

Prevalence and Risk Factors for Women's Reports of Past-Year Intimate Partner Violence: A Comparative Analysis of Six East African National Surveys

Journal of Interpersonal Violence

1–27

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DOI: 10.1177/0886260520969374

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Abstract

Violence against women, in all its forms, has been acknowledged as a violation of basic human rights and research evidence shows that it could lead to adverse health consequences. In this study we aimed to determine the prevalence and coexistence of different forms of IPV as well as examine individual-level factors associated with ever experiencing any form of IPV in the 12 months preceding the survey using the most recent Demographic Health Survey data from six East African countries. Results show that the prevalence ranged between 16.5% (Burundi) and 29.3% (Uganda) for emotional, 16.8% (Ethiopia) and 26.6% (Tanzania) for physical, and 8.3% (Rwanda and Ethiopia) and 18.4% (Burundi) for sexual IPV. The prevalence of any IPV ranged from 26.7% to 39.3%. In terms of coexistence, 15.6% to 19.0% of women reported experiencing all the three forms of IPV, with higher proportions reporting experiencing two of the three forms of IPV. The prevalence of both physical and emotional IPV was highest in Tanzania (49.1%), both emotional and sexual IPV in Uganda (28.0%), and both physical and sexual IPV in Burundi

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(26.2%). A partner's use of alcohol and a woman's justification of wife beating were both statistically significant common risk factors for IPV across the six countries. Women whose partners got drunk often were found to be up to nine times more likely to experience IPV compared to those whose partners did not drink. Younger women and those with larger families were at an increased risk of experiencing IPV, while other significant factors were country specific. In conclusion, our findings highlight the need for integrated and context-specific approaches that deconstruct gendered norms related to power dynamics and patriarchal nuances at household and community level in order to holistically address different forms of IPV.

Keywords

intimate partner violence, emotional violence, physical violence, sexual violence

Introduction

Intimate partner violence (IPV) is commonly referred to as any act of violence that results in emotional, physical or sexual harm to current or former partner. Although IPV against both men and women is generally common among several socioeconomic and sociocultural groups, in sub-Saharan Africa (SSA), the overwhelming burden of IPV is borne by women. Violence against women, in all its forms, has been acknowledged as a violation of basic human rights and research evidence shows that it could lead to adverse health consequences (Black, 2011; Howard et al., 2010).

In 2013, the highest estimated prevalence of 65.6% of ever-partnered women experiencing IPV was in SSA region, whereas the prevalence in East Africa was 38.8%. Most notably, prevalence of IPV in all regions of SSA was above the global average prevalence of 26.4% (García-Moreno et al., 2013). Data from nationally representative Demographic Health Surveys (DHS) between 2005 and 2015 in a select number of countries found a high prevalence of ever experiencing physical or sexual IPV among women aged 15–49 years in Kenya (41%), Uganda (51%), Tanzania (44%), Rwanda (56%; Goodson & Hayes, 2018) and Ethiopia (71%; Garcia-Moreno et al., 2006). Whilst limited data was available from 2010 in Burundi, the estimate of physical or sexual IPV among women by the UN women's report on violence was 48.5% in 2017 (UN Women, n.d.). A UN women's world report 2015 of surveys conducted between 1995 and 2013 showed at least one third of women between 15 and 49 years of age had experienced lifetime IPV similar to IPV reported in the last 12 months (United Nations [UN], 2015). Yet evidence in

a UN women's report on health in 2018 shows that many countries still lack laws that protect women from any of the forms of IPV (Jahan, 2018).

According to research conducted in Uganda, Kenya, and Tanzania, several IPV preventive measures taken in these countries have included screening for IPV in antenatal and reproductive health programs; community awareness campaigns such as Start phase, followed by the Awareness phase, then Support, and finally Action (SASA) intervention program in Uganda that used strategies of advocacy, capacity building, community activism, distribution of learning materials, youth and men's programming; and programs implemented with an HIV and IPV-integrated approach to inform policy and programming. While models of these programs such as SASA have had significant impact on reduction of IPV at community level, their effectiveness in eradicating IPV at the population level has been called into question (Flavahan et al., 2015; Kadengye et al., 2019).

Several SSA studies have shown that the main drivers of IPV are social and cultural norms such as female genital mutilation, dowry, patriarchy, and male dominance in household decision-making are well known to justify violence against women (Heise & Kotsadam, 2015; Hindin et al., 2008). Among others, individual-level factors such as education level, age, disability childhood trauma or abuse, witnessing parental violence, alcohol or drug use, multiple sexual partners, play a key role (Devries et al., 2013; García-Moreno et al., 2013; Heise, 2011; Heise & Kotsadam, 2015). Moreover, there is evidence to show that different forms of IPV are not mutually exclusive (García-Moreno et al., 2006; Kadengye et al., 2019; World Health Organization [WHO], 2017). As such, prevention efforts need to be built on understanding coexistence of the different forms of IPV, as well as the individual-level factors associated with experiences of any of the forms IPV.

In this study we determine the prevalence and coexistence of different forms of IPV reported by women using the most recent DHS data from six East African countries. We also examine individual-level factors associated with ever experiencing any form of IPV perpetrated by a woman's current or most recent intimate partner in the 12 months preceding the survey. Some of the social-cultural differences may also be important sources of variation at the regional level and we adjust for these by including random effects at regional level in our modeling.

Data Source and Methods

We analyzed data from a nationally representative population-based household survey, the DHS of six East African countries, in which a domestic violence module was included. In the present article, we compare prevalence and

correlations of IPV in Uganda, Kenya, Tanzania, Rwanda, Burundi, and Ethiopia, whose most recent DHS was conducted between 2014 and 2016, and contained comparable domestic violence modules. In each country, the surveys utilized a similar design, a two-stage stratified sample design. Stratification was achieved by separating higher level strata such as regions or provinces into urban and rural areas. The first stage involved selecting enumeration areas or clusters from the census-sampling frame. The second stage of selection involved the systematic sampling of households from a list of households in each cluster. One eligible person was randomly selected from each eligible household to respond to interview following WHO's guidelines on the ethical collection of information on domestic violence. In accordance with DHS procedures, one woman between 15 and 49 years of age was randomly selected for the domestic violence module in two thirds of households. In the remaining a third of households, one man between 15 and 54 years of age was randomly selected for the domestic violence module. The DHS data provide nationally representative estimates relating to the population and collect data on IPV using standardized modules where additional country-specific relevant data may be collected for programming purposes and interventions. The domestic violence module uses an adapted Conflict Tactics Scale (CTS). It involves implementing a modified version of CTS to get information on spousal violence using seven items by asking the respondent if his/her current (for currently married men/women) or most recent (for formerly married men/women) wife/husband or partner ever did any of the specified acts of physical or sexual, or emotional violence to her in the last 12 months. The detailed sampling criteria and survey design and instrument are described in each country-specific report available on the DHS program website (ICF International, n.d.-b).

Measures and Variables

To estimate the prevalence of any form of IPV, the primary outcome, information was obtained from each ever-married male/female respondent of the domestic violence module on his/her experiences of violence committed by current and former spouses in the 12 months preceding the survey using a scale of items under three forms of IPV. These include (a) emotional violence if spouse ever humiliated him/her, ever threatened him/her with harm, ever insulted him/her or made him/her feel bad; (b) physical violence if a spouse ever pushed, shook or threw something at him/her, ever slapped or punched him/her with a fist or something harmful, ever twisted him/her arm or pulled his/her hair, ever kicked or dragged him/her, ever tried to strangle or burn him/her, ever threatened him/her with knife or gun or other weapon; and (c) sexual violence if spouse ever physically forced him/her to have sex or to perform sexual acts when not wanted. A respondent who answered "yes" to any of the questions was classified as

having experienced a specific form of IPV. For a detailed description of these items, see for instance pages 314–315 of the Uganda DHS report (Uganda Bureau of Statistics [UBOS] & ICF International, 2018).

For each country DHS, we extracted women-level background characteristics to be included in the statistical analyses as explanatory variables, namely, women's residence (urban or rural), age at time of survey (15–49 years), number of living children (none, 1–2, 3–4, 5+), religion (Catholic, Protestant, Seventh-day Adventist, Muslim, Other Christian), wealth index quintiles (poorer, poor, middle, richer, richest), level of education (none, primary, secondary+), marital status (whether presently or formerly in union), alcohol use by partner (does not drink, never gets drunk, sometimes drunk, often drunk), and employment status (not employed, employed not for cash, employed for cash). Women's justification of wife beating was also included as an explanatory variable. Specifically, respondents were asked whether or not beating one's wife was justified under five circumstances, if she: (a) goes out without telling her husband, (b) neglects the children, (c) argues with her husband, (d) refuses to have sex with her husband, and (e) burns the food. We define the proportion of women who agree that a man has a good reason to beat his wife described as justified in hitting or beating his wife in one or more of the five scenarios.

Ethical Statement

All DHS protocols are reviewed by the ICF Institutional Review Board (IRB) to ensure that each country-specific survey complies with regulations for the protection of human subjects. Further, each host country obtains ethical review approvals from local IRBs to ensure that the survey complies with the laws and norms of the nation. The description of DHS consent process is available online on the DHS program (ICF International, n.d.-a).

Data Analysis Approach

Women's experiences of physical, emotional, sexual, or any one of these forms of IPV were studied separately for each country. Prevalence of different forms of IPV and their 95% confidence intervals (CIs), weighted using country-specific sampling weights, are provided for each country, and plotted graphically. To understand coexistence, we examined the amount of overlap between the different forms of IPV. We use the proportioned and positioned Venn diagrams to visually examine the relative overlap of the different forms of IPV for each country. This was achieved through the use of the *pvenn2* command in STATA (Wenfeng & Jan, 2011), which ensures that each of the proportions of the different forms of IPV (the circles, the outside rectangle, and the set intersections) is proportional to the population value. We determine

the alpha coefficients of reliability score for the IPV factors using the various variables that make up the physical, emotional, and sexual IPV factors. Additionally, we present the Cronbach correlation tables, by each country, of the dependent and independent variables used in the multivariable models.

We computed basic descriptive statistics in form of frequencies and percentages to understand distributional differences between variables of interest and experiences of any of the three forms of IPV i.e., the primary outcome variable. Background characteristics were summarized according to whether or not women experience IPV. We present weighted estimates of proportion for categorical variables. We use the Pearson's chi-square test to examine whether there are differences in proportions of those experiencing IPV versus those not experiencing IPV. We assessed independent associations between respondents' sociodemographic characteristics and experiences of any form of IPV using a multilevel mixed effects logistic regression model with random intercepts for the regions in each country to account for clustering effects of women at the regional level. Random effects help to determine how much variation there is at regional level after taking into account individual-level fixed effects. We fitted separate multivariable models for each country to identify predictors for experiences of IPV in the last 12 months. This was achieved through the use of the *svy:melogit* command in STATA, which takes the sample design into account and provides inferences for the entire study population. For each country, multivariable adjusted models included all variables irrespective of statistical significance. All tests were two tailed and a p -value < 0.05 was considered significant. As such, we present the results as adjusted odds ratios (aOR) with corresponding 95% CIs and variance at regional level for the multivariable analyses, for each country. All data management and statistical analyses were done using STATA version 15 (StataCorp LLC, 2017).

Results

Demographic Characteristics

Table 1 shows the year of the surveys, sample size, and demographic characteristics for the study participants. A total of 33, 646 women aged 15–49 years were interviewed from the six countries of the East African region. A large proportion of the women interviewed were currently in union 28,899 (85.9%) and 4,747 (14.1%) were formerly in union. Of the total women interviewed, 5,054 (15.0%) had been in more than one union prior to the survey. At least one in six were adolescent girls and young women aged 15–24 years, that is, 30%, 21%, 23.1%, 18%, 16% and 27% for Uganda, Burundi, Ethiopia, Kenya, Rwanda and Tanzania, respectively.

Table 1 . Prevalence of Any IPV Experienced by Women Aged 15–49 Years by Background Characteristics and by Country.

	Uganda		Burundi		Ethiopia		Kenya		Rwanda		Tanzania	
	DHS 2016		DHS 2016–2017		DHS 2016		DHS 2014		DHS 2014–2015		DHS 2015–2016	
	N = 7,536	N = 7,366	N = 2,387	N = 7,366	N = 1,117	N = 4,720	N = 4,519	N = 1,908	N = 1,908	N = 2,586	N = 7,597	N = 7,597
Women Characteristics	Freq (%) n=3,087	No. of women N=7,536	Freq (%) n=2,387	No. of women N=7,366	Freq (%) n=1,117	No. of women N=4,720	Freq (%) n=1,414	No. of women N=4,519	Freq (%) n=509	No. of women N=1,908	Freq (%) n=2,586	No. of women N=7,597
Respondent's age group												
15–24	917 (42.7)	2,148	523 (38.1)	1,373	252 (22.1)	1,140	274 (30.7)	892	84 (28.3)	297	675 (37.1)	1,820
25–34	1,266 (42.2)	2,997	1,120 (33.0)	3,391	486 (24.2)	2,012	654 (32.3)	2,026	242 (26.9)	899	1,049 (35.9)	2,922
35–44	704 (38.6)	1,824	586 (29.1)	2,013	288 (23.6)	1,219	379 (31.3)	1,211	145 (27.1)	536	688 (31.7)	2,171
45+	200 (35.3)	567	158 (26.8)	589	91 (26.1)	349	107 (27.4)	390	38 (21.6)	176	174 (25.4)	684
Place of residence												
Urban	495 (31.8)	1,555	306 (25.2)	1,215	241 (19.9)	1,211	512 (31.1)	1,644	88 (22.2)	396	707 (34.7)	2,037
Rural	2,592 (43.3)	5,981	2,081 (33.8)	6,151	876 (25.0)	3,509	902 (31.4)	2,875	421 (27.8)	1,512	1,879 (33.8)	5,560
Religion												
Anglican	967 (41.6)	2,326	1,399 (33.3)	4,206	445 (24.7)	1,805	299 (33.4)	895	225 (30.4)	740		
Catholic	1,360 (43.1)	3,157	749 (30.7)	2,441	8 (33.3)	24	965 (33.6)	2,871	222 (26.0)	855		
Muslim	324 (36.4)	889	84 (29.2)	288	232 (27.8)	835	102 (16.3)	625	46 (19.5)	236		
Seventh-day Adventist	35 (31.5)	111	70 (30.8)	227	407 (20.4)	1,993	38 (34.5)	110	10 (19.6)	51		
Other Christian	401 (38.1)	1,053	85 (41.7)	204	25 (39.7)	63	9 (52.9)	17	6 (24.0)	25		
Highest educational level												
None	472 (43.4)	1,087	1,197 (34.0)	3,520	668 (24.4)	2,735	196 (24.9)	788	73 (22.7)	321	486 (33.8)	1,439
Primary	2,007 (43.7)	4,590	1,001 (33.7)	2,972	323 (24.5)	1,320	859 (35.0)	2,456	399 (29.3)	1,363	1,775 (66.7)	4,833
Secondary or higher	608 (32.7)	1,859	189 (21.6)	874	126 (18.9)	665	359 (28.2)	1,275	37 (16.5)	224	325 (24.5)	1,325

(continued)

Table 1. continued

	Uganda		Burundi		Ethiopia		Kenya		Rwanda		Tanzania	
	DHS 2016		DHS 2016-2017		DHS 2016		DHS 2014		DHS 2014-2015		DHS 2015-2016	
	Freq (%) n=3,087	No. of women N=7,536	Freq (%) n=2,387	No. of women N=7,366	Freq (%) n=1,117	No. of women N=4,720	Freq (%) n=1,414	No. of women N=4,519	Freq (%) n=509	No. of women N=1,908	Freq (%) n=2,586	No. of women N=7,597
Women Characteristics												
Marital status												
Currently living with a partner	2,769 (43.3)	6,395	2,231 (34.9)	6,401	1,001 (24.3)	4,123	1,229 (31.8)	3,866	449 (27.5)	1,635	2,242 (34.6)	6,479
Formerly living with a partner	318 (27.9)	1,141	156 (16.2)	965	116 (19.4)	597	185 (28.3)	653	60 (22.0)	273	344 (30.8)	1,118
Wealth quintile												
Lowest	860 (47.3)	1,817	592 (35.0)	1,692	317 (22.5)	1,412	367 (30.3)	1,211	144 (34.7)	415	564 (40.9)	1,379
Second	717 (44.2)	1,621	548 (36.4)	1,505	195 (26.7)	729	349 (37.4)	934	116 (29.0)	400	512 (36.2)	1,414
Middle	628 (43.5)	1,444	473 (34.4)	1,374	189 (28.6)	660	281 (34.6)	813	96 (25.3)	379	539 (34.6)	1,559
Fourth	532 (40.3)	1,321	426 (32.1)	1,329	161 (26.4)	610	243 (28.3)	859	83 (23.8)	349	532 (30.3)	1,753
Highest	350 (26.3)	1,333	348 (23.7)	1,466	255 (19.5)	1,309	174 (24.8)	702	70 (19.2)	365	439 (29.4)	1,492
Employment status												
Employed not for cash	725 (44.7)	1,621	1,182 (33.4)	3,543	308 (26.6)	1,156	281 (36.9)	762	133 (23.5)	566	1,058 (41.1)	2,573
Employed for cash	1,949 (40.6)	4,801	1,101 (33.0)	3,332	287 (24.2)	1,186	815 (33.7)	2,418	357 (29.0)	1,233	1,232 (32.4)	3,804
Not employed	413 (37.1)	1,114	104 (21.2)	491	522 (22.0)	2,378	318 (23.7)	1,339	19 (17.4)	109	296 (24.3)	1,220
Partner's alcohol use												
Does not drink	1,347 (32.6)	4,138	485 (20.9)	2,324	672 (19.2)	3,502	723 (24.2)	2,986	91 (13.7)	664	1,419 (27.2)	5,208
Drinks never gets drunk	109 (33.7)	323	160 (16.6)	961	76 (22.0)	345	5 (33.3)	15	25 (9.7)	259	64 (30.0)	213
Gets drunk sometimes	886 (48.8)	1,816	915 (35.8)	2,553	252 (37.0)	682	358 (37.8)	947	230 (33.4)	688	581 (47.1)	1,233
Gets drunk often	745 (59.2)	1,259	827 (54.1)	1,528	117 (61.3)	191	328 (57.4)	571	159 (54.5)	292	522 (55.4)	943

(continued)

Table 1. continued

	Uganda		Burundi		Ethiopia		Kenya		Rwanda		Tanzania	
	DHS 2016		DHS 2016-2017		DHS 2016		DHS 2014		DHS 2014-2015		DHS 2015-2016	
	N = 7,536	N = 7,366	N = 7,387	N = 7,366	N = 1,117	N = 4,720	N = 1,414	N = 4,519	N = 1,908	N = 1,908	N = 2,586	N = 7,597
Women Characteristics	Freq (%) n=3,087	No. of women N=7,536	Freq (%) n=2,387	No. of women N=7,366	Freq (%) n=1,117	No. of women N=4,720	Freq (%) n=1,414	No. of women N=4,519	Freq (%) n=509	No. of women N=1,908	Freq (%) n=2,586	No. of women N=7,597
Number of living children												
None	156 (33.5)	466	97 (28.1)	345	89 (17.0)	525	41 (18.2)	225	23 (24.5)	94	167 (29.3)	569
1-2	932 (38.7)	2,408	810 (33.0)	2,452	390 (23.8)	1,641	485 (28.9)	1,676	208 (24.8)	839	919 (34.0)	2,699
3-4	961 (43.4)	2,216	815 (32.4)	2,514	308 (24.4)	1,263	529 (35.0)	1,511	173 (27.8)	622	794 (35.5)	2,239
5+	1,038 (42.4)	2,446	665 (32.4)	2,055	330 (25.6)	1,291	359 (32.4)	1,107	105 (29.7)	353	706 (33.8)	2,090
Number of reasons for wife beating												
None	1,271 (33.8)	3,762	664 (23.6)	2,814	380 (20.2)	1,885	605 (26.2)	2,308	271 (23.2)	1,168	774 (24.6)	3,145
1-2	881 (46.5)	1,893	702 (35.5)	1,978	218 (23.9)	912	421 (34.5)	1,220	123 (30.5)	403	574 (38.3)	1,500
3-4	723 (49.0)	1,475	678 (40.7)	1,667	258 (27.5)	939	292 (38.4)	760	81 (33.6)	241	744 (41.9)	1,776
5	212 (52.2)	406	343 (37.8)	907	261 (26.5)	984	96 (41.6)	231	34 (35.4)	96	494 (42.0)	1,176

Comparison of Prevalence of Different Forms of IPV Reports by Women and Men

Figure 1 shows the prevalence of different forms of IPV experienced both by men and women, and perpetrated by their current or most recent partners in the 12 months preceding the survey. Men's experience of violence committed by their current or former spouse in the last 12 months was obtained for a total of 14,170 men between 15 and 54 years of age interviewed (Figure 1) as follows: 4,011 in Uganda, 4,962 in Kenya, 2,118 in Rwanda, 3,079 in Burundi, and no information was available for men in Tanzania and Ethiopia. In general, and in each country that collected data on each form of IPV by gender, the prevalence of IPV among women is about two times higher for emotional and physical forms of IPV, and over three times higher for sexual IPV, compared to that experienced by men. Consequently, we present and discuss experiences in IPV among women.

From panel A of Figure 1, we observe that more than 20% of women reported experiencing emotional violence in Kenya, Tanzania, and Uganda. The highest prevalence of emotional IPV experienced by women was reported in Uganda at 29.3% (95% CI [28.2, 30.4]). This was followed by Tanzania (28.1%, 95% CI [27.1, 29.2]), Kenya (23.8%, 95% CI [22.8, 24.9]), Ethiopia (20.2%, 95% CI [19.1, 21.4]), Rwanda (18.5%, 95% CI [16.8, 20.5]), and then Burundi (16.5%, 95% CI [15.6, 17.4]).

Panel B of Figure 1 shows the prevalence physical IPV for all countries. The highest proportion of women experiencing physical IPV are in Tanzania at 26.6%, (95% CI [25.6, 27.7]). Almost similar levels of physical IPV were observed in Uganda and Kenya at 21.9% (95% CI [21.0, 22.9]) and 22.3% (95% CI [21.1, 23.6]) respectively. The lowest levels of physical IPV were reported by women in Ethiopia (16.8%, 95% CI [15.7, 17.9]), Rwanda (17.4%, 95% CI [15.7, 19.3]), and Burundi (17.6%, 95% CI [16.7, 18.6]). A further analysis of this form of IPV revealed that of all women experiencing physical violence in each country, about 50% of them experience severe physical violence, which involved a male partner reported to have ever kicked, dragged, tried to strangle, burn, or threatened her with knife, gun or other weapon within the 12 months preceding the survey. Specifically, prevalence of severe physical IPV among women was reported to be 12.0%, 10.9%, 10.4%, 8.3%, 7.3% and 6.3% for Tanzania, Uganda, Kenya, Rwanda, Ethiopia, and Burundi respectively.

Panel C of Figure 1 shows reported experiences of sexual IPV, with the highest prevalence in Burundi at 18.4% (95% CI [17.5, 19.3]), followed by Uganda at 16.4% (95% CI [15.6, 17.3]). About 1 in 10 women in Tanzania (10.4%, 95% CI [9.7, 11.1]) and Kenya (9.8%, 95% CI [8.9, 10.8]) reported

to have experienced sexual IPV within the 12 months preceding the survey. The lowest prevalence of sexual IPV was reported in Rwanda (8.3%, 95% CI [7.0, 9.7]) and Ethiopia (8.3%, 95% CI [7.5, 9.1]).

In Panel D of Figure 1, the prevalence of any of the forms of IPV is given for each country. Overall, about one in three women reported to have experienced at least one form of IPV perpetrated by their current or former partner within the 12 months preceding the survey. More specifically, the highest reports of any IPV are among Ugandan and Tanzanian women at 39.3% (95% CI [38.2, 40.5]) and 37.5% (95% CI [36.4, 38.7]) respectively. These are followed by Kenya (32.6%, 95% CI [31.2, 34.1]) and Burundi (31.5%, 95% CI [30.3, 32.6]), while women in Rwanda (26.7%, 95% CI [24.6, 28.8]) and Ethiopia (27.0%, 95% CI [25.7, 28.3]) reported the lowest prevalence rates of at least one form of IPV.

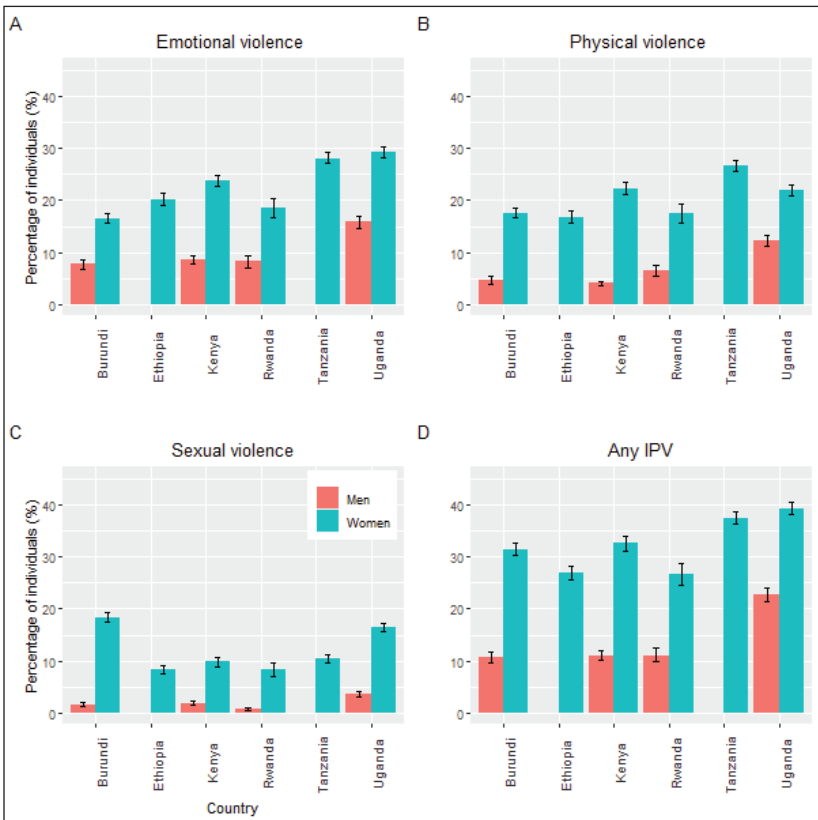


Figure 1. Prevalence of forms of IPV experienced by men and women in six East African countries.

Coexistence of Women's Experiences of Emotional With Physical and/or Sexual IPV by Country

Comparing women's reports of experiences of all three forms of IPV by country, Figure 2 reveals the overlap between different forms of IPV for each country. In general and across all of the six countries, most women reported experiencing at least two of the three forms of IPV in the 12 months preceding the survey. Except for Burundi, about two in three women who experienced sexual IPV, also reported to have experienced either physical and emotional violence, or at least one of the two. In Burundi, about one in two of all sexual IPV victims reported to have experienced at least one of physical and emotional forms of violence.

Overall of all women who reported to have experienced at least one form of IPV in each country, 15.6% in Ethiopia, 16.7% in Kenya, 17.6% in Tanzania, 16.4% in Rwanda, 18.6% in Burundi, and 19.0% in Uganda reported to have experienced all the three forms of IPV. Furthermore, of all the IPV victims, most have experienced two forms of violence: prevalence of both physical and emotional violence (lowest in Burundi, 32.8%, highest in Tanzania, 49.1%); both emotional and sexual violence (lowest in Rwanda, 20.2%, highest in Uganda, 28.0%); and, both physical and sexual violence (lowest in Rwanda, 19.5%, highest in Burundi, 26.2%).

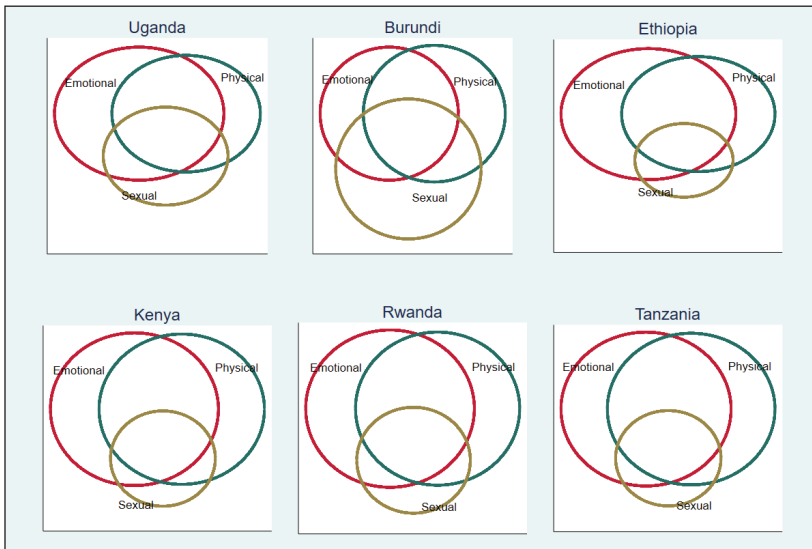


Figure 2. Coexistence of forms of IPV experienced by women in six East African countries.

Therefore, we consider our primary outcome variable as the proportion of women who experienced at least one of the three forms of IPV and examine the associated factors.

Comparison of Prevalence of Any Form of Women's Experience of IPV by Background Characteristics

Comparing past year women's experiences of any form of IPV for each country (Table 1) by women's background characteristics shows that for all countries, higher prevalence of IPV is observed among younger women aged 15–24 and 25–34 years, other than Ethiopia where there seems to be no major differences across the age groups. IPV prevalence is similar for urban and rural women dwellers in Kenya and Tanzania, but higher in rural than urban areas for Uganda, Rwanda, Ethiopia, and Burundi. Furthermore across all countries, women who have attained primary level or have no education reported higher experiences of any IPV as compared to those with secondary or higher level of education. Higher prevalence of IPV is also observed among women who are employed not for cash, whose partners get drunk often, those with at least three children, and those who justify wife beating with at least three reasons. Approximately one in five women in the lowest wealth tertile reported experiencing any IPV in every country, whereas women in Uganda and Tanzania that experienced any IPV were predominantly (> 40%) in the lowest wealth quintile. Cronbach's alpha coefficients for sexual, emotional, and physical IPV in the last 12 months for six countries were very similar and ranged from .30 to .57. We do not have evidence to show that the forms of IPV experienced were different across countries (Table 2).

Risk Factors for IPV

Results for the multivariable model for experiencing any form of IPV be it sexual, physical or emotional, in the 12 months preceding the survey are shown in Table 3. Among all the factors considered, the common risk factors for IPV among women across all countries are partner's alcohol use and a woman's justification of wife beating. Specifically, women whose partners get drunk sometimes or often, are between two to three, and three to nine times more likely to experience any IPV, respectively, compared to those whose partners do not drink. Notably, the highest odds for IPV among women whose partners get drunk often are observed in Rwanda (aOR=9.37, 95% CI [5.58, 15.74]) and Ethiopia (aOR=9.19, 95% CI [4.18, 20.17]). Further, women who justify wife beating for any reason are approximately two times more likely to experience IPV, compared to those who do not, and this was statistically significant for all countries, apart from Ethiopia.

Table 2. Cronbach's Alpha Correlation Coefficient for IPV Items by Country Uganda.

	Sexual	Emotional	Physical
Sexual	1.0000		
Emotional	0.3419	1.0000	
Physical	0.3472	0.5004	1.0000
Burundi			
Sexual	1.0000		
Emotional	0.3356	1.0000	
Physical	0.3297	0.5184	1.0000
Ethiopia			
Sexual	1.0000		
Emotional	0.2743	1.0000	
Physical	0.3220	0.5511	1.0000
Kenya			
Sexual	1.0000		
Emotional	0.3426	1.0000	
Physical	0.3743	0.5484	1.0000
Rwanda			
Sexual	1.0000		
Emotional	0.3822	1.0000	
Physical	0.3797	0.5672	1.0000
Tanzania			
Sexual	1.0000		
Emotional	0.3516	1.0000	
Physical	0.3576	0.5628	1.0000

Other factors with higher odds of experiencing any IPV for some countries are marital status and employment status. Employed women whether for cash or not, are one and half times more likely to experience IPV compared with those who are unemployed, and this is statistically significant for women in Burundi, Kenya, and Tanzania. However, in Rwanda, this interpretation of employment estimates does not hold. Women with at least one living child are approximately two times more likely to experience IPV compared to those with no child, and these odds tend to increase with increasing number of children. This variable was statistically significant for Uganda, Kenya, and Tanzania.

Table 3. Odds Ratios and 95% Confidence Intervals for Predictors of Womens' Risk for IPV in Six East African Countries.

Women Characteristics	Uganda		Burundi		Ethiopia		Kenya		Rwanda		Tanzania	
	aOR (95% CI)		aOR (95% CI)		aOR (95% CI)		aOR (95% CI)		aOR (95% CI)		aOR (95% CI)	
Respondents age group												
15-24	1		1		1		1		1		1	
25-34	0.77 (0.63, 0.94)		0.66 (0.57, 0.77)		0.86 (0.63, 1.18)		0.99 (0.53, 1.83)		0.87 (0.48, 1.57)		0.79 (0.62, 1.00)	
35-44	0.59 (0.50, 0.71) ^{***}		0.54 (0.42, 0.70) ^{***}		0.78 (0.63, 0.96) ^{***}		0.70 (0.44, 1.10) ^{**}		0.64 (0.33, 1.28)		0.50 (0.37, 0.68) ^{***}	
45+	0.44 (0.33, 0.57)		0.46 (0.35, 0.62)		0.91 (0.52, 1.6)		0.62 (0.28, 1.38)		0.45 (0.12, 1.63)		0.39 (0.29, 0.53)	
Place of residence												
Urban	1		1		1		1		1		1	
Rural	1.09 (0.85, 1.38)		1.17 (0.79, 1.73)		0.89 (0.52, 1.55)		0.66 (0.45, 0.96) [*]		1.04 (0.5, 2.17)		0.77 (0.6, 0.98) [*]	
Religion												
Anglican	1		1		1		1		1		1	
Catholic	1.03 (0.85, 1.26)		1.07 (0.91, 1.25)		0.76 (0.25, 2.37)		0.97 (0.82, 1.15)		0.92 (0.56, 1.53)		-	
Muslim	1.23 (0.92, 1.64)		1.85 (1.46, 2.35) ^{**}		1.16 (0.91, 1.48) ^{***}		0.59 (0.35, 0.99) [*]		0.73 (0.43, 1.23)		-	
Seventh-day Adventist	0.92 (0.71, 1.18)		0.86 (0.49, 1.52)		1.23 (0.92, 1.65)		1.65 (1.30, 2.08)		2.46 (0.39, 15.45)		-	
Other Christian	1.03 (0.81, 1.31)		1.38 (0.96, 1.98)		2.08 (1.43, 3.01)		3.69 (0.43, 31.92)		1.00 (0.18, 5.59)		-	
Highest education level												
None	1		1		1		1		1		1	
Primary	1.14 (1.01, 1.3)		0.97 (0.82, 1.14)		1.22 (1.05, 1.42)		0.97 (0.75, 1.26)		1.85 (1.12, 3.06)		1.04 (0.83, 1.29)	
Secondary or higher	0.99 (0.71, 1.38)		0.73 (0.53, 1.01)		0.93 (0.62, 1.40) ^{***}		0.82 (0.64, 1.06)		1.32 (0.51, 3.38)		1.01 (0.75, 1.35)	

(continued)

Table 3. continued

Women Characteristics	Uganda		Burundi		Ethiopia		Kenya		Rwanda		Tanzania	
	aOR (95% CI)		aOR (95% CI)		aOR (95% CI)		aOR (95% CI)		aOR (95% CI)		aOR (95% CI)	
Marital status												
Currently living with a partner	1		1		1		1		1		1	
Formerly living with a partner	0.59 (0.38, 0.94)*		0.22 (0.14, 0.34) ^{***}		0.82 (0.49, 1.37)		0.56 (0.45, 0.7) ^{***}		0.44 (0.21, 0.9)*		0.65 (0.41, 1.05)	
Wealth quintile												
Lowest	1		1		1		1		1		1	
Second	0.85 (0.67, 1.08)		1 (0.88, 1.13)		0.83 (0.64, 1.07)		0.87 (0.6, 1.27)		0.81 (0.52, 1.26)		0.96 (0.77, 1.2)	
Middle	0.96 (0.71, 1.32)*		0.99 (0.89, 1.11)		0.85 (0.50, 1.46) ^{***}		0.91 (0.7, 1.17)		0.76 (0.43, 1.33)		1.2 (0.96, 1.49)	
Fourth	0.89 (0.68, 1.17)		0.93 (0.78, 1.11)		0.67 (0.35, 1.28)		0.77 (0.49, 1.19)		0.70 (0.45, 1.07)		1.07 (0.86, 1.32)	
Highest	0.56 (0.39, 0.82)		0.86 (0.65, 1.14)		0.37 (0.24, 0.59)		0.8 (0.57, 1.12)		0.63 (0.41, 0.97)		1.09 (0.79, 1.5)	
Employment status												
Not employed	1		1		1		1		1		1	
Employed not for cash	1.31 (0.8, 2.13)		1.32 (0.88, 1.96)		1.03 (0.82, 1.31)		1.51 (1.13, 2.03)*		0.59 (0.37, 0.93)		1.66 (1.46, 1.89) ^{***}	
Employed for cash	1.16 (0.84, 1.61)		1.39 (1.04, 1.87)		0.98 (0.7, 1.37)		1.44 (1.1, 1.88)		0.91 (0.65, 1.29)		1.40 (1.16, 1.68)	
Partners alcohol use												
Does not drink	1		1		1		1		1		1	
Drinks never gets drunk	1.02 (0.76, 1.37)		0.81 (0.55, 1.19)		1.39 (0.99, 1.95)		1.78 (0.26, 12.2)		0.71 (0.37, 1.36)		0.96 (0.64, 1.46)	
Gets drunk sometimes	1.93 (1.75, 2.13) ^{***}		2.16 (1.71, 2.72) ^{***}		2.29 (1.30, 4.01) ^{***}		1.66 (1.29, 2.15) ^{***}		3.10 (1.80, 5.34)		2.12 (1.75, 2.57) ^{***}	
Gets drunk often	3.12 (2.58, 3.77)		5.85 (4.09, 8.35)		9.19 (4.18, 20.17)		3.89 (3.50, 4.31)		9.37 (5.58, 15.74)		4.24 (3.23, 5.57)	

(continued)

Table 3. continued

Women Characteristics	Uganda	Burundi	Ethiopia	Kenya	Rwanda	Tanzania
	aOR (95% CI)	aOR (95% CI)	aOR (95% CI)	aOR (95% CI)	aOR (95% CI)	aOR (95% CI)
Number of living children						
None	1	1	1	1	1	1
1–2	1.34 (0.98, 1.83)	1.16 (0.77, 1.76)	1.03 (0.49, 2.15)	2.48 (1.18, 5.23)	0.82 (0.63, 1.08)	1.39 (1.06, 1.84)
3–4	1.70 (1.30, 2.22) ^{***}	1.15 (0.77, 1.72)	1.10 (0.53, 2.27) ^{***}	3.16 (1.49, 6.74) [*]	0.98 (0.52, 1.83)	1.44 (1.01, 2.06)
5+	1.74 (1.21, 2.50)	1.13 (0.75, 1.71)	1.47 (0.58, 3.7)	2.76 (1.22, 6.25)	1.52 (0.36, 6.48)	1.59 (1.14, 2.23)
Number of reasons for wife beating						
None	1	1	1	1	1	1
1–2	1.51 (1.18, 1.94)	1.58 (1.31, 1.91)	1.05 (0.58, 1.88)	1.65 (1.19, 2.29)	1.25 (0.69, 2.26)	1.53 (1.2, 1.95)
3–4	1.41 (1.09, 1.81) ^{***}	1.74 (1.29, 2.36) ^{***}	1.26 (0.98, 1.64) ^{***}	1.68 (1.26, 2.26) ^{**}	2.00 (1.28, 3.12) [*]	1.62 (1.18, 2.22) ^{**}
5	1.98 (1.57, 2.51)	1.61 (1.14, 2.26)	1.16 (0.78, 1.73)	2.07 (1.60, 2.68)	1.80 (1.32, 2.48)	1.76 (1.33, 2.33)
Random effects variance	0.09 (0.03, 0.27)	0.12 (0.06, 0.26)	0.18 (0.02, 1.78)	0.11 (0.04, 0.28)	0 (0, 0)	0.42 (0.21, 0.83)

Note. ^{***} $p \leq .001$. ^{**} $p < .01$. ^{*} $p < .05$.

For all countries, older women are less likely to experience IPV compared to younger women. This observation is statistically significant for Uganda, Burundi, and Tanzania. For instance in Uganda, the odds of experiencing IPV for women who are aged 25–34, 35–44, and 45–49 years are 0.77 (95% CI [0.63, 0.94]), 0.59 (95% CI [0.5, 0.71]) and 0.44 (95% CI [0.33, 0.57]) respectively. Further, women who were formerly living with a partner, are also less likely to experience IPV, and this is statistically significant for Uganda, Burundi, Kenya, and Rwanda.

Education does not appear to be strongly associated with IPV. For instance, although women in Uganda, Ethiopia, and Rwanda whose highest level of education is primary, appear to have significantly higher odds of experiencing IPV compared to those with no education, the same cannot be said for women with secondary or higher levels of education. Moreover, this variable was not statistically significant for Burundi, Kenya, and Tanzania. Kenyan and Tanzanian women living in rural areas have marginally significant lower odds of experiencing IPV, but this is not significant for all other countries. Religion and wealth quintile are not significantly associated with IPV.

There is evidence of regional variation in five countries excluding Rwanda where the variance estimate was close to zero. The regional variation in Tanzania is approximately twice that observed in Uganda, Burundi, Kenya, and Ethiopia. Whereas we do not have evidence to show that alpha correlation coefficients among the dependent and independent variables in the logistic regression model were different by country, the alpha coefficients were low suggesting that the items have low internal consistency (Table 4).

Discussions and Conclusions

In the present study, we aimed to determine the prevalence and coexistence of emotional, physical, and sexual forms of IPV reported by women in six East African countries, namely, Uganda, Rwanda, Burundi, Ethiopia, Tanzania, and Kenya. Using the most recent DHS (2014–2016) data for each country. We also examined factors associated with ever experiencing any IPV perpetrated by a woman's current or most recent partner in the 12 months preceding the survey.

The findings highlight substantial variability in experiences of IPV within the East African region as previously reported by Palermo et al. (2014). We observed that the prevalence of any IPV varied from 26.7% to 39.3%. These findings are not very different from those reported from recent studies within sub-Saharan African countries. For instance, a recent study in Zimbabwe reported over one-fifth of the women being physically or sexually abused in the last 12 months, while another study in Ghana reported a prevalence of

Table 4. Cronbach's Interitem Correlation Coefficient for Factors Included in the Analysis for Each Country Uganda.

	Any viol	Age	Resid	Relig	Educat	Marital	Wealth	Employ	Alcohol	#Children	#Wife beating
Any viol	1.0000										
Age	-0.0432	1.0000									
Residence	0.0947	0.0193	1.0000								
Religion	-0.0347	-0.0226	-0.0445	1.0000							
Education	-0.0789	-0.2100	-0.2598	0.0262	1.0000						
Marital stat	-0.1125	0.1501	-0.0563	-0.0018	-0.0317	1.0000					
Wealth stat	-0.1297	0.0340	-0.4600	0.0589	0.4382	0.0080	1.0000				
Employment	-0.0470	-0.0482	-0.1482	0.0428	0.0747	-0.0032	0.2143	1.0000			
Alcohol use	0.2120	0.1749	0.0922	-0.1606	-0.1960	0.1114	-0.2166	-0.0712	1.0000		
#Children	0.0462	0.6083	0.1311	-0.0171	-0.2819	0.0132	-0.1390	-0.0812	0.1458	1.0000	
#Wife beating	0.1388	-0.0309	0.1330	-0.0132	-0.1751	-0.0193	-0.1985	-0.0781	0.0727	0.0452	1.0000
Burundi											
Any viol	1.0000										
Age	-0.0719	1.0000									
Residence	0.0686	0.0172	1.0000								
Religion	0.0013	-0.0732	-0.0815	1.0000							
Education	-0.0639	-0.2003	-0.3678	-0.0097	1.0000						
Marital stat	-0.1347	0.1646	-0.0193	0.0241	-0.0732	1.0000					
Wealth stat	-0.0815	0.0037	-0.4710	0.0469	0.4293	-0.1326	1.0000				
Employment	-0.0421	-0.0180	-0.2102	0.0535	0.1398	0.0740	0.1307	1.0000			

(continued)

Table 4. continued

	Any viol	Age	Resid	Relig	Educat	Marital	Wealth	Employ	Alcohol	#Children	#Wife beating
Alcohol use	0.2601	0.0961	0.0968	-0.2372	-0.1034	0.1053	-0.1783	-0.0490	1.0000		
#Children	0.0044	0.5557	0.0882	-0.0148	-0.2154	-0.0368	0.0035	-0.0425	0.0667	1.0000	
#Wife beating	0.1343	-0.0120	0.1109	0.0360	-0.1363	0.0718	-0.1403	-0.0378	0.0812	-0.0176	1.0000
Ethiopia											
Any viol	1.0000										
Age	0.0194	1.0000									
Residence	0.0520	0.0074	1.0000								
Religion	-0.0298	-0.0596	0.2186	1.0000							
Education	-0.0358	-0.2306	-0.5048	-0.2234	1.0000						
Marital stat	-0.0379	0.1234	-0.1311	-0.1220	0.0455	1.0000					
Wealth stat	-0.0251	0.0148	-0.6706	-0.3024	0.5021	0.0916	1.0000				
Employment	-0.0454	-0.0940	0.0044	0.2366	-0.0350	-0.1216	-0.0731	1.0000			
Alcohol use	0.2204	0.0556	-0.0826	-0.4511	0.0619	0.0976	0.1233	-0.1767	1.0000		
#Children	0.0470	0.5468	0.3040	0.1437	-0.4289	-0.1160	-0.2543	0.0126	-0.0485	1.0000	
#Wife beating	0.0670	0.0219	0.3001	0.1074	-0.2784	-0.0548	-0.2581	0.0005	-0.0391	0.1646	1.0000
Kenya											
Any viol	1.0000										
Age	-0.0137	1.0000									
Residence	0.0024	0.0869	1.0000								
Religion	-0.0658	-0.0061	0.0238	1.0000							
Education	0.0076	-0.0124	-0.2309	-0.2752	1.0000						
Marital stat	-0.0262	0.1475	-0.0137	0.0091	-0.0230	1.0000					

34% among women aged 18–49 in the last year (Ogum Alangea et al., 2018; Shamu et al., 2018). Similarly, prevalence of any IPV in the last 12 months reported in Tanzania in a cluster randomized trial among ever-partnered women was 27% (Kapiga et al., 2017). However, our findings show that there is a decline in the IPV prevalence for Ethiopia, as compared to that reported in a previous study in 2013, which showed a higher prevalence of 54% for physical or sexual IPV or both in the last 12 months before the survey, among ever-partnered women aged 15–49 years (García-Moreno et al., 2013). These findings are an indication that slow progress is being made by different countries in SSA towards achievement of the Sustainable Development Goals' target of eradicating violence against women.

Notably, 15.6% to 19.0% of women reported experiencing all the three forms of IPV, with higher proportions reporting experiencing two of the three forms of IPV. The prevalence of both physical and emotional IPV was highest in Tanzania (49.1%), both emotional and sexual IPV in Uganda (28.0%), and both physical and sexual IPV in Burundi (26.2%). Similar reports of coexistence of the different forms of IPV have also been documented within the region. For instance the cluster randomized trial in Tanzania reported that about 61% of women have ever experienced physical and/or sexual IPV in the past 12 months (Kapiga et al., 2017). These findings highlight the need for governments to put in place holistic interventions with integrated approaches that target multiple forms of IPV.

A partner's use of alcohol and a woman's justification of wife beating were both significant common risk factors for IPV across all the six countries. Specifically, women whose partners got drunk often were found to be up to nine times more likely to experience IPV compared to those whose partners did not drink. Similar to our findings, several studies in Kenya, Uganda, Zimbabwe, South Africa, United Kingdom, United States, Russia, and Australia have found that men (perpetrators) who consumed alcohol more frequently were more likely to abuse their wives (Djamba & Kimuna, 2008; Koenig et al., 2003; Ogum Alangea et al., 2018). In addition, consistent with other studies in 10 DHS countries in 2008 that included Kenya, Malawi, and Zimbabwe (Hindin et al., 2008; Shamu et al., 2018), we found that women with more supportive attitudes toward the acceptability of wife beating by their partner for any reason were at least two times more likely to experience IPV than those who did not agree for any reason. Whether justification of wife beating correlates with reporting or changes in perceptions of IPV is unknown.

Our analysis also suggests that younger women and women with larger families were more likely to experience more IPV than those with small families. This may be due to the pressure and demand on income to feed larger

families. These findings are consistent with previous studies in 10 countries of DHS surveys between 2002 and 2006 (Hindin et al., 2008). This may be a result of young women's vulnerability to social norms and cultural beliefs related to male dominance in patriarchal communities (Heise, 2011; Kadengye et al., 2019). Additionally, in younger women, IPV is expected to increase with increasing spousal age differences and particularly because they are more powerless and marginalized in their unions. Women who were formerly in union were less likely to experience IPV within the past 12 months compared to those who are currently in union. Most studies have reported a higher likelihood of ever experiencing IPV among the formerly married. For instance, a study of 24 DHS surveys between 2006 and 2011 that included 12 African countries showed that women who were formerly in union were three times more likely to report IPV than currently in union (Palermo et al., 2014). One possible explanation for this difference could be that women who were formerly in union might be more likely to seek help or leave an abusive relationship, and therefore report lower experiences of IPV in the most recent year. However, we had less information on timing of IPV experiences and when a woman's past union terminated for all countries.

In Tanzania, Kenya, and Burundi, being employed for cash was associated with a higher likelihood of experiencing IPV than not being employed, and this is similar to findings in others studies in Zimbabwe and India (Gage & Thomas, 2017; Krishnan et al., 2010). Inconclusive observations are noted for women's individual years of schooling and place of residence. Similarly, religion and wealth status were not significantly associated with any IPV across the six countries. However, other studies in different settings have shown that women with more years of schooling and in higher wealth quintiles are less likely to experience IPV (Bonnes, 2016; Jeyaseelan et al., 2007; Reese et al., 2017). The inconsistency of these factors for different studies could be due to context-specific factors related to gendered violence.

In 2012, the East Central and Southern Africa Health Community, an inter-governmental body overseeing the IPV within the family and reproductive health programs, recommended the integration of screening for IPV with sexual and reproductive health care, and developed advocacy tools. In 2013, WHO clinical and policy guidelines responding to IPV were released and countries increasingly adopting these to their national guidelines (Flavahan et al., 2015). In Uganda, the domestic violence act was operationalized under the constitutional provision in 2011. This was followed by referral pathway for prevention and response to violence in 2013. Ethiopia has established legal measures and actions such as Family Law in 2000, establishment of women's protection unit within police units, a special branch for violence against women in federal criminal court, and more recently in 2015 under the growth

and transformational plan established hot lines for women experiencing violence. The DHS serves to monitor indicators for IPV and inform program interventions. In East Africa, regional differences in reporting and high prevalence of IPV likely reflect common cultural and social norms that are tolerant of IPV. In many African societies IPV is a common phenomenon rooted in the traditional patriarchy and considered a private matter. Qualitative studies in Ethiopia show that community norms often discourage women from discussing their experience of IPV, (Abeya et al., 2012; Garcia-Moreno et al., 2006; Yigzaw et al., 2010). Nevertheless, many societies in SSA have different structural inequalities, and cultural and social norms regarding women and men that lead to inequality and dependence of women. There exist cultural laws that govern marriage, land ownership, and power for decision-making in East Africa and such laws might conflict with efforts to address IPV.

Interpretation of results from this study need to be made in light of some limitations. First is that, due to the cross sectional nature of DHS surveys, we cannot establish causality of the risk factors for IPV in the last 12 months due to temporal associations. Second, the regional variations observed across countries might be reflective of cultural and social norms which were not recorded in the survey data, and therefore not taken into account. However, we are aware of regional variations within countries, which are accounted for by inclusion of the region as a random variable in the multilevel model. Third, there is a possibility of cross-level interactions, but these have not been explored in the present article due to limited qualitative knowledge of potential theoretical hypotheses for such interactions. Fourth, some variables such as women empowerment and household-level decision-making autonomy which have been cited in other studies as correlates of IPV, were also not included in our analysis. However, women's experiences at community and household level, that is, what they think and what they do may vary depending on community or household perceptions, and these are accounted for by inclusion of women's background and population level characteristics. We therefore submit that these limitations do not affect conclusions from the present analysis. Finally, we did not include any male respondents in further analysis. Nonetheless, further studies focusing on male experiences of IPV are in order although limited in the present article.

In conclusion, the present study highlights three key messages. First is that the prevalence of different forms of IPV is still unacceptably high within East Africa, as much as there is variation across the six countries coupled with regional variation within each country. Second is that while coexistence of IPV is common at country level, there is large variation by forms of IPV across the six countries. Third is common risk factors for IPV against women were younger age, alcohol use by partner, attitude of acceptance towards wife

beating, while the majority appear to be context specific for different countries. Our findings suggest that efforts to address IPV in the East African region must include key interventions addressing norms that justify acceptance towards wife beating such as shift in social norms and attitudes, addressing alcohol misuse, and focus on young women at population level. These findings highlight the need for more integrated and context-specific approaches that deconstruct gendered norms related to violence against women. This may require constructing new context-specific programs, which are related to power dynamics and patriarchal nuances at household and community level in order to holistically address different forms of IPV.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

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References

- Abeya, S. G., Afework, M. F., & Yalew, A. W. (2012). Intimate partner violence against women in west Ethiopia: A qualitative study on attitudes, woman's response, and suggested measures as perceived by community members. *Reproductive Health, 9*(1), 14. <https://doi.org/10.1186/1742-4755-9-14>
- Black, M. C. (2011). Intimate partner violence and adverse health consequences: Implications for clinicians. *American Journal of Lifestyle Medicine, 5*(5), 428–439. <https://doi.org/10.1177/1559827611410265>
- Bonnes, S. (2016). Education and income imbalances among married couples in Malawi as predictors for likelihood of physical and emotional intimate partner violence. *Violence and Victims, 31*(1), 51–70. <https://doi.org/10.1891/0886-6708.VV-D-14-00016>
- Devries, K. M., Mak, J. Y. T., Garcia-Moreno, C., Petzold, M., Child, J. C., Falder, G., Lim, S., Bacchus, L. J., Engell, R. E., Rosenfeld, L., Pallitto, C., Vos, T., Abrahams, N., & Watts, C. H. (2013). The global prevalence of intimate partner violence against women. *Science, 340*(6140), 1527–1528. <https://doi.org/10.1126/science.1240937>
- Djamba, Y. K., & Kimuna, S. R. (2008). Intimate partner violence among married women in Kenya. *Journal of Asian and African Studies, 43*(4), 457–469. <https://doi.org/10.1177/0021909608091976>

- Flavahan, L., Institute of Medicine (U.S.), National Research Council (U.S.), & Uganda National Academy of Sciences (Eds.) (2015). *Preventing intimate partner violence in Uganda, Kenya, and Tanzania: Summary of a joint workshop by the Institute of Medicine, the National Research Council, and the Uganda National Academy of Sciences*. National Academies Press.
- Gage, A. J., & Thomas, N. J. (2017). Women's work, gender roles, and intimate partner violence in Nigeria. *Archives of Sexual Behavior, 46*(7), 1923–1938. <https://doi.org/10.1007/s10508-017-1023-4>
- Garcia-Moreno, C., Jansen, H. A., Ellsberg, M., Heise, L., & Watts, C. H. (2006). Prevalence of intimate partner violence: Findings from the WHO multi-country study on women's health and domestic violence. *The Lancet, 368*(9543), 1260–1269. [https://doi.org/10.1016/S0140-6736\(06\)69523-8](https://doi.org/10.1016/S0140-6736(06)69523-8)
- Garcia-Moreno, C., Pallitto, C., Devries, K., Stöckl, H., Watts, C., & Abrahams, N. (2013). *Global and regional estimates of violence against women: Prevalence and health effects of intimate partner violence and non-partner sexual violence*. World Health Organization.
- Goodson, A., & Hayes, B. E. (2018). Help-seeking behaviors of intimate partner violence victims: A cross-national analysis in developing nations. *Journal of Interpersonal Violence*. Advance online publication. <https://doi.org/10.1177/0886260518794508>
- Heise, L. (2011). *What works to prevent partner violence? An evidence overview* [Monograph]. London School of Hygiene and Tropical Medicine. <http://strive.lshtm.ac.uk/resources/what-works-prevent-partner-violence-evidence-overview>
- Heise, L., & Kotsadam, A. (2015). Cross-national and multilevel correlates of partner violence: An analysis of data from population-based surveys. *The Lancet Global Health, 3*(6), e332–e340. [https://doi.org/10.1016/S2214-109X\(15\)00013-3](https://doi.org/10.1016/S2214-109X(15)00013-3)
- Hindin, M. J., Kishor, S., & Ansara, D. L. (2008). *Intimate partner violence among couples in 10 DHS countries: Predictors and health outcomes* (No.18; DHS Analytical Studies). Macro International. <https://dhsprogram.com/pubs/pdf/AS18/AS18.pdf>
- Howard, L. M., Trevillion, K., Khalifeh, H., Woodall, A., Agnew-Davies, R., & Feder, G. (2010). Domestic violence and severe psychiatric disorders: Prevalence and interventions. *Psychological Medicine, 40*(6), 881–893. <https://doi.org/10.1017/S0033291709991589>
- ICF. International. (n.d.-a). The DHS program—Protecting the privacy of DHS survey respondents. <https://www.dhsprogram.com/What-We-Do/Protecting-the-Privacy-of-DHS-Survey-Respondents.cfm>
- ICF. International. (n.d.-b). The DHS program—Publications by type. <https://dhsprogram.com/publications/publications-by-type.cfm>
- Jahan, S. (2018). *Violence against women, a cause and consequence of inequality*. UNDP. <http://hdr.undp.org/en/content/violence-against-women-cause-and-consequence-inequality>
- Jeyaseelan, L., Kumar, S., Neelakantan, N., Peedicayil, A., Pillai, R., & Duvvury, N. (2007). Physical spousal violence against women in India: Some risk fac-

- tors. *Journal of Biosocial Science*, 39(5), 657–670. <https://doi.org/10.1017/S0021932007001836>
- Kadengye, D. T., Iddi, S., Hunter, L., & McCoy, S. I. (2019). Effectiveness of potential interventions to change gendered social norms on prevalence of intimate partner violence in Uganda: A causal inference approach. *Prevention Science*, 20(7), 1043–1053. <https://doi.org/10.1007/s1121-019-01010-8>
- Kapiga, S., Harvey, S., Muhammad, A. K., Stöckl, H., Mshana, G., Hashim, R., Hansen, C., Lees, S., & Watts, C. (2017). Prevalence of intimate partner violence and abuse and associated factors among women enrolled into a cluster randomised trial in northwestern Tanzania. *BMC Public Health*, 17(1), 190. <https://doi.org/10.1186/s12889-017-4119-9>
- Koenig, M. A., Lutalo, T., Zhao, F., Nalugoda, F., Wabwire-Mangen, F., Kiwanuka, N., Wagman, J., Serwadda, D., Wawer, M., & Gray, R. (2003). Domestic violence in rural Uganda: Evidence from a community-based study. *Bulletin of the World Health Organization*, 8.
- Krishnan, S., Rocca, C. H., Hubbard, A. E., Subbiah, K., Edmeades, J., & Padian, N. S. (2010). “Do changes in spousal employment status lead to domestic violence? Insights from a prospective study in Bangalore, India.” *Social Science & Medicine*, 70(1), 136–143. <https://doi.org/10.1016/j.socscimed.2009.09.026>
- Alangea, Ogum, D., Addo-Lartey, A., A., Sikweyiya, Y., Chirwa E., D., Coker-Appiah, D., Jewkes, R. Adanu R. M., K. (2018). Prevalence and risk factors of intimate partner violence among women in four districts of the central region of Ghana: Baseline findings from a cluster randomised controlled trial. *PLoS ONE*, 13(7). <https://doi.org/10.1371/journal.pone.0200874>
- Palermo, T., Bleck, J., & Peterman, A. (2014). Tip of the iceberg: Reporting and gender-based violence in developing countries. *American Journal of Epidemiology*, 179(5), 602–612. <https://doi.org/10.1093/aje/kwt295>
- Reese, B. M., Chen, M. S., Nekkanti, M., & Mulawa, M. I. (2017). Prevalence and risk factors of women’s past-year physical IPV perpetration and victimization in Tanzania. *Journal of Interpersonal Violence*. Advance online publication. <https://doi.org/10.1177/0886260517738775>
- Shamu, S., Shamu, P., & Machisa, M. (2018). Factors associated with past year physical and sexual intimate partner violence against women in Zimbabwe: Results from a national cluster-based cross-sectional survey. *Global Health Action*, 11(3), Article 1625594. <https://doi.org/10.1080/16549716.2019.1625594>
- StataCorp LLC. (2017). *Stata data analysis and statistical Software: Release 15*. Author. <https://www.stata.com/>
- Uganda Bureau of Statistics (UBOS), & ICF International. (2018). *Uganda demographic and health survey 2016*. Author. <http://dhsprogram.com/pubs/pdf/FR333/FR333.pdf>
- UN Women. (n.d.). Global database on violence against women: Burundi. <https://evaw-global-database.unwomen.org/en/countries/africa/burundi>
- United Nations. (2015). *World’s women: Trends and statistics*. United Nations, Department of Economic and Social Affairs, Statistics Division.

- Wenfeng, G., & Jan, O. (2011). *PVENN: Stata module to create proportional Venn diagram* (Version 1.2) [STATA]. Boston College Department of Economics. <https://ideas.repec.org/c/boc/bocode/s457368.html>
- World Health Organization. (WHO). (2017, November 29). *Violence against women*. <https://www.who.int/news-room/fact-sheets/detail/violence-against-women>
- Yigzaw, T., Berhane, Y., Deyessa, N., & Kaba, M. (2010). Perceptions and attitude towards violence against women by their spouses: A qualitative study in Northwest Ethiopia *Ethiopian Journal of Health Development*, 24(1). <https://doi.org/10.4314/ejhd.v24i1.62943>

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