endline among the combined arm was 18.8%, compared with 17.6% in the VSLA-only arm. For nonchild brides, 20.8% reported physical and/or sexual IPV at endline among the VSLA + GDG group, as compared with 22.7% among the VSLA-only group.

For child brides, the odds of reporting economic abuse in the past year were lower in the VSLA + GDG in comparison to the VSLA-only group (24.5% vs. 32.1%, respectively; odds ratio [OR] = .33; 95% confidence interval [CI] = .13–.85; p = .02). No other statistically or marginally significant decreases in other forms of IPV were found. Among nonchild brides, VSLA + GDG women were less likely to report physical IPV (9.6% vs. 13.7%, respectively; OR = .45; 95% CI = .20–1.01; p = .05), emotional IPV (31.2% vs. 40.0%, respectively; OR = .44; 95% CI = .25–.77; p = .004), and economic abuse (19.6% vs. 34.9%, respectively; OR = .36; 95% CI = .20–.66; p = .001) than VSLA-only counterparts. Nonchild brides in the combined arm were less likely to report physical and/or sexual IPV (OR = .54; 95% CI = .28–1.04; p = .06) and sexual IPV (OR = .46; 95% CI = .20–1.05; p = .06) than VSLA-only nonchild brides, but these findings only reached marginal statistical significance.

Discussion

The present analyses suggest that women who were married as child brides may be less likely to benefit from a combination social and economic empowerment intervention than women without a history of child marriage. Specifically, all forms of IPV were lower among women married as adults, whereas only economic abuse was significantly reduced among women married as child brides in the combination intervention, as compared with the economic-only arm. The findings among the women married as adults are consistent with the overall trial results, which highlight the potential incremental effectiveness of adding a gender component to economic programming for women to reduce IPV [21].

These findings extend previous research that documents increased risk for IPV among women with a history of child marriage [13] by revealing that this more vulnerable population may also be less likely to benefit from effective interventions that seek to reduce IPV. It can be hypothesized that the lack of significant effects of the gender discussions for women married as child brides may be due to the social factors that characterize early marriages, such as women's poverty, substantial age gaps and exacerbated power differences between partners, and limited women's mobility [5]. The impact of such factors may be cumulative throughout the life course for these women. Thus, programs may need to be intensified or tailored to overcome these additional vulnerabilities.

Alternatively, IPV and controlling behaviors may be more severe or long-standing in relationships involving girl child marriage [28], as men who choose to marry young girls may be more invested in maintaining power over their partner through violence. Thus, IPV in such relationships may require even more time to change male partner's perpetration of IPV than what is needed in relationships not typified by girl child marriage. However, the finding that economic abuse was reduced among child brides suggests that partners of these

women may be amenable to change through the gender discussion groups for less severe forms of IPV.

Simultaneously, careful consideration is needed to ensure that these programs do not inadvertently increase risk of IPV via participation as partners may use violence to penalize the woman for increases in mobility or financial resources and to resist any increasing independence. Previous research has demonstrated that economic programming alone has mixed effects on women's empowerment because of this potential retaliation by partners [20]. In this analysis, findings indicate an increase in frequency of reports of IPV among nonchild brides in the VSLA-only arm between baseline and endline, whereas child brides report reductions in both arms. Future impact evaluations isolating the effects of economic programming are needed to determine whether group savings programs alone impact IPV and whether these effects vary by child marriage status.

In addition, nearly one in three married women in rural Ivorian villages that participated in the overarching study was married as child brides. Armed conflict in Côte d'Ivoire was widespread throughout the country between the early to mid-2000s and may influence the practice of child marriage. A previous qualitative investigation examining the linkages of child marriage and armed conflict posited that structural factors, such as poverty, inequitable gender norms, or lack of educational or livelihood opportunities, may lead to child marriage [29]. These preexisting factors may be exacerbated by crises and thus perpetuate this early marriage. Other inquiries suggest that child marriage could be used to as a mechanism to "protect" girls from sexual violence during crisis [30]. This factor may be important in the present study as younger women were more frequently reported to be married before age 18 years, coinciding with the time of conflict in Côte d'Ivoire. Future epidemiological research is needed to discern how factors related to armed conflict may impact the practice of child marriage and the underlying assumptions of the value of girls, to both prevent its occurrence and to understand potential mechanisms through which interventions may operate differentially for women with a history of child marriage in humanitarian emergencies. Further interventions expanding the evidence base for understanding what works to delay early marriage [31] are also needed, particularly for settings affected by armed conflict or widespread crises.

Findings from the study should be interpreted with limitations in mind. First, this study was not originally designed to assess for effect modification by child marriage status; thus, there is limited statistical power in the stratified models, which may have led to marginal statistical significance of intervention effects in the nonchild bride group. Future studies should consider oversampling women with a history of child marriage to assess heterogeneity research questions with adequate statistical power. In addition, women were invited to participate in the study through a convenience sampling methodology. Women with a history of child marriage may have limited mobility or other vulnerabilities which may have lowered their ability to participate in the study; thus, we cannot generalize conclusions to all women. In addition, although most women did have data on age at marriage, the accuracy of which it was reported is unclear. However, given that selected demographics were not statistically associated with assignment to intervention or control groups, any over- or underreporting of age is likely to be equivalent across intervention

arms, thus minimizing bias in point estimates of intervention effectiveness. The study is also unable to rule out cohort effects as younger women had higher frequencies of child marriage than older women. Finally, the definition of child marriage, based on whether a wedding ceremony occurred, is another limitation. For example, the observed intervention impacts for nonchild brides may be dampened if many women defined as nonchild brides could have functionally been married before age 18 years but did not have a wedding ceremony. However, it is not likely that this potential source of misclassification would be differential based on treatment status.

Ultimately, this study reinforces the benefits of delaying early marriage as a potential means of reducing women's risk for IPV. Efficacious primary prevention interventions of child marriage should be expanded [31,32], while simultaneously enhancing combination social and economic empowerment interventions to mitigate the potential negative effects of child marriage that persist across a woman's life. Specifically, given the pervasiveness of child marriage in Côte d'Ivoire, there is an urgent need to develop and evaluate interventions to reduce IPV that are tailored to this large and highly vulnerable population. This is particularly true for conflict-affected environments; thus, future intervention research must also examine how a conflict-affected environment may increase a woman's susceptibility to IPV and early marriage [29,33]. Finally, as there is growing momentum to implement IPV prevention interventions in low- and middle-income settings [34], including those affected by armed conflict, such interventions will need to be monitored to help ensure that such approaches may not further increase risk for IPV among women married as minors.

Acknowledgments

References

1. UNICEF. Ending child marriage: Progress and prospects. New York: UNI-CEF; 2014.

2. UNICEF. A statistical exploration. New York, NY: UNICEF; 2005. Early marriage: A harmful traditional practice.

3. Nasrullah M, Muazzam S, Bhutta ZA, et al. Girl child marriage and its effect on fertility in Pakistan: Findings from Pakistan demographic and health survey, 2006–2007. Matern Child Health J. 2014; 18:534–43. [PubMed: 23580067]

4. Raj A, Saggurti N, Balaiah D, et al. Prevalence of child marriage and its effect on fertility and fertility-control outcomes of young women in India: A cross-sectional, observational study. Lancet. 2009; 373:1883–9. [PubMed: 19278721]

5. Raj A. When the mother is the child: The impact of child marriage on the health and human rights of girls. Arch Dis Child. 2010; 95:931–5. [PubMed: 20930011]

6. Clark S. Early marriage and HIV risks in Sub-Saharan Africa. Stud Fam Plann. 2004; 35:149–60. [PubMed: 15511059]

7. Godha D, Hotchkiss D, Gage AJ. Association between child marriage and reproductive health outcomes and service utilization: A multi-country study from South Asia. J Adolesc Health. 2013; 52:552–8. [PubMed: 23608719]

8. Nour NN. Health consequences of child marriage in Africa. Emerg Infect Dis. 2006; 12:1644–9. [PubMed: 17283612]

9. Mathur, S., Greene, M., Malhotra, A. Too young to wed: The lives, rights, and health of young married girls. Washington, DC: International Center for Research on Women; 2003.

10. Gage AJ. Association of child marriage with suicidal thoughts and attempts among adolescent girls in Ethiopia. J Adolesc Health. 2013; 52:654–6. [PubMed: 23433537]

11. Strat YL, Dubertret C, Foll BL. Child marriage in the United States and its association with mental health in women. Pediatrics. 2011; 128:524–30. [PubMed: 21873691]

12. Raj A, Saggurti N, Winter M, et al. The effect of maternal child marriage on morbidity and mortality of children under 5 in India: Cross-sectional study of a nationally representative sample. BMJ. 2010; 340:1–9.

13. Raj A, Saggurti N, Lawrence D, et al. Association between adolescent marriage and marital violence among young adult women in India. Int J Gynaecol Obstet. 2010; 110:35–9. [PubMed: 20347089]

14. Erulkar AS. Early marriage, marital relations, and intimate partner violence in Ethiopia. Int Perspect Sex Reprod Health. 2013; 39:6–13. [PubMed: 23584463]

15. Speizer IS, Pearson E. Association between early marriage and intimate partner violence in India: A focus on youth from Bihar and Rajasthan. J Interpers Violence. 2011; 26:1963–81. [PubMed: 20587462]

16. Santhya KG, Ram U, Acharya R, et al. Associations between early marriage and young women's marital and reproductive health outcomes: Evidence from India. Int Perspect Sex Reprod Health. 2010; 36:132–9. [PubMed: 20880798]

17. Heise L, Ellsberg M, Gottmoeller M. A global overview of gender-based violence. Int J Gynaecol Obstet. 2002; 78:S5–14. [PubMed: 12429433]

18. UNFPA. Marrying too young: End child marriage. New York: UNFPA; 2012.

19. Walker JA. Early marriage in Africa—Trends, harmful effects, and interventions. Afr J Reprod Health. 2012; 16:231–40. [PubMed: 22916555]

20. Vyas S, Watts C. How does economic empowerment affect women's risk of intimate partner violence in low and middle income countries? A systematic review of published evidence. J Int Dev. 2009; 21:577–602.

21. Gupta J, Falb KL, Lehmann H, et al. Gender norms and economic empowerment intervention to reduce intimate partner violence against women in rural Côte d'Ivoire: A randomized controlled pilot study. BMC Int Health Hum Rights. 2013; 13:46. [PubMed: 24176132]

22. Pronyk PM, Hargreaves JR, Kim JC, et al. Effect of a structural intervention for the prevention of intimate-partner violence and HIV in rural South Africa: A cluster randomised trial. Lancet. 2006; 368:1973–83. [PubMed: 17141704]

23. Falb KL, Annan J, King E, et al. Gender norms, poverty, and armed conflict in Côte d'Ivoire: Engaging men in women's social and economic empowerment programming. Health Educ Res. 2014; 29:1015–27. [PubMed: 25274720]

24. World Health Organization. Putting women first: Ethical and safety recommendations for research on domestic violence against women. Geneva: WHO; 2001.

25. Ellsberg M, Jansen HA, Heise L, et al. 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. Lancet. 2008; 371:1165–72. [PubMed: 18395577]

26. Hossain, M., Zimmerman, C., Kiss, L., et al. Violence against women and men in Côte d'Ivoire: A cluster randomized controlled trial to assess the impact of the 'Men and women in partnership' intervention on the reduction of violence against women and girls in rural Côte d'Ivoire—Results from a community survey. London, UK: London School of Hygiene and Tropical Medicine (LSHTM); 2010.

27. SAS Institute Inc. SAS 9.2. Cary, NC: SAS Institute Inc; 2010.

28. Nasrullah M, Zakar R, Zakar MZ. Child marriage and its associations with controlling behaviors and spousal violence against adolescent and young women in Pakistan. J Adolesc Health. 2014; 55:804–9. [PubMed: 25123525]

29. Schlecht J, Rowley E, Babirye J. Early relationships and marriage in conflict and post-conflict settings: Vulnerability of youth in Uganda. Reprod Health Matters. 2013; 21:234–42. [PubMed: 23684206]

30. Spencer, D. "To protect her honour." Child marriage in emergencies—The fatal confusion between protecting girls and sexual violence. London: CARE International UK; 2015.

31. Lee-Rife S, Malhotra A, Warner A, et al. What works to prevent child marriage? A review of the evidence. Stud Fam Plann. 2012; 43:287–303. [PubMed: 23239248]

32. Erulkar AS, Muthengi E. Evaluation of Berhane Hewan: A program to delay child marriage in rural Ethiopia. Int Perspect Sex Reprod Health. 2009; 35:6–14. [PubMed: 19465343]

33. Annan J, Brier M. The risk of return: Intimate partner violence in Northern Uganda's armed conflict. Soc Sci Med. 2010; 70:152–9. [PubMed: 19853985]

34. Ellsberg M, Arango DJ, Morton M, et al. Prevention of violence against women and girls: What does the evidence say? Lancet. 2015; 385:1555–66. [PubMed: 25467575]

IMPLICATIONS AND CONTRIBUTION

Child brides are disproportionately affected by intimate partner violence. Research on the effectiveness of interventions that aim to reduce intimate partner violence against women who were married as child brides is lacking. This evaluation demonstrates that interventions may need to be intensified or tailored to women married as child brides to reduce intimate partner violence.

Table 1

Baseline characteristics of married women, by child marriage status and treatment status (N = 682)

	Overall	Child brides (n = 202)[a]	Nonchild brides (n = 480)[a]	p	VSLA only (n = 311)	VSLA plus GDG (n = 371)	p
Forms of IPV							
Any past-year physical and/or sexual IPV	153 (22.4)	46 (22.7)	107 (22.2)	.9	63 (20.2)	90 (24.2)	.2
Any past-year physical violence	102 (15.0)	31 (15.3)	71 (14.7)	.9	43 (13.8)	59 (15.9)	.4
Any past-year sexual violence	84 (12.3)	29 (14.3)	55 (11.4)	.3	30 (9.6)	54 (14.5)	.052
Any past-year emotional violence	300 (44.0)	78 (38.6)	222 (46.2)	.07	126 (40.5)	174 (46.9)	.09
Any past-year economic abuse	222 (32.6)	58 (28.7)	164 (34.1)	.2	90 (28.9)	132 (35.5)	.07
Woman's age (years)[b]							
18–24	54 (8.1)	31 (15.6)	23 (4.9)	<.0001	23 (6.3)	31 (10.1)	.3
25–34	187 (27.9)	64 (32.2)	123 (26.1)		104 (28.6)	83 (27.0)	
35–44	231 (34.4)	50 (25.1)	181 (38.4)		34.1 (124)	107 (34.9)	
45	199 (29.7)	54 (27.1)	145 (30.7)		113 (31.0)	86 (28.0)	
Woman's occupation							
Farmer only	112 (16.4)	26 (12.8)	86 (17.9)	.2	47 (15.1)	65 (17.5)	.5
Small business owner only	302 (44.3)	85 (42.0)	217 (45.2)		145 (46.6)	157 (42.3)	
Farmer and small business owner	302 (34.2)	80 (39.6)	153 (31.8)		101 (32.4)	132 (35.5)	
Other	35 (5.1)	11 (5.4)	24 (5.0)		18 (5.7)	17 (4.5)	
Ethnicity							
Yacouba	439 (64.4)	135 (66.8)	304 (63.3)	<.0001	204 (65.5)	235 (63.3)	.9
Senoufa	51 (7.5)	24 (11.8)	27 (5.6)		21 (6.7)	30 (8.0)	
Dioula	11 (1.6)	8 (3.9)	3 (.6)		6 (1.9)	5 (1.3)	
Guere	48 (7.0)	4 (1.9)	44 (9.1)		21 (6.7)	27 (7.2)	
Other	133 (19.5)	31 (15.3)	102 (21.2)		59 (18.9)	74 (19.9)	
Education							
None	503 (74.1)	167 (82.6)	336 (70.0)	.003	225 (72.3)	278 (74.9)	.7
Primary	133 (19.6)	29 (14.3)	104 (21.6)		62 (19.9)	71 (19.1)	
Secondary and above	43 (6.3)	6 (2.9)	37 (7.7)		22 (7.0)	21 (5.6)	
Religion							
Christian	267 (39.6)	69 (34.1)	198 (41.2)	.0004	112 (36.0)	155 (49.8)	.4

	Overall	Child brides (n = 202)[a]	Nonchild brides (n = 480)[a]	p	VSLA only (n = 311)	VSLA plus GDG (n = 371)	p
Muslim	114 (16.9)	52 (25.7)	62 (12.9)		58 (18.6)	56 (15.0)	
Tradition	136 (20.2)	40 (19.8)	96 (20.0)		61 (19.6)	75 (20.2)	
Other/none	158 (13.4)	38 (18.8)	120 (25.0)		76 (24.4)	82 (22.1)	
Number of pregnancies							
0	23 (3.4)	8 (3.9)	15 (3.1)	.8	10 (3.2)	13 (3.5)	.4
1–3	135 (19.8)	38 (18.8)	97 (20.2)		69 (22.1)	66 (17.7)	
4 or more	524 (76.8)	156 (77.2)	368 (76.6)		232 (74.5)	292 (78.7)	
Partner's occupation							
Farming	567 (83.1)	182 (90.0)	385 (80.2)	.002	254 (81.6)	313 (84.3)	.3
Nonfarming	115 (16.9)	20 (9.9)	95 (19.7)		57 (18.3)	58 (15.7)	

GDG = gender dialogue groups; IPV = intimate partner violence; VSLA = village savings and loans association.

[a] Column percentages.

[b] Woman's age has 11 missing values (n = 671/682).

Table 2

Distribution of study outcomes at baseline and endline by treatment arm and child marriage status and effect estimates of past-year IPV

	Physical and/or sexual IPV		Physical IPV		Sexual IPV		Emotional IPV		Economic abuse	
	VSLA only	VSLA plus GDG	VSLA only	VSLA plus GDG	VSLA only	VSLA plus GDG	VSLA only	VSLA plus GDG	VSLA only	VSLA plus GDG
Child brides										
Baseline N (%)	24 (25.8)	22 (20.1)	16 (17.2)	15 (13.7)	13 (13.9)	16 (14.6)	37 (39.7)	41 (37.6)	20 (21.5)	38 (34.8)
Endline N (%)	15 (17.6)	20 (18.8)	12 (14.1)	7 (6.6)	11 (12.9)	15 (14.15)	25 (29.4)	33 (31.1)	27 (32.1)	26 (24.5)
OR (95% CI)	1.51 (.54–4.20)		.56 (.15–2.00)		1.05 (.32–3.43)		1.20 (.51–2.85)		.33 (.13–.85)	
p value	.42		.37		.92		.66		.02	
Nonchild brides										
Baseline N (%)	39 (17.8)	68 (25.9)	27 (12.3)	44 (16.7)	17 (7.7)	38 (14.5)	89 (40.8)	133 (50.7)	70 (32.1)	94 (35.8)
Endline N (%)	43 (22.7)	52 (20.8)	26 (13.7)	24 (9.6)	30 (15.8)	38 (15.2)	76 (40.0)	78 (31.2)	66 (34.9)	49 (19.6)
OR (95% CI)	.54 (.28–1.04)		.45 (.20–1.01)		.46 (.20–1.05)		.44 (.25–.77)		.36 (.20–.66)	
p value	.06		.05		.06		.004		.001	

CI = confidence interval; GDG = gender dialogue groups; IPV = intimate partner violence; OR = odds ratio; VSLA = village savings and loans association.