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Recent abuse from in-laws and associations with adverse experiences during the crisis among rural Ivorian women: Extended families as part of the ecological model

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Abstract

Violence against women in the aftermath of conflict represents a growing area of concern. However, little is known about violence perpetrated by a woman's in-laws and how these experiences may be related to adverse experiences during a crisis. Therefore, guided by the ecological model, the objectives of the following analysis were to (1) document adverse experiences during the crisis among rural Ivorian women and (2) investigate the association between such experiences and abuse perpetrated by partners' extended families, among a sample of women residing in rural Côte d'Ivoire. Utilising data from a baseline survey conducted in 2010, we generated descriptive statistics and used generalised estimating equations to assess the relationships of interest. Women whose family was victimised during the crisis had 1.7 times the odds of reporting past-year in-law abuse compared to those women whose families did not experience such adversity (95% CI: 1.1–2.4), and women who experienced a personal form of adversity had twice the odds of reporting past-year in-law abuse compared to women who did not report victimisation (95% CI: 1.2–3.2). Being forced to flee was not statistically associated with in-law abuse. Findings underscore the importance of addressing in-law abuse in order to promote women's health in post-conflict settings.

Keywords

gender-based violence; war; Côte d'Ivoire; humanitarian aid; ecological

Introduction

Côte d'Ivoire is a West African country whose largely stable history was hampered in the early 2000s by armed conflict in the aftermath of a political coup (US Department of State, 2012), often referred to in country as 'le crisis' or *the crisis*. While vacillating between a

tenuous peace and conflict for the remaining part of the decade, political violence erupted again after the long-awaited presidential elections of 2010 (US Department of State, 2012). In the midst of this political violence, intimate partner violence (IPV) against women is a growing area of concern and has been identified as a key barrier to development and stability in similar settings (International Rescue Committee, 2012). Within Côte d'Ivoire, almost one out of every two women has reported IPV at the hands of male partners at some point in their lifetime (Hossain, Zimmerman, Kiss, & Watts, 2010). Increased risk of perpetration of IPV by men has been previously linked to exposure to political violence and human rights violations (Clark et al., 2010a; Gupta et al., 2009; Gupta, Reed, Kelly, Stein, & Williams, 2010) and may be utilised to reassert control when traditional gender norms are challenged in such contexts (James, 2010). In addition, structural factors, such as the normalisation of violence against women may perpetuate IPV in the aftermath of conflict (Annan & Brier, 2010). Women who have experienced violence during conflict (Falb, McCormick, Hemenway, Anfinson, & Silverman, 2013), and sexual violence in particular, by non-partners may also be at increased risk of IPV due to stigma or rejection from families (Kelly, Betancourt, Mukwege, Lipton, & Vanrooyen, 2011).

Although the linkages and mechanisms between experiences of victimisation during the context of conflict and IPV represent a burgeoning area of inquiry, there has been much less focus on understanding the risk and protective factors at the family level. Examination of the extended family may be important, as among war-affected youth social support from families is often seen as a protective factor and may offer effective avenues to increase resilience against adversity during conflict (Betancourt, Agnew-Blais, Gilman, Williams, & Ellis, 2010). Previous research examining former child soldiers have also highlighted the importance of the social ecology of these challenging contexts in relation to the well-being of youth, guided by Broffebrenner's social ecological model (Broffebrenner, 1979) as well as Belsky's child abuse ecological framework (Belsky, 1980; Betancourt & Khan, 2008; Kohrt et al., 2010). These frameworks assert that well-being is influenced by multiple societal levels and interactions between the individual and those levels (Broffebrenner, 1979). Heise (1998) adapted these ecological models for understanding violence against women in which individual-level factors, such as witnessing parental IPV, are embedded within relationships at the microsystem level. This level contains the intimate partnership, as well as family-related factors, such as patriarchy within the family. The third level, exosystem, examines structural factors, including social networks, and is embedded within the outermost macrosystem level, which contains gender norms and attitudes of the larger society (Heise, 1998). Annan and Brier have extended these ecological models by theorising that exposure to armed conflict or instability interplays across all these levels that can increase the likelihood of violence against women, and in particular IPV, in conflict-affected settings (Annan & Brier, 2010).

However, little attention has been given to extended families within this microsystem level despite the fact that families may be important sources of protection for women in developing countries, such as in West Africa, since women affected by violence often turn to informal supports such as family or friends (Horn, 2010). Within the microsystem, or family level, of the ecological framework, research of violence against women has typically focused on risk and protective factors of men's propensity to perpetrate IPV against their partners, such as alcohol abuse (Shamu, Abrahams, Temmerman, Musekiwa, & Zarowsky, 2011). Outside of the intimate partnership, family-related factors that have been examined have typically focused on socioeconomic level, again in relation to IPV. Conversely, however, qualitative evidence from war-affected females in northern Uganda suggest that extended family members may also perpetrate physical or emotional abuse against women and may in fact exacerbate violence in the aftermath of conflict (Annan & Brier, 2010).

While extended family members represent a critical component of the microsystem level in the ecological model of violence against women, particular attention to family members of the women's partner is warranted as a source of vulnerability. For example, a recent study documented that over one in four women participating in an economic programme reported any abuse from in-laws in their lifetime in rural Côte d'Ivoire (Gupta, Falb, Kpebo, & Annan, 2012). In global settings, such violence perpetrated by in-laws of women has been linked with a co-occurrence of IPV (Chan et al., 2009; Raj, Livramento, Santana, Gupta, & Silverman, 2006; Raj et al., 2010), and the co-occurrence of such violence has been documented in war-affected populations (Raj, Gomez, & Silverman, 2011); yet there have been few investigations into the risk factors related to victimisation from in-laws, particularly within war-affected areas. Moreover, in one study of Afghan refugee women in Pakistan, it was posited that factors related to war-affected environments or refugee settings may strongly influence the likelihood for conflict with mother-in-laws (Hyder, Noor, & Tsui, 2007). As such, researchers have called for the explicit examination of the potential influence of stressors related to conflict-affected settings and how they may impact violence from family members (Gupta et al., 2012), particularly because prior work has documented an association between men's exposure to conflict and IPV perpetration (Clark et al., 2010a; Gupta et al., 2009, 2010). Such investigations are remarkably important because similar to partner-perpetrated IPV, in-law-perpetrated IPV has been linked with a range of negative health consequences including injury, poor reproductive health and low reproductive autonomy (Clark, Silverman, Shahrouri, Everson-Rose, & Groce, 2010b; Gupta et al., 2012; Raj et al., 2006, 2010). Thus, it is critical to understand risk factors involved with in-law violence against women in conflict-affected settings in order to take steps towards improving the health and well-being of women in such contexts.

Given the minimal understanding of the prevalence of abuse perpetrated by in-laws in conflict-affected settings, particularly in regard to exposures specific to conflict (e.g. forced fleeing), the following analyses were performed. The objectives of the following analyses were to (1) document adverse experiences during the crisis among rural Ivoirian women and (2) investigate the association between such experiences and abuse perpetrated by partners' extended families, among a sample of women residing in rural Côte d'Ivoire.

Methods

Survey design

Data are drawn from a baseline survey conducted in October 2010 in rural areas of north-western Côte d'Ivoire as part of a larger randomised controlled trial to evaluate the effectiveness of avillage savings and loans programme and gender dialogue groups on change in IPV experiences among adult women, led by the Yale School of Public Health, in collaboration with Innovations for Poverty Action and the International Rescue Committee (IRC). Briefly, women who resided in villages that had no previous experience with microfinance programming were invited to participate in the study by IRC field workers. The survey was administered to women by female enumerators that were language and ethnically matched to the participant. Further study and related intervention information can be found elsewhere (Gupta et al., 2012). All study procedures were approved by the Yale School of Public Health and Innovations for Poverty Action Human Research Committees.

Measures

Adverse experiences during the crisis were assessed via six items that were previously developed and adapted for Côte d'Ivoire (Hossain et al., 2010). All items were specific to '*le crisis*' that largely occurred between 2002 and 2007 as the baseline survey occurred prior to the more recent 2010–2011 election-related violence. Being forced to flee was assessed via a

single, binary item in which women were asked if they were forced to flee their village during the last crisis prior to administration of the survey in 2010. Adverse family-related exposures during the crisis were assessed via two items in which women were asked if someone in their family was threatened or a member of their family was seriously injured or killed by an act of violence. Three items assessed personal adverse experiences during the crisis, which included: (1) being seriously injured due to a knife, gunshot or fighting by an act of violence; (2) being compelled to engage in sex in order to receive something such as food, protection for her family, shelter or to cross a security check point (sexual exploitation); or (3) being forced to sleep with someone who was not their partner (sexual violence). The final exposures (forced to flee, adverse family-related exposures and personal adverse experiences) were operationalised as binary variables (yes to any item versus no to all), regardless of the actual number of adverse events women reported.

Eight items assessed past-year in-law-perpetrated abuse. These items were drawn from measures to assess in-law abuse in India (Raj et al., 2011) and were adapted from IPV scales used in the Ivorian context (Hossain et al., 2010). In-laws were defined as any member of the partner's family and were asked of all partnered women, including those who were married, living with a partner or not living with a partner. Women were specifically asked, 'Has anyone in your partner's family ever: (1) belittled, intimidated, insulted, controlled or threatened you; (2) hit, kicked, slapped or hurt you otherwise physically; (3) interfered with your ability to seek medical care; (4) denied you food; (5) interfered with your ability to speak with or visit your natal family; (6) taken possession of things of value to you such as clothes, jewellery or gifts from your partner; (7) encouraged your partner to humiliate you, call you names or prevent you from leaving the home; and (8) encouraged your partner to hit, kick, punch or otherwise physically hurt you?' In-law abuse items did not discern which member of the partner's family perpetrated such abuse. An affirmative response to any item was coded as experiencing any in-law-perpetrated abuse in a final summary, binary exposure variable. The scale demonstrated good internal reliability (Cronbach's $\alpha=0.79$).

Demographics considered in the analysis included age (continuous) and categorical variables for education (none, primary, secondary or higher), religion (Christian, Muslim, Traditional or other/none), ethnicity (Yacouba, Baoule, Guere, Senoufo, Dioula or other) and marital status (married, living with partner or not living with partner).

Analysis

Descriptive statistics were generated for demographics and frequencies of adverse experiences during the crisis and past-year in-law abuse among partnered women who provided complete data on the variables of interest. Unadjusted odds ratios (ORs) and adjusted odds ratios (aORs) of reporting past-year in-law abuse were estimated using generalised estimating equations which were selected to account for potential clustering at the village level. Analyses were performed using SAS 9.2 (SAS Institute Inc., 2008).

Results

A total of 1273 women completed the survey (96% response rate). The analytic sample was restricted to partnered women ($n=981$; 77.1% of original sample) and further reduced to those who had complete data ($n=966$; 98.5% of partnered women).

Sample characteristics

Overall, the mean age of respondents was 37.4 years of age and the majority did not attend formal school (Table 1). Over four-fifths of women were married (84.3%) and over two-

fifths reported Christian religion (43.2%). The majority of women were of Yacouba ethnicity (62.1%).

Adverse experiences during crisis

Over half of women (56.7%) reported being forced to flee during the crisis and slightly less (48.6%) reported a family member being threatened, seriously injured or killed by an act of violence. Less than 1 in 10 women (7.6%) reported a personal adverse experience during the crisis including being injured due to an act of violence, sexual violence or sexual exploitation. Having been forced to flee was associated with older age, ethnicity and religion while family-related adverse experiences and was only associated with older age. Reporting any personal adverse experience was not statistically associated with any demographic. Adverse experiences were likely to co-occur in this sample.

Past-year in-law abuse

Overall, more than one in six women (17.2%) reported abuse from in-laws in the past 12 months (Table 2), the majority of which was emotional abuse (77.1%) followed by someone in their partner's family encouraging the partner to emotionally abuse or control the woman (30.7%) and being denied food (28.9%). In bivariate analyses, a higher frequency of reporting past-year in-law abuse was statistically associated with age, educational attainment of primary school, not living with a partner and Senoufo ethnicity (Table 3).

Associations between adverse experiences during crisis and past-year in-law abuse

Women who reported forced fleeing had higher odds of reporting past-year in-law abuse, although this association was not statistically significant. The odds of women who reported a family member being threatened, killed or injured during the crisis and reports of past-year in-law abuse were 1.9 times ($p=0.0009$) greater than women whose family members were not victimised (Table 3). Women who personally experienced a form of crisis violence had 2.4 times the odds of reporting past-year in-law abuse ($p=0.0003$) compared to women who did not report such violence.

In the final adjusted model, the associations between adverse crisis exposures and past-year in-law abuse were slightly attenuated such that the odds of a woman, whose family was victimised during the crisis, reporting in-law abuse were 1.7 times greater than compared to those women whose families were not victimised (95% CI: 1.1–2.4; $p=0.009$). Women who experienced a personal form of crisis victimisation had twice the odds of reporting past-year in-law abuse compared to women who did not report victimisation (95% CI: 1.2–3.2; $p=0.005$). Being forced to flee remained to be not statistically associated with in-law abuse (aOR: 1.1; 95% CI: 0.7–1.6; $p=0.6$). Older age, not living with a partner and Senoufo women were protectively associated with past-year in-law abuse.

Discussion

Nearly one in five women reported in-law abuse, the majority of whom reported emotional abuse, during the past 12 months. Of these women reporting in-law abuse, nearly one in three also reported denial of food, which is an understudied component of economic violence and reflects a woman's inability to access basic resources (Fawole, 2008). In addition, measures to document the gendered impacts of food insecurity within conflict settings should be developed to document not only household-level food provision, but also within-household distribution of food. Increases in age were found to be protectively associated with in-law abuse. While the current study cannot discern if older age is protective or if it may be a proxy for length of relationship as younger women in the beginning stages of a partnership may be more likely to report in-law abuse, as they are

often at the lowest levels of social standing within families. Not residing with their partner was also found to be protective of in-law abuse. As family living arrangements may vary by ethnicity in Côte d'Ivoire, future research is warranted to determine if this association is due to less interaction with extended families.

Overall, findings highlight the importance of considering the women's larger familial environment as a potential source of violence and threat to the well-being of women in conflict-affected settings. The prevalence of past-year abuse was comparable or higher than that found in other settings (Raj et al., 2006, 2010). These findings suggest that as IPV victimisation among war-affected populations represents a growing area of examination, so should abuse perpetrated by a woman's partner's family. Future research should examine the previously mentioned pathways in relation to extended families perpetration of abuse, such as renegotiated gender roles within families or normalisation of violence within conflict-affected settings. These factors may be further compounded by a patriarchal society that is characterised by unequal gender norms in which a woman's partner and his family would assert control over the woman. This norm may be exacerbated in conflict settings in which families as a unit may feel powerless and use violence or abuse towards a female family member to maintain a sense of control.

Women who reported family-related adverse experiences during the crisis period, or that a member of their family was threatened or severely wounded or killed, had higher odds of reporting past-year in-law abuse. While we are not able to discern who the victim of violence was in the family, it may be likely that a woman's partner's family members were victimised during the crisis. Such adversities may lead to increased propensity for perpetrating violence against the woman as a component of negative consequences from their own traumas (Marshall, Robinson, & Azar, 2011). Previous research has identified associations between exposures to political violence or human rights violations with recent IPV perpetration among men; such research should be expanded into investigation of extended family member perpetration (Clark et al., 2010a; Gupta et al., 2009, 2012). Future research should examine the role of individual- or family-level experiences of crisis-related victimisation as well as structural factors intrinsic to conflict-affected settings, such as instability-related breakdown of infrastructure, as precursors to violence perpetration. Recent research has also highlighted the importance of coupling community-level efforts to promote equitable gender norms, in addition to addressing maltreatment and trauma-related experiences among South African men, as a means to prevent male-perpetrated rape (Jewkes, Sikweyiya, Morrell, & Dunkle, 2011). These efforts should be extended to address family-related experiences of victimisation during conflict, and situating such endeavours within ecological frameworks that work within and across levels to address unequal gender norms and reduce victimisation.

Personal experiences of crisis victimisation, including sexual violence exploitation or victimisation or being severely injured due to violence, were most strongly associated with in-law abuse, compared to having been forced to flee or family-related adverse experiences. Such personal experiences may be indications of stigma or rejection that women may experience from multiple members of their partner's families, not only their intimate partners, in the aftermath of conflict (Kelly et al., 2011). In addition, qualitative research also suggests that when former female child soldiers were reintegrated into their former households in northern Uganda, they were likely to report abuse as the families had to reallocate scarce resources, such as food, in post-conflict settings (Annan & Brier, 2010). Programmes that respond to women's victimisation during the conflict should promote their socioeconomic resilience and work to reduce their vulnerability to future violence.

Surprisingly, being forced to flee was not statistically significantly associated with in-law abuse, which may in part be due to the lack of variation in the exposure as nearly 60% of women reported being forced to flee their village. Additionally, we are not able to discern the length of this form of displacement in this dataset and differing associations with in-law abuse. However, recent research has identified displacement as a risk factor for IPV victimisation in northern Uganda (Carlson, 2012); future investigations regarding the relationships between forced fleeing and extended families are warranted.

The findings provide evidence for considering extended family members, and in particular in-laws, within ecological models of violence against women and bolster support for addressing the microsystem level. Within humanitarian programming, there are many promising initiatives that work at the macrosystem level, such as rule-of-law strategies aimed at providing comprehensive protection mechanisms for women, particularly in settings where formal legal structures difficult to access (International Rescue Committee, 2012). At the exosystem level, there are multiple socioeconomic initiatives to address unequal gender norms and empower women within conflict-affected settings (Women's Refugee Commission, 2009). Further, there are promising family-level programmes that work directly with men to reduce their likelihood of IPV perpetration and protection guidelines for women at the individual level (Inter-Agency Standing Committee, 2005). However, this analysis highlights the need for programmes to explicitly include in-laws as a critical component of the microsystem level and further underscores the importance of addressing this broader family level within programming to reduce violence against women.

Results of the present analysis should be interpreted in the light of several limitations. First, under-reporting of in-law abuse is of key concern given the sensitive nature of the questions and may bias the results towards non-statistically significant associations, which is of particular concern for the null relationship between in-law abuse and being forced to flee. In addition, we do not have details regarding who perpetrated the abuse in the family. Third, this is a cross-sectional study in which causality cannot be conferred between exposures during crisis and in-law abuse in the past-year. Finally, the data are drawn from an on-going randomised controlled trial in which women residing in rural villages were invited to participate, which limits extrapolation of results to general populations of conflict-affected women in Côte d'Ivoire.

Despite these limitations, the current investigation underscores the importance of addressing a woman's extended family as a potential source of abuse in post-conflict settings. As IPV has been highlighted as a barrier to developing post-conflict stability, abuse from other extended family members, specifically in-laws, should also be considered. Indeed, when examining the health and rights of communities affected by conflict, it is critical for programmes and policies to be informed by an ecological model, in which the family level is examined as a clear and explicit opportunity for risk and vulnerability of women. Equally important is the attention to examining how extended family structures, in particular partner's families, may be used to promote resilience and protection during times of armed conflict or instability (Betancourt & Khan, 2008). Future research should identify risk and protective factors related to abuse from in-laws among conflict-affected women on multiple levels and utilise multilevel analyses and methodologies where appropriate. Programmes and policies should work within couples, across families and throughout the community to promote the well-being and protection of women affected by conflict.

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Table 1
Frequencies of demographic variables and bivariate associations with adverse experiences during the crisis ($n=966$).

Demographic characteristics	Adverse experiences during crisis					
	Overall, % (N)	Forced to flee, % (N)	p	Family threatened; family seriously injured/killed, % (N)	p	Seriously injured due to act of violence; forced sex; compelled to have sex in exchange for security or material goods, % (N)
Overall sample	966	56.7 (548)	–	48.6 (469)	–	7.6 (73)
Forced to flee						
Yes	56.7 (548)	–	–	58.4 (320)	<0.0001	9.5 (52)
No	43.3 (418)			35.7 (149)		5.0 (21)
Family threatened; family seriously injured/killed						
Yes	48.6 (469)	68.2 (320)	<0.0001	–	–	12.8 (60)
No	51.5 (497)	45.9 (228)				2.6 (13)
Seriously injured due to act of violence; forced sex; compelled to have sex in exchange for security or material goods						
Yes	7.6 (73)	71.2 (52)	0.04	82.2 (60)	<0.0001	–
No	92.4 (893)	55.5 (496)		45.8 (409)		
Education						
None	71.6 (692)	57.2 (396)		45.4 (314)		6.7 (46)
Primary	22.0 (212)	57.6 (122)	0.5	56.6 (120)	0.1	10.4 (22)
Secondary or higher	6.4 (62)	48.4 (30)		56.5 (35)		8.1 (5)
Religion						
Christian	43.2 (417)	58.5 (244)		49.9 (208)		7.2 (30)
Muslim	16.8 (162)	36.4 (59)		42.6 (69)		4.9 (8)
Traditional	16.9 (163)	58.3 (95)	0.04	54.6 (89)	0.7	9.2 (15)
Other/none	23.2 (224)	67.0 (150)		46.0 (103)		8.9 (20)
Marital status						
Married	84.3 (814)	56.8 (462)		47.3 (385)		7.9 (64)
Living with partner	11.1 (107)	58.9 (63)	0.8	59.8 (64)	0.2	4.7 (5)
Not living with partner	4.7 (45)	51.1 (23)		44.4 (20)		8.9 (4)
Ethnicity						

Demographic characteristics	Adverse experiences during crisis					
	Overall, % (N)	Forced to flee, % (N)	<i>p</i>	Family threatened; family seriously injured/killed, % (N)	<i>p</i>	Seriously injured due to act of violence; forced sex; compelled to have sex in exchange for security or material goods, % (N)
Yacouba	62.1 (600)	77.2 (463)		53.0 (318)		8.7 (52)
Baoule	11.6 (112)	2.7 (3)		35.7 (40)		4.5 (5)
Guere	7.1 (69)	42.0 (29)		65.2 (45)		8.7 (6)
Senoufo	6.0 (58)	31.0 (18)	0.02	32.8 (19)		5.2 (3)
Dioula	3.6 (35)	8.6 (3)		51.4 (18)	0.2	5.7 (2)
Other	9.5 (92)	34.8 (32)		31.5 (29)		5.4 (5)
	Mean (SD)	Mean (SD)		Mean (SD)		Mean (SD)
Age (continuous)	37.4 (11.3)	38.6 (11.5)	0.03	38.4 (10.8)	0.02	39.0 (10.4)
						0.2

Table 2

Distribution of different forms of past-year in-law abuse among participants reporting such abuse ($n=166$).

Types of in-law abuse	% (n)
Belittled, intimidated, insulted, controlled or threatened	77.1 (128)
Hit, kicked, slapped or otherwise physically hurt	13.3 (22)
Interfered with ability to access medical care	13.3 (22)
Denied food	28.9 (48)
Interfered with ability to speak with or visit natal family	13.3 (22)
Taken possession of things of value	12.7 (21)
Encouraged partner to humiliate you, call you names or prevent you from leaving the home	30.7 (51)
Encouraged partner to hit, kick, punch or otherwise physically hurt you	19.3 (32)

Table 3

Unadjusted and adjusted odds ratio estimates from generalised estimating equations of past-year in-law abuse, accounting for clustering at the village level among partnered rural Ivoirian women ($n=966$).

	Past-year in-law abuse, % (N)	Past-year in-law abuse, unadjusted OR (95% CI)	P	Past-year in-law abuse, adjusted OR (95% CI)	P
Overall	17.2 (166)				
Forced to flee					
Yes	19.2 (105)	1.4 (0.9–2.0)	0.09	1.1 (0.8–1.7)	0.6
No	14.6 (61)	Ref.		Ref.	
Family threatened; family seriously injured/killed					
Yes	22.0 (103)	1.9 (1.3–2.9)	0.0009	1.7 (1.1–2.4)	0.009
No	12.7 (63)	Ref.		Ref.	
Seriously injured due to act of violence; forced sex; compelled to have sex in exchange for security or material goods					
Yes	31.5 (23)	2.4 (1.5–3.9)	0.0003	2.0 (1.2–3.2)	0.005
No	16.0 (143)	Ref.		Ref.	
Education					
None	15.6 (108)	Ref.		Ref.	
Primary	22.6 (48)	1.6 (1.1–2.3)	0.02	1.3 (0.8–2.2)	0.3
Secondary or higher	16.1 (10)	1.04 (0.5–2.3)	0.9	1.1 (0.6–1.9)	0.9
Religion					
Christian	16.8 (70)	Ref.		Ref.	
Muslim	11.1 (18)	0.6 (0.3–1.3)	0.2	1.0 (0.4–2.2)	0.9
Traditional	23.3 (38)	1.5 (0.8–2.8)	0.2	1.6 (0.9–2.9)	0.1
Other/none	17.9 (40)	1.1 (0.6–1.8)	0.8	1.0 (0.6–1.8)	0.9
Marital status					
Married	17.6 (143)	Ref.		Ref.	
Living with partner	19.6 (21)	1.1 (0.7–1.8)	0.6	0.9 (0.5–1.5)	0.6
Not living with partner	4.4 (2)	0.2 (0.06–0.8)	0.03	0.2 (0.04–0.7)	0.01
Ethnicity					
Yacouba	19.3 (116)	Ref.		Ref.	
Baoule	14.3 (16)	0.7 (0.4–1.2)	0.2	0.9 (0.5–1.4)	0.6

	Past-year in-law abuse, % (N)	Past-year in-law abuse, unadjusted OR (95% CI)	p	Past-year in-law abuse, adjusted OR (95% CI)	p
Guere	21.7 (15)	1.2 (0.7–1.8)	0.5	1.3 (0.8–2.1)	0.3
Senoufo	6.9 (4)	0.3 (0.2–0.5)	<0.0001	0.3 (0.1–0.9)	0.03
Dioula	17.1 (6)	0.9 (0.4–1.8)	0.7	1.0 (0.4–2.5)	0.9
Other	9.8 (9)	0.5 (0.2–1.2)	0.1	0.5 (0.2–1.4)	0.2
	Mean (SD)				
Age (continuous)	35.7 (9.0)	0.98 (0.97–0.99)	0.02	0.97 (0.95–0.98)	<0.0001