

BMJ Open Armed conflicts and experience of intimate partner violence among women in Afghanistan: analysis of the 2015 Afghanistan DHS data

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ABSTRACT

Objective Armed conflicts and intimate partner violence (IPV) impose a burden on individual and societal well-being. Given the history of armed conflict in Afghanistan and the high prevalence of IPV, this study aims to examine the influence of armed conflicts on IPV among Afghan women.

Methods Multilevel logistic regression models were applied to the 2015 Afghanistan Demographic and Health Survey (N=10 414 women aged 15–49). Armed conflict severity was measured using the conflict index issued by the Office for the Coordination of Humanitarian Affairs. IPV was measured by three types of violence, including emotional, physical and sexual violence. All analyses were conducted by using STATA V.15.1.

Results Over 52% of women experienced at least one type of IPV, with 33.01%, 49.07%, and 8.99% experiencing emotional, physical, and sexual violence, respectively. The regression results show that armed conflicts were significantly and positively associated with the experience of all types of IPV. In addition, the association between armed conflicts and the experience of emotional IPV was positively moderated by women's attitudes towards IPV.

Conclusion Our findings suggest that women living in high-conflict regions were more prone to experience IPV, particularly women with positive attitudes towards IPV. Promoting progressive gender roles, women's empowerment, awareness of IPV and inclusion of women in conflict resolution will help deal with the issue of IPV.

INTRODUCTION

Political and interpersonal violence imposes a substantial burden on individual and societal well-being. Globally, in the mid-2000s, an increasing trajectory has been observed in interstate and intrastate conflicts.¹ Afghanistan has been immersed in conflict for over four decades, from the invasion of the Soviet Union to the US attack on the Taliban, and the formation of a democratic government under the presidency of Karzai, millions of people lost their lives, were left wounded or migrated to neighbouring countries.^{2 3} In the latest episode of Afghanistan's armed conflict, the Taliban regained power by

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This study benefited from a large nationally representative sample size, enhancing the statistical power of the study and increasing the reliability of the study's results.
- ⇒ This study measured the association between armed conflict and all forms of intimate partner violence (IPV) experienced by women in the last twelve months, providing a deeper understanding of how armed conflict is associated with all types of IPV.
- ⇒ This study employed an advanced statistical technique (multilevel modelling), which accounts for variance associated with hierarchical data.
- ⇒ Using cross-sectional data limits the ability to make causal references.
- ⇒ IPV is bidirectional, Demographic and Health Survey only collects data on IPV experienced by women; consequently, only the association between armed conflict and IPV experienced by women was assessed.

collapsing the Afghan government. One year after the Taliban regained power in Afghanistan, armed conflict has almost ended, but still, there are severe security threats due to the existence of militant groups.⁴

Globally, intimate partner violence (IPV) is a serious public health issue. Worldwide, nearly 30% of women aged 15–49 experience at least one form of IPV,⁵ and in Afghanistan, 55.54% of women were emotionally, physically, or sexually abused in their lifetime by their intimate partners.⁶ A study conducted in Afghanistan has indicated that IPV is linked with negative health outcomes in women.⁷ Systematic reviews of studies have found that Women who experience IPV could be at risk of trauma, injury, poor mental health, and adverse reproductive health outcomes.^{8 9} Moreover, other sequelae of IPV include vulnerability to sexually transmitted diseases and unintended pregnancy.^{10–12}

The IPV experiences of women are increasingly linked to armed conflicts. Conflict environments can greatly influence human behaviour, including the sustenance of hostile relationships in domestic settings and the perpetration of IPV. Individual-level exposure to armed conflicts and human rights violations has been associated with increased rates of IPV perpetration among men in conflict and postconflict situations.^{13 14} An increasing association has been reported between armed conflict and IPV,^{15–18} and women living in conflict settings are more prone to IPV. Studies from sub-Saharan Africa, Thailand, and Afghanistan found that women living in conflict zones reported a high incidence of IPV during conflicts.^{19–22}

Women's attitudes towards IPV can shape the relationship between the intensity of armed conflicts and the occurrence of IPV.²³ Studies found that women's supportive attitude towards wife beating can encourage their male partner to victimise them frequently.²⁴ Cultural norms and childhood exposure to IPV between parents can foster an attitude accepting of wife beating in adulthood.²⁵ In armed conflict settings, social learning theory suggests that conflict severity directly influences women's vulnerability to violence. Their attitudes, shaped by this theory, act as crucial moderators, amplifying or mitigating the impact of conflict severity on violence against women.²⁶ Women in Afghanistan are subjected to high levels of violence, which may have been worsened by more than four decades of violent conflict.²⁷

However, the relationship between armed conflicts and the experience of IPV among women in Afghanistan was not well investigated. First, few studies examined the armed conflicts–IPV association in Afghanistan. Previous studies are mainly conducted in Brazil, sub-Saharan Africa, and Myanmar. Afghanistan has been affected by armed conflict for more than four decades, thus presenting the context to investigate the relationship between armed conflict and the experience of IPV. Second, existing studies did not examine the nexus between armed conflict severity and different types of IPV, and it is of greater importance to understand and differentiate how armed conflict is associated with different types of IPV. Finally, to the best of our knowledge, other studies have not explored the moderating role of women's attitudes towards IPV between armed conflict levels and experience of IPV. Women's attitude towards IPV is a predominant predictor of experiencing IPV because it can encourage or prevent the experience of IPV.

Thus, we designed this study to investigate the impacts of armed conflicts on the experience of IPV among women in Afghanistan. Specifically, using the 2015 Afghanistan Demographic and Health Survey (AFDHS) and the multilevel models, we aimed to (1) analyse the association between the armed conflicts and experience of IPV and (2) investigate how women's attitude towards IPV moderates the relationship. In the absence of recent representative studies on regional-level conflict and IPV in Afghanistan, the results of this study will offer

information on how the domestic setting is reflective of the societal setting in terms of interpersonal relationships. Moreover, it will help in crafting policies and programmes to promote progressive gender roles, women's empowerment, and awareness of IPV and reduce the adverse effects of IPV.

DATA AND METHOD

Data

The data used in this research study were drawn from the 2015 AFDHS. The DHS is a nationally representative, multistage sampling survey administered every 5 years in many countries. The 2015 AFDHS used a two-stage stratified sampling technique for obtaining the data on important indicators in all 34 provinces of Afghanistan, both urban and rural.

In this study, We used a couple's dataset, and our sample (N=10 414) was restricted to women who were married and responded to questions on domestic violence modules.

Measures

Dependent variables

In this study, IPV is defined as a violent event that a woman experienced from her husband within 12 months before the interview. It was measured by 13 items included in the DHS domestic violence module. These items were categorised as emotional, physical and sexual forms of IPV.

Emotional IPV was created from three questions: whether or not the respondent has ever been dishonoured; threatened with harm, disrespected or made to feel bad by their spouse or partner. If the respondent experienced at least one type of emotional IPV in the last twelve months, it was categorised as 'yes'; otherwise, it was categorised as 'no'.

Physical IPV was created from seven questions: whether or not the respondent has ever been pushed, shaken; had something thrown at her; ever been slapped; ever been beaten with a fist or hit with something that can cause injury, kicked or pulled; strangled or burnt; threatened with a knife/gun or other weapons; and ever had arm twisted or hair pulled by partner/husband. Women who experienced at least one type of physical IPV in the last twelve months were grouped as 'yes', otherwise, as 'no'.

Sexual IPV was created from three questions: whether or not the respondent had ever been physically forced into sex against her wish by the partner/husband; forced into other unwanted sexual acts or physically forced to engage in sexual acts against the desire of the respondent during last year. Experiencing at least one form of sexual IPV was grouped as 'yes'; otherwise 'no'.

Any IPV, that is, if the respondent has been subject to at least one type of IPV in the last year was categorised as 'yes'; otherwise 'no' and each of the four variables was coded as binary.

Independent variable

Armed conflicts; the severity of armed conflicts, were measured by the index issued in 2015 by the Office for the Coordination of Humanitarian Affairs (OCHA).²⁸ This index was a weighted average of indicators that included civilian casualties caused by conflicts and mines, insecurity, exposure to mines and conflict-induced internally displaced peoples in each of the 34 provinces of Afghanistan. The values of the weighted average index from the OCHA report were assigned to respective provinces in the DHS dataset. The higher the value, the more serious the armed conflicts were.

Moderating variable

IPV attitudes were measured by five different situations in the DHS survey, including whether the woman justifies her husband beating her if she burns food, neglects her children, argues with her spouse, goes out without her husband's permission, or rejects having sex with her husband. IPV attitudes were coded as 1 if the woman justifies her husband beating her in any of five scenarios; otherwise, they were coded as 0.

Covariates

Covariates used in this research have been extensively discussed in previous studies as possible factors that affect IPV.²⁰⁻²⁹ These covariates include respondent's age measured in years, education level classified into four groups (illiterate, primary, secondary and higher education); access to media categorised as (not at all, less than once in a week and at least once in a week); ethnicity grouped as (Pashtun, Tajik, Hazara, Uzbek, and others); the residence grouped as binary (rural and urban); the number of under-5 children in the household; household wealth was constructed from family's assets via a principal component analysis, and this variable was computed and available in DHS datasets. **Table 1** presents the definitions and measurements of the variables.

Analytical strategy

Multilevel logistic regression was employed to investigate the association between armed conflicts and the experience of IPV. Below, we first used descriptive statistical analysis to present the sample characteristics. Then, considering the hierarchical nature of the data, multilevel logistic regression was used to calculate the OR for each of the dependent variables. As we were only interested in adjusted effects, we incorporated all the control variables into the model simultaneously. In the random effects analysis, to assess the suitability of our multilevel model and to evaluate the variability within the group, we measure the intraclass correlation. Finally, we investigated the moderating effect of women's attitudes towards violence in the association between armed conflicts and IPV. We employed the multivariate normal (MVN) imputation method to address missing data (27.06%) in the dependent variables. Assuming that missing values in the dependent variables occurred at random, we set the number of

Table 1 Definitions and measurement of variables

Variables	Definitions and measurement
Dependent variables	
Any IPV	Whether or not the respondent suffered from at least one type of violence (emotional, physical and sexual violence) No=0; Yes=1
Emotional IPV	Whether or not the respondent experienced emotional IPV. No=0; yes=1
Physical IPV	Whether or not respondent experienced physical IPV. No=0; yes=1
Sexual IPV	Whether or not respondents experienced sexual IPV. No=0; yes=1
Independent variable	
Armed conflicts	A weighted average of indicators (civilian casualties caused by conflicts and mines, insecurity, exposure to mines and conflict-induced internally displaced peoples)
Moderating variable	
IPV attitudes	Whether or not woman justified her husband in beating her in five different situations, including if she burns food, or go out without his permission, or neglects children, or refuse to have sex with him, or argue with him. Not justified=0; justified=1
Covariates	
Age	Age of women in number of years
Ethnicity	Pashtun=1, Tajik=2, Hazara=3, Uzbek=4, others=5
Education	Illiterate=1, primary=2, secondary=3, higher=4
Residence	Rural=0, urban=1
Access to media	Frequency of watching TV in a week Not at all=1, less than once in a week=2, at least once in a week=3
Children number	Number of other under 5 years old children in household
Household wealth	Poorest=1, poorer=2, middle=3, richer=4, richest=5
IPV, intimate partner violence.	

imputations to 20, and the MVN imputation approach was chosen due to its capacity to handle complex interdependencies among variables.³⁰ In-depth insights into the multilevel modelling approach, including the specifications of the level-1 model, level-2 model and the comprehensive full model used in our study, as well as detailed characteristics of husbands included in the analysis, can be found in online supplemental material. Specifically,

online supplemental tables S1 and S2 provide comprehensive information on these aspects. All the analyses were performed in STATA V.15.1.

Patient and public involvement

The public and patients did not participate in the designing, reporting and dissemination plans of our study because we used AFDHS data collected by the United States Agency for International Development (USAID).

RESULTS

Table 2 illustrates the characteristics of our sample. The overall percentage of respondents who were victims of at least one form of violence was 52.69%. Nearly 33% claimed to have experienced emotional violence, and about 49% of the women reported that they had experienced physical violence from their husbands/partners. About 9% reported having experienced sexual violence, over 83% of respondents justified wife beating for at least one specified reason. Additionally, the mean of armed conflict severity is 3.13.

Women who do not justify wife beating are less likely to experience IPV compared with those who justify wife-beating; these include any IPV (34.44% vs 56.78%), emotional IPV (19.03% vs 36.29%), physical IPV (29.92% vs 53.38%), and sexual IPV (4.69% vs 10.01%). The average conflict level was significantly higher in the region where women justify wife-beating (3.17) than in the regions where women do not justify wife-beating (2.88).

Table 3 illustrates the results of multilevel logistic regression on the association between armed conflicts and experience of IPV. After adjusting for covariates, we found that an increase in one unit of armed conflict had 42% (OR=1.426, $p<0.01$), 47% (OR=1.476, $p<0.001$), 38% (OR=1.387, $p<0.01$) and 31% (OR=1.316, $p<0.01$) increased likelihood of experiencing any IPV, emotional IPV, physical IPV and sexual IPV, respectively.

Socioeconomic factors were also associated with the experience of IPV. The likelihood of experiencing any IPV 7.5% (OR=0.925, $p<0.001$), emotional IPV 11% (OR=0.889, $p<0.001$), physical IPV 14% (OR=0.860, $p<0.001$) and sexual IPV 11% (0.89, $p<0.001$) decline with age, but the rate of decline diminishes gradually. Women whose education level was higher were 50% (OR=0.501, $p<0.001$) and 49% (OR=0.51, $p<0.001$) less likely to suffer from any IPV and emotional IPV when compared with less educated women. Furthermore, increase in one unit of household wealth had 10% (OR=0.902, $p<0.001$), 7% (0.939, $p<0.001$), 11% (OR=0.892, $p<0.001$), and 9% (OR=0.913, $p<0.001$) reduced likelihood of experiencing any IPV, emotional IPV, physical IPV, and sexual IPV, respectively.

Random effects results

Table 3 shows the random effects from multilevel logistic regression on the association between armed conflicts

and experience of IPV. The null models demonstrated substantial variability in each of the dependent variables. A variation of 21%, 17%, 19%, and 8% was associated with any type of IPV, emotional IPV, physical IPV, and sexual IPV, respectively. This, consequently, offers a justification for opting for a multilevel model instead of ordinary logistic regression.

Table 4 shows the interaction effects of women's attitudes towards IPV in the relationship between armed conflicts and experience of IPV. The relationship between armed conflicts and any form of IPV was significantly moderated by women's positive attitudes towards IPV and emotional IPV. Married women who justify wife-beating were more likely to experience any IPV (OR=1.145, $p<0.01$) and emotional IPV (OR=1.146, $p<0.01$) compared with women who do not justify wife-beating. However, the relationship between armed conflicts and physical IPV, and sexual IPV was not moderated by women's positive attitude towards IPV.

DISCUSSION

IPV is a predominant social injustice that cuts across different sociocultural settings^{31 32} and researchers have devoted much attention to this issue. Although there has been some research on IPV in Asia, limited attention has been given to how armed conflicts intensify the likelihood of experiencing IPV in Afghanistan. Hence, this study assessed whether armed conflicts are associated with IPV among the Afghan population.

We found a positive significant relationship between armed conflicts and IPV. Likewise, women residing in conflict-affected areas had a high probability of suffering from at least one form of IPV. Furthermore, as armed conflicts increase, the probability of experiencing emotional, physical and sexual violence from their intimate partner also increases. Our findings complement the results of other studies from Afghanistan, South Asia and sub-Saharan Africa.^{15 18 33–35} According to studies conducted by Gallegos and Gutierrez, which combined data from the DHS and the Peruvian Truth and Reconciliation Commission, conflict-related fatalities were associated with an increase in IPV.³⁶ Women living in conflict-affected areas had a high probability of being victims of IPV even 5 years after the conflict had ended. Previous studies have measured the intensity of conflict based on the number of fatalities from armed conflicts and non-fatal events.^{15 22} These findings indicate a possible dose–response relationship, with the most intense armed conflicts leading to increased incidents of IPV.³⁷ Exposure to violence can also alter an individual's perception of others, as suggested by Zelman's Excitation Transfer Theory, which holds that arousal (such as that caused by conflict) in one situation can intensify emotional reactions in subsequent unrelated situations.³⁸

Moreover, women's attitude towards IPV is regarded as an important factor in determining the magnitude of IPV they experience in their marital relationships.³⁹

Table 2 Descriptive statistics of the sample

Variables	Total sample		Not justified		Justified	
	Mean/%	SD	Mean/%	SD	Mean/%	SD
Any IPV***						
Yes	52.69		34.44		56.78	
No	47.31		65.56		43.22	
Emotional IPV***						
Yes	33.01		19.03		36.29	
No	66.99		80.97		63.71	
Physical IPV***						
Yes	49.07		29.92		53.38	
No	50.93		70.08		46.62	
Sexual IPV***						
Yes	8.99		4.69		10.01	
No	91.01		95.31		89.99	
Armed conflicts***	3.13	1.15	2.88	1.08	3.17	1.15
IPV attitudes						
Justified	83.75					
Not justified	16.25					
Age	29.65	7.77	29.36	7.74	29.69	7.77
Ethnicity***						
Pashtun	46.28		44.12		46.12	
Tajik	29.34		30.83		29.46	
Hazara	8.12		10.05		7.79	
Uzbek	6.35		7.74		6.06	
Others	9.91		7.25		10.57	
Education***						
Illiterate	86.34		82.21		86.98	
Primary	6.28		6.38		6.30	
Middle	5.90		7.95		5.57	
Higher	1.49		3.46		1.14	
Residence***						
Rural	78.87		74.32		79.82	
Urban	21.13		25.68		20.18	
Access to media***						
Not at all	57.11		48.72		58.64	
Less than once in a week	10.48		13.69		9.85	
At least once in a week	32.41		37.59		31.51	
Children number	2.06	1.72	2.06	1.73	2.07	1.72
Household wealth***						
Poorest	18.49		16.58		18.89	
Poorer	23.10		21.49		23.56	
Middle	22.67		21.31		23.00	
Richer	22.07		23.13		21.68	
Richest	13.66		17.49		12.88	

The significance level next to the variables in the first column was calculated based on the χ^2 test or t-test and indicated the significant differences in corresponding variables between not justified and justified.

*p<0.05, **p<0.01, ***p<0.001.

IPV, intimate partner violence.

**Table 3** Multilevel logistic regression on the association between armed conflicts and experience of IPV

Variables	Any IPV		Emotional IPV		Physical IPV		Sexual IPV	
	OR	SE	OR	SE	OR	SE	OR	SE
Armed conflicts	1.426**	(0.192)	1.476***	(0.172)	1.387**	(0.175)	1.316***	(0.104)
IPV attitudes								
Not justified	1.000		1.000		1.000		1.000	
Justified	1.686***	(0.110)	1.491***	(0.097)	1.768***	(0.115)	1.197*	(0.084)
Age	0.925**	(0.023)	0.841***	(0.019)	0.922***	(0.022)	0.746***	(0.017)
Age ²	1.001***	(0.000)	1.003***	(0.000)	1.002***	(0.000)	1.004***	(0.000)
Ethnicity								
Pashtun	1.000		1.000		1.000		1.000	
Tajik	0.863	(0.069)	0.889	(0.064)	0.860	(0.067)	0.890	(0.067)
Hazara	0.845	(0.103)	0.942	(0.106)	0.800	(0.095)	0.751*	(0.085)
Uzbek	0.790	(0.100)	0.844	(0.108)	0.771*	(0.097)	1.036	(0.142)
Others	1.008	(0.117)	0.939	(0.107)	0.993	(0.114)	1.118	(0.132)
Education								
Illiterate	1.000		1.000		1.000		1.000	
Primary	0.937	(0.093)	0.975	(0.093)	0.954	(0.093)	1.149	(0.114)
Middle	0.814	(0.086)	0.846	(0.087)	0.894	(0.093)	0.984	(0.107)
Higher	0.509***	(0.102)	0.680	(0.136)	0.511***	(0.103)	0.760	(0.171)
Access to media								
Not at all	1.000		1.000		1.000		1.000	
Less than once in a week	1.366***	(0.120)	1.087	(0.086)	1.348***	(0.115)	1.121	(0.092)
At least once in a week	0.942	(0.061)	1.025	(0.062)	0.948	(0.060)	1.142*	(0.071)
Residence								
Rural	1.000		1.000		1.000		1.000	
Urban	0.906	(0.068)	0.965	(0.069)	0.876	(0.064)	1.026	(0.078)
Household wealth	0.903***	(0.023)	0.929**	(0.022)	0.892***	(0.022)	0.913***	(0.023)
U5 children	1.339***	(0.024)	1.340***	(0.022)	1.342***	(0.023)	1.474***	(0.024)
Random effect results								
Variance (CI)	0.921	(0.564, 1.505)	0.678	(0.414, 1.112)	0.802	(0.490, 1.312)	0.286	(0.172, 0.477)
ICC	0.219		0.171		0.196		0.080	
Model fit statistic LR test	32 107.63***		26 223.38***		29 201.60***		13 352.17***	
Log-likelihood	-109 343.25		-121 454.72		-113 690.1		-113 996.38	
Number of groups	34		34		34		34	

*p<0.05, **p<0.01, ***p<0.001.

ICC, intraclass correlation; IPV, intimate partner violence; U5 children, number of under five years old children in household.

Our study reveals that the association between armed conflicts and being the victim of any form of IPV and emotional IPV was positively moderated by women's positive attitudes towards IPV. These findings are supported by a multicountry study,²³ which showed that women's positive attitude towards wife beating normalises and promotes aggressive behaviour against women, encouraging men to beat their wives on trivial issues.⁴⁰

Several socioeconomic and demographic factors also influence the likelihood of women being exposed to IPV. Our findings revealed that women with relatively more education had a lower risk of experiencing IPV than less-educated women. Increasing women's schooling may reduce the short-term and long-term probability of being

victims of physical, emotional and sexual violence,³⁷ because higher education can act as a protective buffer against IPV.⁴¹ In poor households, domestic violence incidents are relatively high compared with rich families.^{42 43} Women in poor families with relatively poor economic status were three-and-a-half times more at risk of suffering from domestic abuse than women in relatively rich families. The reason is complex, but it may include the fact that poverty intensifies domestic violence as it prolongs women's exposure to it and limits their ability to leave the relationship.⁴⁴

Our study addresses a critical gap in the literature by demonstrating that armed conflicts are related to an increased risk of IPV at the household and individual levels. We expand the findings from Liberia,

Table 4 Moderating effects of IPV attitudes on the association between armed conflicts and experience of IPV

Variables	Any IPV		Emotional IPV		Physical IPV		Sexual IPV	
	OR	SE	OR	SE	OR	SE	OR	SE
Armed conflicts	1.273	(0.182)	1.315*	(0.165)	1.303	(0.176)	1.319**	(0.127)
IPV attitudes								
Not justified	1.000		1.000		1.000		1.000	
Justified	1.141	(0.207)	1.000	(0.182)	1.426*	(0.257)	1.207	(0.252)
Armed conflicts # IPV attitudes	1.145*	(0.067)	1.146*	(0.066)	1.077	(0.063)	0.997	(0.065)
Age	0.924**	(0.023)	0.841***	(0.019)	0.921***	(0.022)	0.746***	(0.017)
Age ²	1.001***	(0.000)	1.003***	(0.000)	1.002***	(0.000)	1.004***	(0.000)
Ethnicity								
Pashtun	1.000		1.000		1.000		1.000	
Tajik	0.866	(0.069)	0.891	(0.064)	0.861	(0.067)	0.890	(0.067)
Hazara	0.847	(0.103)	0.946	(0.106)	0.802	(0.096)	0.751*	(0.085)
Uzbek	0.791	(0.100)	0.842	(0.108)	0.772*	(0.097)	1.036	(0.142)
Others	1.009	(0.118)	0.942	(0.107)	0.994	(0.114)	1.117	(0.132)
Education								
Illiterate	1.000		1.000		1.000		1.000	
Primary	0.936	(0.093)	0.975	(0.093)	0.954	(0.093)	1.149	(0.114)
Middle	0.810*	(0.085)	0.843	(0.086)	0.892	(0.093)	0.984	(0.107)
Higher	0.510***	(0.102)	0.682	(0.136)	0.512***	(0.103)	0.760	(0.171)
Access to media								
Not at all	1.000		1.000		1.000		1.000	
Less than once in a week	1.361***	(0.120)	1.082	(0.085)	1.345***	(0.115)	1.121	(0.092)
At least once in a week	0.943	(0.061)	1.025	(0.062)	0.948	(0.060)	1.142*	(0.071)
Residence								
Rural	1.000		1.000		1.000		1.000	
Urban	0.907	(0.068)	0.967	(0.070)	0.876	(0.065)	1.026	(0.078)
Household wealth	0.904***	(0.023)	0.930**	(0.022)	0.892***	(0.022)	0.913***	(0.023)
U5 children	1.338***	(0.024)	1.340***	(0.022)	1.341***	(0.023)	1.474***	(0.024)
Random effect results								
Variance (CI)	0.916	(0.561, 1.496)	0.672	(0.410, 1.103)	0.799	(0.489, 1.308)	0.286	(0.172, 0.477)
ICC	0.218		0.170		0.196		0.080	
Model fit statistic LR test	31 760.17***		25 847.83***		29 020.75***		13 351.15***	
Log-likelihood	-109 288.15		-121 398.79		-113 673.54		-113 996.34	
Number of groups	34		34		34		34	

*p<0.05, **p<0.01, ***p<0.001.

ICC, intraclass correlation; IPV, intimate partner violence; U5 children, number of under 5 years old children in household.

which revealed that persons living in areas devastated by political violence are at a greater risk of being victims of IPV.¹⁵ Efforts in measuring the intensity of war have been mostly based on death and war-related fatalities.¹⁵ To the best of our knowledge, this paper illuminates armed conflicts as the most detrimental to future IPV-related incidents.

There are still some limitations in this study. Fundamentally, IPV is a bidirectional and hostile interaction between dyads of people. The DHS did not collect data on husbands' IPV experiences, as a result, this study was only able to assess women's experiences. A further limitation of this work is that this study used cross-sectional data and makes the

causal inferences uncertain. Longitudinal data would be a better option, yet challenging in conflict scenarios. Finally, the sensitive nature of survey questions can result in potential social desirability and recall bias, which may result in the possible under-reporting of IPV. This study is constrained by using macrolevel data on conflict severity, which cannot capture individual-level variations. This limits the precision of our analysis, potentially overlooking the nuanced experience within the conflict-affected communities.

Future studies should focus on individual-level data collection to explain the complex relationship between conflict severity, and the experience of IPV in conflict-affected areas.

CONCLUSION

In summary, we found that women living in high-conflict regions had high and significant chances of experiencing all forms of IPV. Moreover, women's positive view of domestic violence against wives proved to be a strong predictor of experiencing IPV. It significantly moderated the relationship between armed conflicts and the experience of any, and emotional IPV. The worrying implication is that armed conflicts can lead individuals to perpetrate or experience violence in domestic settings. Exposure to frequent violent events may have lasting effects for many years.

To effectively disrupt the vicious cycles of violence during and after periods of conflict, it is crucial to comprehend the connection between armed conflicts and IPV. The evidence-based finding demonstrating the connection between conflict and IPV, emphasises the urgent need for a comprehensive intervention. This is especially important because research articles have reported that exposure to violent events during armed-conflict situations can significantly increase the likelihood of adolescents becoming perpetrators of violence in peacetime and throughout their lives. Additionally, this violent behaviour can be transferred to their children, creating a legacy of violence perpetuating through generations.

A holistic intervention is necessary to address the multifaceted nature of IPV, including primary and secondary prevention programmes that address psychological issues, substance abuse, and aggressive behaviour. Post-conflict specialised policies and programmes should raise awareness and educate society on domestic violence and involve targeted trauma-healing sessions with those affected by armed conflict. Women must be included in the peace-building process and reconciliation initiatives, and programmes launched to promote their empowerment and awareness of IPV. Collaboration between governmental and non-governmental organisations through economic initiatives, counselling, and community awareness campaigns can better prepare individuals and families for the aftermath of conflict and effectively promote peace.

Contributors AGK conceptualised the study, conducted data curation, performed formal analysis, wrote the original draft and participated in writing, review, and editing. AGK serves as a guarantor for the overall content of this publication and ensures the accuracy and integrity of this research. QJ contributed to conceptualisation, funding acquisition, investigation, project administration, and supervision, and participated in writing and editing. TG contributed to data curation, formal analysis, project administration, and software, and participated in writing, review, and editing. TA participated in the investigation and participated in writing, review, and editing. Additionally, QJ supervised the project.

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Institutional Review Board (IRB). Additionally, country-specific DHS survey protocols are reviewed by the ICF IRB and typically by an IRB in the host country. ICF IRB ensures that the survey complies with the US Department of Health and Human Services regulations for the protection of human subjects (45 CFR 46), while the host country IRB ensures that the survey complies with laws and norms of the nation. Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available on reasonable request. The dataset used for analysis and reaching the conclusions of this study is available online at MEASURE DHS (<https://www.dhsprogram.com/data/available-datasets.cfm>). It is released upon request, subject to approval.

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REFERENCES

- 1 CSP - major episodes of political violence, 1946-2013. Available: <https://www.systemicpeace.org/warlist/warlist.htm> [Accessed 01 Mar 2023].
- 2 Bloch H. A look at Afghanistan's 40 years of crisis — from the Soviet war to Taliban recapture. NPR; 2021. Available: <https://www.npr.org/2021/08/19/1028472005/afghanistan-conflict-timeline> [Accessed 03 Mar 2023].
- 3 Afghan war | history, casualties, dates, & facts | britannica. 2023. Available: <https://www.britannica.com/event/Afghan-War> [Accessed 30 Apr 2023].
- 4 Afghanistan's security challenges under the Taliban, 2022. Available: <https://www.crisisgroup.org/asia/south-asia/afghanistan/afghanistans-security-challenges-under-taliban> [Accessed 5 Apr 2023].
- 5 UN Women – Headquarters. Facts and figures: ending violence against women. 2023. Available: <https://www.unwomen.org/en/what-we-do/ending-violence-against-women/facts-and-figures> [Accessed 04 Feb 2024].
- 6 Shinwari R, Wilson ML, Abiodun O, *et al*. Intimate partner violence among ever-married Afghan women: patterns, associations and attitudinal acceptance. *Arch Womens Ment Health* 2022;25:95–105.
- 7 Gibbs A, Corboz J, Jewkes R. Factors associated with recent intimate partner violence experience amongst currently married women in Afghanistan and health impacts of IPV: a cross sectional study. *BMC Public Health* 2018;18:593.
- 8 Campbell JC. Health consequences of intimate partner violence. *Lancet* 2002;359:1331–6.
- 9 Mueller I, Tronick E. Early life exposure to violence: developmental consequences on brain and behavior. *Front Behav Neurosci* 2019;13:156.
- 10 Pallitto CC, Garcia-Moreno C, Jansen H, *et al*. Intimate partner violence, abortion, and unintended pregnancy: results from the WHO Multi-country Study on Women's Health and Domestic Violence. *Int J Gynaecol Obstet* 2013;120:3–9.
- 11 Miller E, Decker MR, McCauley HL, *et al*. Pregnancy coercion, intimate partner violence and unintended pregnancy. *Contraception* 2010;81:316–22.
- 12 Jewkes RK, Dunkle K, Nduna M, *et al*. Intimate partner violence, relationship power inequity, and incidence of HIV infection in young women in South Africa: a cohort study. *Lancet* 2010;376:41–8.

- 13 Gupta J, Acevedo-Garcia D, Hemenway D, *et al.* Premigration exposure to political violence and perpetration of intimate partner violence among immigrant men in Boston. *Am J Public Health* 2009;99:462–9.
- 14 Gupta J, Reed E, Kelly J, *et al.* Men's exposure to human rights violations and relations with perpetration of intimate partner violence in South Africa. *J Epidemiol Community Health* 2012;66:e2.
- 15 Kelly JTD, Colantuoni E, Robinson C, *et al.* From the battlefield to the bedroom: a multilevel analysis of the links between political conflict and intimate partner violence in Liberia. *BMJ Glob Health* 2018;3:e000668.
- 16 Saile R, Neuner F, Ertl V, *et al.* Prevalence and predictors of partner violence against women in the aftermath of war: a survey among couples in Northern Uganda. *Soc Sci Med* 2013;86:17–25.
- 17 Alemi Q, Stempel C, Montgomery S, *et al.* Prevalence and social-ecological correlates of intimate partner violence in a conflict zone—evidence from the 2015 Afghanistan demographic and health survey. *Violence Against Women* 2022;28:2825–56.
- 18 Clark CJ, Everson-Rose SA, Suglia SF, *et al.* Association between exposure to political violence and intimate-partner violence in the occupied Palestinian territory: a cross-sectional study. *Lancet* 2010;375:310–6.
- 19 Vinck P, Pham PN. Association of exposure to intimate-partner physical violence and potentially traumatic war-related events with mental health in Liberia. *Soc Sci Med* 2013;77:41–9.
- 20 Mootz JJ, Muhanguzi F, Greenfield B, *et al.* Armed conflict, intimate partner violence, and mental distress of women in Northeastern Uganda: a mixed methods study. *Psychol Women Q* 2019;43:457–71.
- 21 Eseosa Ekhatior-Mobayode U, Hanmer LC, Rubiano-Matulevich E, *et al.* The effect of armed conflict on intimate partner violence: evidence from the Boko Haram insurgency in Nigeria. *World Dev* 2022;153:105780.
- 22 Falb KL, McCormick MC, Hemenway D, *et al.* Violence against refugee women along the Thai–Burma border. *Int J Gynaecol Obstet* 2013;120:279–83.
- 23 Kishor S, Johnson K. Profiling domestic violence: a multi-country study. *MEASURE DHS+, ORC Macro* 2004.
- 24 Abramsky T, Watts CH, Garcia-Moreno C, *et al.* What factors are associated with recent intimate partner violence? Findings from the WHO multi-country study on women's health and domestic violence. *BMC Public Health* 2011;11:1–17.
- 25 Rani M, Bonu S, Diop-Sidibe N. An empirical investigation of attitudes towards wife-beating among men and women in seven sub-Saharan African countries. *Afr J Reprod Health* 2004;8:116–36.
- 26 Akers RL, Jennings WG. Social learning theory. In: *Handb criminol theory*. 2015: 230–40.
- 27 Nijhowne D, Oates L. Living with violence: a national report on domestic abuse in Afghanistan. Global Rights; 2008.
- 28 Afghanistan humanitarian needs overview - Afghanistan | Reliefweb. 2014. Available: <https://reliefweb.int/report/afghanistan/2015-afghanistan-humanitarian-needs-overview> [Accessed 02 Mar 2023].
- 29 Jewkes R, Corboz J, Gibbs A. Trauma exposure and IPV experienced by Afghan women: analysis of the baseline of a randomised controlled trial. *PLoS One* 2018;13:e0201974.
- 30 Rubin DB. Multiple imputation. In: *Flexible imputation of missing data, Second edition*. Chapman and Hall/CRC, 2018: 29–62.
- 31 Ahinkorah BO. Intimate partner violence against adolescent girls and young women and its association with miscarriages, stillbirths and induced abortions in sub-Saharan Africa: evidence from demographic and health surveys. *SSM Popul Health* 2021;13:100730.
- 32 Ahinkorah BO. Polygyny and intimate partner violence in sub-Saharan Africa: evidence from 16 cross-sectional demographic and health surveys. *SSM Popul Health* 2021;13:100729.
- 33 Mannell J, Grewal G, Ahmad L, *et al.* A qualitative study of women's lived experiences of conflict and domestic violence in Afghanistan. *Violence Against Women* 2021;27:1862–78.
- 34 Violence against women. Available: <https://www.who.int/news-room/fact-sheets/detail/violence-against-women> [Accessed 01 Mar 2023].
- 35 Catani C, Jacob N, Schauer E, *et al.* Family violence, war, and natural disasters: a study of the effect of extreme stress on children's mental health in Sri Lanka. *BMC Psychiatry* 2008;8:1–10.
- 36 Gutierrez IA, Gallegos JV. The Effect of Civil Conflict on Domestic Violence: The Case of Peru.2016. Available: http://www.rand.org/pubs/working_papers/WR1168.html
- 37 Lee IM, Skerrett PJ. Physical activity and all-cause mortality: what is the dose-response relation *Med Sci Sports Exerc* 2001;33:S459–71; .
- 38 Zillmann D. Excitation transfer theory. *Int Encycl Commun* 2008.
- 39 Shakya HB, Fleming P, Saggurti N, *et al.* Longitudinal associations of intimate partner violence attitudes and perpetration: dyadic couples data from a randomized controlled trial in rural India. *Soc Sci Med* 2017;179:97–105.
- 40 Speizer IS. Intimate partner violence attitudes and experience among women and men in Uganda. *J Interpers Violence* 2010;25:1224–41.
- 41 Weitzman A. Does increasing women's education reduce their risk of intimate partner violence? Evidence from an education policy reform. *Criminology* 2018;56:574–607.
- 42 Owusu Adjah ES, Agbemafle I. Determinants of domestic violence against women in Ghana. *BMC Public Health* 2016;16:368.
- 43 VanderEnde KE, Sibley LM, Cheong YF, *et al.* Community economic status and intimate partner violence against women in Bangladesh: compositional or contextual effects *Violence Against Women* 2015;21:679–99.
- 44 Domestic abuse is an economic issue – for its victims and for society. CPAG, 2019. Available: <https://cpag.org.uk/news-blogs/news-listings/domestic-abuse-economic-issue-%E2%80%93-its-victims-and-society> [Accessed 16 Feb 2023].

Level-1 model:

$$\text{logit}(IPV_{ij}) = \beta_{0j} + \beta_{1j}IPV \text{ Attitudes}_{ij} + \beta_{2j}Covarites \quad (1)$$

where $\text{logit}(IPV_{ij})$ represents the log-odds of experiencing IPV for woman i in province j . β_{0j} is the intercept, capturing the average log-odds of IPV when IPV attitudes and covariates are zero. β_{1j} represents the change in log-odds of IPV for a one-unit increase in IPV attitudes. β_{2j} represents the change in log-odds of IPV for a one-unit increase in Covariates.

Level-2 model:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}Conflicts_j + \mu_{0j} \quad (2)$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}Conflicts_j \quad (3)$$

$$\beta_{2j} = \gamma_{20} \quad (4)$$

where γ_{00} is the overall intercept, capturing the average log-odds of IPV when all predictors are zero. γ_{01} represents how the intercept (β_{0j}) varies across provinces due to the influence of conflict levels ($Conflicts_j$). μ_{0j} is the random effect, accounting for unobserved variations in the intercept across provinces. γ_{10} is the overall slope for IPV Attitudes. γ_{11} represents how the slope (β_{1j}) for IPV Attitudes varies across provinces due to conflict levels. γ_{20} is the overall slope for Covariates.

The full model:

$$\text{logit}(IPV_{ij}) = \gamma_{00} + \gamma_{01}Conflicts_j + \gamma_{10}IPV \text{ Attitudes}_{ij} + \gamma_{11}Conflicts_j * IPV \text{ Attitudes}_{ij} + \gamma_{20}Covarites_{ij} + \mu_{0j} \quad (5)$$

This full model combines both Level-1 and Level-2 equations, allowing for an understanding of how the individual and provincial factors jointly influence the log odds of experiencing IPV. The interaction term $Conflicts_j * IPV \text{ Attitudes}_{ij}$ captures how the relationship between IPV attitudes and IPV experiences varies across provinces with different conflict levels.

Table S1. Husband characteristics of the sample.

Variables	Total sample Mean (SD) / %	Not justified Mean (SD) / %	Justified Mean (SD) / %	<i>P-value</i>
Husband's age	33.83 (8.31)	33.79 (8.28)	33.82 (8.31)	0.5666
Husband's education				0.001
Illiterate	54.67	55.92	54.34	
Primary	13.90	12.14	14.36	
Middle	23.37	21.92	23.66	
Higher	6.91	8.99	6.57	
Husband's occupation				0.001
Agriculture	30.70	28.05	31.46	
Services	15.79	17.55	15.40	
Manual	30.84	29.20	31.02	
Profession	22.41	25.14	21.95	

Note: For husbands' occupation, Agriculture refers to agricultural, self-employed/employee; Services refers to services and sales; Manual refers to skilled and unskilled manual; Profession refers to professional, technical, managerial, and clerical.

Table S2. Multilevel logistic regression on the association between armed conflict and experience of IPV (includes covariates relate to husband: age, education, and occupation).

Variables	Any IPV		Emotional IPV		Physical IPV		Sexual IPV	
	OR	S.E.	OR	S.E.	OR	S.E.	OR	S.E.
Armed conflicts	1.279	(0.183)	1.320*	(0.166)	1.308*	(0.176)	1.324**	(0.127)
IPV attitudes								
Not justified (ref.)								
Justified	1.150	(0.209)	1.005	(0.183)	1.440*	(0.260)	1.224	(0.256)
Armed conflicts # IPV attitudes	1.141*	(0.067)	1.144*	(0.067)	1.072	(0.062)	0.992	(0.065)
Age	0.925**	(0.023)	0.847***	(0.020)	0.922***	(0.023)	0.753***	(0.018)
Age ²	1.001***	(0.000)	1.003***	(0.000)	1.001**	(0.000)	1.004***	(0.000)
Ethnicity								
Pashtun (ref.)								
Tajik	0.871	(0.070)	0.892	(0.065)	0.865	(0.067)	0.884	(0.066)
Hazara	0.847	(0.103)	0.944	(0.106)	0.801	(0.096)	0.747*	(0.085)
Uzbek	0.783	(0.099)	0.838	(0.108)	0.763*	(0.096)	1.031	(0.141)
Others	1.005	(0.117)	0.940	(0.107)	0.990	(0.113)	1.115	(0.132)
Education								
Illiterate (ref.)								
Primary	0.971	(0.098)	0.997	(0.096)	0.982	(0.097)	1.135	(0.114)
Middle	0.853	(0.092)	0.864	(0.090)	0.927	(0.099)	0.955	(0.105)
Higher	0.591*	(0.122)	0.729	(0.149)	0.582**	(0.121)	0.762	(0.176)
Access to media								
Not at all (ref.)								
Less than once in a week	1.385***	(0.122)	1.092	(0.086)	1.367***	(0.117)	1.119	(0.092)
At least once in a week	0.960	(0.062)	1.033	(0.063)	0.961	(0.061)	1.132*	(0.071)
Residence								
Rural (ref.)								
Urban	0.922	(0.070)	0.973	(0.071)	0.893	(0.066)	1.039	(0.080)

Household wealth	0.922**	(0.024)	0.941*	(0.023)	0.909**	(0.024)	0.912**	(0.023)
U5 children	1.343***	(0.024)	1.347***	(0.022)	1.345***	(0.024)	1.478***	(0.024)
Husband age								
15-39 (ref.)								
≥40	1.064	(0.085)	1.240**	(0.094)	1.045	(0.082)	1.152	(0.094)
Missing	0.515	(0.203)	0.724	(0.284)	0.585	(0.228)	0.636	(0.269)
Husband education								
No education (ref.)								
Primary	0.889	(0.066)	0.924	(0.064)	0.893	(0.064)	1.018	(0.073)
Secondary	0.981	(0.066)	0.977	(0.061)	1.022	(0.067)	1.118	(0.072)
Higher	0.733**	(0.084)	0.852	(0.093)	0.760*	(0.085)	0.932	(0.105)
Missing	1.072	(0.257)	1.205	(0.265)	0.999	(0.231)	1.356	(0.301)
Occupation								
Agriculture (ref.)								
Services	0.839*	(0.067)	0.914	(0.068)	0.839*	(0.066)	0.919	(0.071)
Manual	0.935	(0.064)	0.950	(0.060)	0.913	(0.061)	0.905	(0.059)
Professional/ clerical	0.878	(0.070)	0.956	(0.071)	0.875	(0.068)	1.052	(0.080)
Missing	0.457	(0.263)	0.500	(0.285)	0.571	(0.327)	0.837	(0.477)
Constant	1.361	(0.802)	2.487	(1.322)	1.131	(0.638)	7.225**	(3.386)

Note: IPV = Intimate Partner Violence; OR = Odds Ratio; S.E. = Standard Error; U5 children = Number of under five years old children in the household; *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$