

# Intimate partner violence and associated factors among reproductive age women in Liberia: Further analysis of recent Liberian demographic and health survey

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## Research Article

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## Abstract

**Background:** Intimate Partner Violence (IPV) is a major public health problem and a violation of women's human rights, almost one third of women aged 15-49 years who have been in a relationship have experienced to some form of physical and/or sexual violence by their intimate partner worldwide.

**Objective:** The study aimed to assess intimate partner violence and associated factors among reproductive -age women in Liberia.

**Method:** This study was based on a large community-based cross-sectional survey, Liberia Demographic Health Survey (LDHS), conducted From October 16, 2019, to February 12, 2020, in Liberia. The 2019–20 LDHS used a stratified two-stage cluster design. Multivariable logistic regression was used to identify independent intimate partner violence among reproductive age women in Liberia and to control confounders. Adjusted odds ratio and confidence interval (CI) were used to declare statistical significance in the final model. Those variables with p-value<0.05 was considered as statistically significant.

**Result:** The overall prevalence of IPV was 44.74% (42.73, 46.77). Older age (AOR=0.86 (95%CI: 0.81, 0.91)), south central region (AOR=0.71(95%CI: 0.52, 0.96)), women's primary education (AOR=1.28 (95%CI: 1.01, 1.63)), female household head (AOR=0.77 (95%CI: 0.61, 0.97)) ,husbands higher education (AOR=0.62(95%CI: 0.39, 0.99)) ,positive wife beating attitude (AOR=1.57 (95%CI: 1.29, 1.90)) ,husband drinks (AOR=2.59 (95%CI: 2.14, 3.15)) and Women's decision making autonomy (AOR=0.75 (95%CI: 0.61, 0.93)) were significantly associated with IPV.

**Conclusion:** The prevalence of IPV in Liberia was high. Socio-demographic characteristics of women, husbands education, sex of household head, having a positive attitude towards wife-beating, partner's alcohol drinking habit and women empowerment was significantly associated with IPV in Liberia. Policymakers and program designers have to take into account those factors when they design interventions to reduce IPV in Liberia.

## Introduction

According to World Health Organization (WHO), Intimate Partner Violence (IPV) is an intentional act of an intimate partner or ex-partner that causes physical, sexual, or psychological harm, including physical aggression, sexual coercion, psychological abuse, and controlling behaviors (1, 2). IPV is a major public health problem and a violation of women's human rights, almost one third (27%) of women aged 15–49 years who have been in a relationship have experienced some form of physical and/or sexual violence by their intimate partner worldwide (3). Gender-based violence cases have surged during the Corona virus Disease (COVID-19) pandemic, increasing women's risk of acquiring HIV/AIDS, and reducing women's access to gender-based violence as well as HIV and other sexual and reproductive health services (4–6). IPV has mental and physical health consequences on women, particularly it leads to depressive symptoms, loss of social and professional networks (7–9) Intimate partner violence is a public health problem in sub-Saharan Africa(10, 11). Many studies done on intimate partner violence had identified factors like age of the women, educational status of the women, residence, husbands education, working status of the women and the partner, media exposure, alcohol abuse by the partner, wealth index and polygynous marriage were factors that influence the practice of Intimate partner violence (12–15). The life time prevalence of intimate partner violence among ever married women has increased from 49% in 2013 to 60% in 2019/20(16).Sexual violence and gender-based violence (SGBV) against women has been a predominant problem in Liberia during the era of Liberia's civil war as well as during the COVID-19 pandemic (17). Liberia has made some progress towards addressing gender-based violence issues by establishing a country cooperation strategy 2018–2021 and introducing a revised National Gender Policy and the Liberia National Action Plan with the great emphasis given on the special needs of girls and women however, there were challenges to the implementation and enforcement of gender and human rights-related laws (18). The factors that are significantly associated with intimate partner violence among married reproductive age women in Liberia were not known. Therefore, this study aimed to assess intimate partner violence and associated factors ever-married reproductive-age women in Liberia using the Liberia Demographic Health Survey 2019/20

## Methods

### Study design and setting

This study was based on a large community-based cross-sectional survey, Liberia Demographic Health Survey (LDHS), conducted From October 16, 2019, to February 12, 2020, in Liberia. The 2019–20 LDHS used a stratified two-stage cluster design, the first stage involved clusters, and the second stage involved systematic sampling of households in a West African country bounded by Sierra Leone to the Northwest, Guinea to the North, Côte d'Ivoire to the east, and the Atlantic Ocean to the South and west. The total population of Liberia was 5.18 million in 2021. 2100, ever-married reproductive-age women were included in the study.

### Data analysis

Stata version 14.0 was used for statistical analysis. Descriptive studies like frequency count and proportion for categorical data were used to summarize descriptive data. Bivariable logistic regression was used to select candidate variables for multivariable logistic regression. In the Bivariable logistic regression, a p-value of less than 0.2 was used as a cut of point. Multivariable logistic regression was used to identify independent intimate partner violence among reproductive-age women in Liberia and to control confounders. Adjusted odds ratio and confidence interval (CI) were used to declare statistical significance in the final model. Those variables with a p-value<0.05 was considered as statistically significant.

### Variables of the study

## Dependent variable

**Intimate partner violence:** experience of ever-married women one or more of spousal emotional, physical, or sexual violence (10,15,16). Those types of violence were defined as follows:

**Physical spousal violence:** push you, shake you, or throw something at you; slap you; twist your arm or pull your hair; punch you with his fist or with something that could hurt you; kick you, drag you, or beat you up; try to choke you or burn you on purpose; or threaten or attack you with a knife, gun, or any other weapon (10,15,16).

**Sexual spousal violence:** physically force you to have sexual intercourse with him even when you did not want to, physically force you to perform any other sexual acts you did not want to, or force you with threats or in any other way to perform sexual acts you did not want to (10,15,16).

**Emotional spousal violence:** say or do something to humiliate you in front of others, threaten to hurt or harm you or someone close to you, or insult you or make you feel bad about yourself (10,15,16).

## Independent variable

Independent variables of the study were extracted from the GDHS 2019/20 data. Socio-demographic characteristics of the mother ( Age of the mother, religion, region, educational level, occupation, residence, wealth index), media exposure(yes, no), sex of household head, husbands education, husbands working status, attitude towards wife-beating(positive, Negative) cigarette smoking (yes, no), drinking alcohol(yes, no) , currently pregnant, and women decision making autonomy( yes, no) were included in the study. Those variables were identified after reviewing different literature (12,14,15,19–22).

## Results

### Socio-demographic characteristics of respondents

The mean age of women was 33 years with a standard deviation of 8.67 and ranges from 15 to 49 years. Regarding region 902(42.97%) of women reside in south-central region of Liberia, 909 (43.31%) of women have no formal education, 1500 (71.42%) were working, 1781 (84.78%) were Christians, 1124 (53.54%) were from urban and 919 (43.78%) were from poorest household (Table 1).

Table 1

socio demographic characteristics of respondents and their association with intimate partner violence LDHS 2019/20 (n=2,100).

Variables	Intimate partner violence		Total	Percent	p-value
	Yes	no			
Age of the mother					
15-19	62	32	94	4.49	<0.001
20-24	175	134	309	14.72	
25-29	190	205	395	18.81	
30-34	185	205	390	18.51	
35-39	164	245	409	19.48	
40-44	107	150	257	12.26	
45-49	83	163	246	11.72	
Region					
North western	96	121	217	10.34	0.113
South central	428	474	902	42.97	
South eastern A	66	82	148	7.09	
South eastern B	62	57	119	5.63	
North central	314	400	714	33.95	
Women educational level					
No education	388	521	909	43.31	0.001
Primary	246	234	480	22.86	
Secondary	299	327	626	29.83	
Higher	33	52	85	4.00	
Working status					
Yes	685	815	1500	71.42	0.427
No	282	318	600	28.58	
Religion					
Muslim/other	137	182	319	15.22	0.330
Christian	829	952	1781	84.78	
Residence					
Urban	548	576	1124	53.54	0.366
Rural	418	558	976	46.46	
Wealth index					
Poor	413	506	919	43.78	0.973
Middle	200	233	433	20.61	
Rich	353	395	748	35.61	
Media exposure					
No	347	404	751	35.77	0.625
Yes	619	730	1349	64.23	
Currently pregnant					
Yes	109	79	188	8.98	0.006
No	857	1055	1912	91.02	
Sex of household head					
Male	729	759	1488	70.85	0.001
Female	237	375	612	29.15	

Women decision making autonomy (n=1780)					
No	281	250	531	29.84	<0.001
Yes	561	688	1249	70.16	
Husbands education (n=1780)					
No education	211	240	451	25.35	0.054
Primary	114	117	230	12.94	
Secondary	388	392	780	43.84	
Higher	86	124	210	11.81	
Don't know	44	64	108	6.06	
Husband current working					
No	82	89	171	8.14	0.003
Yes	884	1045	1929	91.86	
Attitude towards wife beating					
Negative	508	753	1261	60.06	<0.001
Positive	458	380	838	39.94	
Husband drinks alcohol					
No	466	798	1264	60.17	<0.001
Yes	500	336	836	39.83	
Cigarette smoking					
No	949	1129	2078	98.96	0.354
Yes	17	5	22	1.04	

## Prevalence of intimate partner violence

The overall prevalence of intimate partner violence among women in the last 12 months was 44.74 % (42.73, 46.77). The 12 months prevalence of physical, emotional and sexual violence was 34.15% (32.25, 36.10), 34.49 (32.59, 36.45 and 6.56 (92.35, 94.37) respectively. The most common form of violence that women experienced in the last 12 month were emotional violence followed by physical violence (Table 2).

Table 2

shows the percentage of intimate partner violence among reproductive age women in Liberia (n=2,100).

variables	Weighted frequency	Weighted percent (95% CI)
Yes	725	34.15(32.25,36.10)
No	1375	65.85(63.89,67.75)
Yes	732	34.49(32.59,36.45)
No	1368	65.51(63.55,67.41)
Yes	146	6.56 (92.35,94.37)
No	1954	93.44(5.62, 7.64)
Yes	966	44.74(42.73,46.77)
No	1134	55.26(53.23,57.26)

## Results of Bivariable analysis

Bivariable logistic regression was fitted to identify candidate variables for multivariable logistic regression. Age of the women, educational level, region, currently pregnant, sex of household head, husbands/partner's education, husband drinks alcohol, women's autonomy for decision making, attitude towards wife-beating, and husbands occupation were included in Bivariable regression analysis.

## Predictors of intimate partner violence in Liberia

A multivariable logistic regression model was fitted to identify independent predictors' intimate partner violence in Liberia. In multivariable logistic regression age of the mothers, household, region, sex of household head, husbands/partners education, attitude towards wife beating ,husband drinks alcohol, women decision making autonomy, and women's education were significantly associated with intimate partner violence in the last 12 months.

The odds of intimate partner violence in the last 12 months were lowered by 14% (AOR=0.86 (95%CI: 0.81, 0.91)) among older age as compared with those of younger women.

The odds of intimate partner violence was lowered by 29% (AOR=0.71(95%CI: 0.52, 0.96)) among women who reside in south central region as compared with north westens.

The odds of intimate partner violence was lowered by 23% (AOR=0.77(95%CI: 0.61, 0.97)) among households headed by female as compared with those headed by males.

The odds of intimate partner violence was lowered by 38 % ( AOR=0.62(95%CI: 0.39, 0.99)) among women whose husband has a higher educational level as compared with those whose husband has no education.

The odds of intimate partner violence was 1.57(AOR=1.57 (95%CI: 1.29, 1.90)) times higher among women having a positive attitudes towards wife-beating as compared with those having a negative attitudes.

The odds of intimate partner violence was 2.59(AOR=2.59 (95%CI: 2.14, 3.15)) times higher among women whose husband/partner drinks alcohol as compared with their counterparts.

Women's decision-making autonomy decreases the odds of intimate partner violence by 25% (AOR=0.75 (95%CI: 0.61, 0.93)) as compared with those who have no decision-making power.

The odds of intimate partner violence was 1.28 (AOR=1.28(95%CI: 1.01, 1.63)) times higher among women with primary education as compared to those with no formal education (Table 3).

Table 3

Factors associated with intimate partner violence among reproductive-age women in Liberia (n= 2100)

Variables	COR (95%CI)	P-value	AOR (95%CI)	P-value
Age of the mother				
	0.83 (0.79, 0.87)	<0.001	0.86 (0.81, 0.91)	<0.001
Region				
North western	1		1	
South central	0.90 (0.69, 1.17)	0.439	0.71 (0.52, 0.96)*	0.025
South eastern A	0.98 (0.75, 1.31)	0.937	0.77 (0.56,1.08)	0.130
South eastern B	1.27 (0.96, 1.68)	0.094	0.92 (0.66,1.27)	0.607
North central	0.96 (0.74, 1.24)	0.734	0.80(0.59,1.09)	0.157
Religion				
Muslim/other	1			
Christian	1.12 (0.89,1.41)	0.330	-	
Residence				
Urban	1			
Rural	0.92 (0.78, 1.09)	0.336	-	
Wealth index				
Poor	1			
Middle	0.98 (0.78, 1.20)	0.853	-	
Rich	0.97 (0.79, 1.21)	0.850	-	
Women educational level				
No education	1		1	
Primary	1.46 (1.20, 1.78)	<0.001	1.28 (1.01, 1.63)*	0.035
Secondary	1.29 (1.05, 1.59)	0.015	1.22 (0.93, 1.61)	0.148
Higher	1.03 (0.59, 1.81)	0.921	1.34 (0.64,2.81)	0.432
Respondent currently working				
No	1			
Yes	0.93 (0.77, 1.12)	0.427	-	
Currently pregnant				
No			1	
Yes	1.46 (1.11, 1.90)	0.006	1.08 (0.80, 1.47)	0.595
Sex of household head				
Male	1		1	
Female	0.74 (0.62, 0.88)	0.001	0.77 (0.61, 0.97)*	0.024
Husbands education				
No education	1		1	
Primary	1.13 (0.86, 1.49)	0.372	0.90 (0.67,1.22)	0.506
Secondary	1.14 (0.91, 1.42)	0.245	0.95 (0.74, 1.22)	0.703
Higher	0.68 (0.47, 0.99)	0.048	0.62 (0.39, 0.99)*	0.045
Don't know	0.90 (0.62, 1.33)	0.605	0.85 (0.56, 1.28)	0.434
Husband current working				
No	1		1	
Yes	0.99 (0.69, 1.41)	0.959	1.02 (0.69,1.50)	0.904

Media exposure				
No	1			
Yes	1.04 (0.88, 1.23)	0.625	-	
Attitude towards wife beating				
Negative	1		1	
Positive	1.73 (1.46, 2.04)	<0.001	1.57 (1.29, 1.90)*	<0.001
Husband drinks alcohol				
No	1		1	
Yes	2.48 (2.09, 2.94)	<0.001	2.59 (2.14, 3.15)*	<0.001
Smokes cigarettes				
No	1			
Yes	1.51 (0.63, 3.67)	0.358	-	
Women decision making autonomy				
No	1		1	
Yes	0.66 (0.55, 0.81)	<0.001	0.75 (0.61, 0.93)*	0.009

Note: P<0.001 was labeled for p=0.000, (-): Not applicable for AOR, (\*): statistically significant at p<0.05

## Discussions

This study aimed to assess the prevalence of intimate partner violence in the last 12 months and associated factors among women in Liberia. The overall prevalence of intimate partner violence among women in the last 12 months was 44.74 (42.73, 46.77). This finding is higher than the studies done in Namibia, Sub-Saharan Africa, India and Ethiopia (10,23–25). The possible reason for the discrepancy might be difference in sample size, study population and socio-cultural differences among countries. The study conducted in Namibia included pregnant women attending ANC and used a small sample size (n=386) as compared with our study which included all ever-married women (married, divorced, widowed or separated) and large sample size which is a nationally representative sample. The study conducted in sub-Saharan Africa included 16 countries in which there may be socio-cultural differences within and among countries affecting the prevalence of IPV.

The prevalence of physical, emotional, and sexual violence in the last 12 months were 34.15 (32.25, 36.10), 34.49 (32.59, 36.45) and 6.56 (92.35, 94.37) respectively. The finding is lower than the study conducted in Saudi-Arabia (26). However, this finding is higher than the study conducted in India (24). The possible reason for the discrepancy might be sample size difference (n=403 in Saudi-Arabia), the instrument used, and the type of study design. The current study used a large community based cross-sectional study unlike the study done in Saudi-Arabia used institution-based cross-sectional design which may affect women's disclosure of abuse and they have used small sample size as compared with our study (n=403). Emotional violence was the most common form of violence among ever-married women in Liberia followed by physical violence. This finding is in line with the studies conducted in Lagos, Saudi-Arabia and Ethiopia (19,26,27).

Age of the women was significantly associated with intimate partner violence. Older women were less likely to experience intimate partner violence as compared with younger women. This finding is inconsistent with the studies conducted in Ethiopia, Namibia, and Bangladeshi (19,23,28). The possible reason for the discrepancy might be the difference in study population used, in which those studies conducted the study on pregnant women which might increase IPV. Pregnancy might increase the likelihood of experiencing IPV (29,30). The other possible reason might be older women are mature and can discuss openly with their spouses.

Region of the women were significantly associated with intimate partner violence. Women residing in south central were less likely to experience IPV as compared with those live in north western region of Liberia. This might be due to the fact that IPV has spatial variation within the country and across countries (31). Regions within the country might have different socio-demographic makeup that might affect the prevalence of IPV.

Sex of household head was significantly associated with IPV. Households headed by female are less likely to experience IPV as compared with those headed by male. The possible reason might be that when a woman heads a household she will have the power to make a decision on all important issues and she will be empowered which in turn reduces her likelihood of experiencing IPV. If a woman is the head of the household she will have autonomous control and ownership of all assets in the household including media platforms in which exposure to media can help the women to develop a negative attitude towards wife-beating and will any justifications for rejecting wife-beating (32).

Women's education was significantly associated with IPV. Women with education were more likely to face IPV as compared with those with no education. This finding is inconsistent with the studies conducted in Ethiopia and Sub-Saharan Africa (13,31). The possible reason might be, even though education is important to change an attitude and behavior we cannot conclude that knowing is enough to get the actual intended behavior. There are factors that

influence a person's behavior in addition to education like socio-cultural factors especially gender-based violence is highly influenced and significantly varied across cultures and societal norms (33).

Husbands' education was significantly associated with IPV. Women whose husbands have higher educational levels were less likely to experience IPV as compared to those with no education. This is consistent with the studies done in Ghana, and Rwanda (14,15). Education is a powerful instrument to shape attitudes and change behavior. Educated individuals can get information from different sources about domestic violence and other health-related information in general (19). The other possible reason might be that educated men may give freedom to their wife as compared with uneducated ones and education may also help to change men attitude towards gender roles and norms as well as the traditional perception towards gender equality(27).

Attitude towards wife-beating was significantly associated with IPV. Having a positive attitude towards wife-beating increases women's experience of IPV .This finding is consistent with the study done in Zimbabwe and Ethiopia(20,34) The possible reason might be women having positive attitude towards wife beating may simply accept beating as just part of the normal life of couples and may become victims of IPV.

Husband's alcohol drinking habit was significantly associated with IPV. A woman whose husband drinks alcohol was more likely to experience IPV than their counterparts. This is consistent with the studies done in Ethiopia, Ghana, Rwanda, Nigeria, and Uganda (14,15,22,35,36). The possible reason might be that alcohol can affect both physical and psychological functioning and it may also mess up the marital relationship in general by inviting them to engage in conflict rather than resolving it. Alcohol might also reduce judgmental capability and rational interpretation as well as an understanding of stimulus around the person. Another possible explanation might be related with financial issue within the family, drinking habit of the man may result in financial catastrophe of the family which may in turn causes nagging and argument between couples. In addition to their drinking habit alcohol drinkers may face alcohol related problems like cohabitation of unmarried partners which may perpetuate the occurrence of conflict between the couples and IPV at large.

Women decision making autonomy was significantly associated with IPV. Women who were empowered to make decision in all matters were less likely to experience IPV as compared with women who have no decision making autonomy. This finding is in line with the studies done in Zimbabwe, Sub-Saharan Africa, and India (13,24,34). The possible reason might be women who have a decision making power are empowered to decide on important issues and may protect their right. Empowered women might more likely use media which may increase her awareness on social and gender issues and may change her attitude (13). Empowered women have a greater self-esteem control over their own lives and their surrounding environment ,as a result she will have a low probability of being exposed to IPV(37) .

## Strength

The study used nationally weighted representative data that better reflects the proportion of married women experiencing intimate partner violence method and its associated factors at the national level and regional level. The other strength of the current study is the use of a large sample size that can help to increase the statistical power and validity of the study. Utilization of large sample size and nationally representativeness of DHS data helps to generalize to the population of Liberia.

## Limitations

Due to the cross-sectional nature of the study it's impossible to establish a temporal relationship between intimate partner violence and its predictors. Moreover, since this study was solely dependent on the secondary data set, some important variables that would affect intimate partner violence may not be found.

## Conclusion

The prevalence of IPV in Liberia was high. Age of the women, region, women, education, husbands education, sex of household head, having positive attitude towards wife beating ,partners alcohol drinking Habit and women empowerment was significantly associated with IPV in Liberia. Policymakers and program designers have to take into account those factors when they design public health interventions to reduce IPV in Liberia. Gender violence prevention programmers must prioritize approaches that include sexual education and empowerment of women. Different gender based organizations should work in collaboration with men to reduce IPV and promote gender equitable relationships between couples.

## Acronyms

COR (Crude Odds Ratio), AOR (Adjusted Odds Ratio) CI: Confidence interval: LDHS: Liberia Demographic Health Survey

## Declarations

### Ethics approval and consent to participate

The DHS program conducted the study after getting ethical approval of the Liberian National Ethics Committee. As it is stated in the 2019–20 LDHS report the DHS obtained informed consent from each participant and anonymized the data set during the analysis. Moreover, the data for this study was

obtained from the DHS at (<http://www.measuredhs.com>) after registration and permission had obtained. Since we used secondary data for analysis mentioning the ethical review board and other ethical issues is not applicable. We have obtained permission from the DHS program on reasonable request.

### Consent for publication

Not applicable

### Availability of data and material

The datasets used and/or analyzed during the current study are publicly available and can access it from <https://dhsprogram.com/data/available-datasets.cfm>.

### Declarations

#### Competing interest

The authors declare that they have no competing interests.

#### Funding

None

#### Author's contribution

MT, KS, and BM contributed to the study conceptualization and provided critical editorial input to the interpretation of the data. MT conducts the formal analysis and writes the draft manuscript. MT, KS, and BM reviewed the drafted manuscript. All authors read and approved the final manuscript.

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