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The spatial distribution of intimate partner violence prevalence and its associated factors among women aged 15–49 years in Zambia: evidence from the 2018 Demographic and Health Survey

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Abstract

Background Intimate partner violence (IPV) includes any physical, sexual, or emotional harm experienced in any intimate relationship that results in negative outcomes. Zambia is one of the countries with the highest prevalence of IPV amongst women in sub-Saharan Africa. This study aims to investigate and describe the prevalence, associated risk factors, and geo-spatial distribution of IPV amongst women aged 15–49 years from the 2018 Zambia Demographic and Health Survey (ZDHS).

Methods This study is a secondary data analysis of the 2018 ZDHS, which used the women's individual dataset to extract a representative sample of 9 503 women from the domestic violence module. Analyses were adjusted using survey weights to account for unequal sampling probabilities. The bivariate and multivariable logistic regression models were applied to determine the factors associated with IPV. Stata MP version 14 was used to perform all analyses and QGIS software was used to map the geospatial distribution of IPV across provinces.

Results The overall IPV prevalence amongst women aged 15–49 years in this study was 36.5% (95%CI: 34.9 to 38.2), with Muchinga province having the highest prevalence at 55.2% (95% CI 50.4 to 59.8) and North western with the lowest prevalence at 22.6% (95% CI 19.9 to 25.6). In the adjusted analyses, women who justified wife beating were at a higher odds of experiencing IPV compared to those who did not (aOR = 1.75; 95% CI: 1.37 to 2.25; $p < 0.001$). Women with husbands or partners who consume alcohol were at higher odds of experiencing IPV (aOR = 3.81; 95% CI: 3.21 to 4.53; $p < 0.001$). The study also found that women who reported witnessing parental violence from their father to mother had increased odds of experiencing IPV (aOR = 1.75, 95% CI: 1.45 to 2.12; $p < 0.001$).

Conclusion This study has shown that women who witnessed parental violence from father to mother, justified wife beating, or had partners who consumed alcohol, had increased odds of experiencing IPV in Zambia. There is

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need to tailor interventions that address the cessation of alcohol consumption, and the promotion of awareness and education on IPV and its associated harms, especially in hot spot provinces.

Keywords Zambia, Intimate partner violence, Risk factors

Introduction

In Sub-Saharan Africa, intimate partner violence (IPV) is quite high, with approximately 59% of women reporting to have experienced IPV once in their lifetime [1]. Countries holding the brunt of this public health problem are Mozambique with an IPV prevalence of 42.3%, followed by Kenya at 45.4% and Zambia at 53.9% [1].

IPV includes a cascade of negative outcomes such as chronic pain, depression, sexually transmitted infections and even foetal growth restriction amongst pregnant women [1]. According to the World Health Organization (WHO), IPV is defined as “any behaviour within an intimate relationship that causes physical, sexual or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse and controlling behaviours [2]. As a result, IPV has become globally recognized as a public health issue. The sexual violence component of IPV has led to an increased risk of HIV acquisition amongst women as forced sex increases anatomic lesions of the vaginal mucosa [3]. This consequently leads to pelvic inflammatory diseases and the psychological impact of being an IPV victim aids in the deterioration of immunity, which can also result in spontaneous abortions or preterm deliveries amongst pregnant women [4].

IPV negatively affects women and hinders development, because through injuries of physical and sexual assault, many are slowed down in fulfilling their daily tasks, and therefore production is reduced [5]. Consequently, this poses a threat not only to development but to social security as well [5]. IPV is now one of the influencing factors for the redirection of funds in households so families can deal with hospital charges and police cases [6].

Moreover, women experiencing IPV while pregnant, in some cases, has resulted in foetal growth restriction and child growth impairment as increased stress levels from abuse can cause hormonal imbalances that hinder blood circulation to the foetus during pregnancy [7, 8].

In countries like Zambia, the number of reported cases of physical or sexual abuse from women in heterosexual relationships has been increasing yearly from 2015 to 2019 [5]. In 2017, there were about 10,994 reported cases of violence against women and by the end of 2018, the number had increased to approximately 12,082 [5]. IPV is an epidemic in Zambia which needs public health attention. It would be beneficial to identify associated risk factors of IPV to tailor interventions best suited for Zambia. Moreover, the body of research evidence that currently exists on IPV amongst women does not look

at incorporating the mapping of IPV prevalence in the country. Given the growth of spatial statistical methodologies over the years, this study will also leverage on the strengths of geospatial mapping of IPV to identify hot spot areas in need of intervention.

Identifying associated risk factors is an important first step in working towards eliminating violence against women. This research study will aid in supporting and implementing comprehensive laws that address IPV. In 2011, Zambia passed an Anti-Gender Based Violence Act that looked into providing shelters for victims, emergency monetary relief and addressing harmful traditional practices [9].

Aim and objectives

Aim

To investigate and describe the prevalence and associated factors of intimate partner violence (IPV) amongst women aged 15–49 years in Zambia and map its spatial distribution.

Objectives

1. To estimate the IPV prevalence among women aged 15–49 years in Zambia in 2018.
2. To determine the associated factors of IPV among women aged 15–49 years in Zambia.
3. To determine the spatial distribution of IPV among women aged 15–49 years across provinces in Zambia.

Methods

Study design

This is a secondary data analysis of the nationally representative, population-based, cross-sectional 2018 Zambia Demographic and Health Survey (2018 ZDHS), which was carried out from the 18th of July 2018 until 24 January 2019. This 2018 ZDHS was implemented under the auspices of the Zambian Statistics Agency (ZamStats), the Ministry of Health (MOH) and other Zambian non-governmental and governmental organizations. The 2018 ZDHS is a survey administered nationally with a sample of 13,625 households comprising of men aged 15–59 and women aged 15–49 years who were eligible for individual interviews in the selected households. This study mainly focuses on deriving data from the representative subsample of 9,503 women aged 15–49 years from

the domestic violence module in the individual women's dataset [10].

Setting

Zambia is located in south-central Africa with 10 provinces, namely Central, Copperbelt, Eastern, Luapula, Lusaka, Muchinga, Northern, North-western, Southern and Western.

The country has a population of approximately 18.92 million inhabitants, 51% of which are females [11]. Zambia has deeply rooted social and cultural norms that underpin gender inequality and male entitlement. As a result, many women do not report sexual or physical violence from their partners [11]. A 2014 study on gender based violence (GBV) in Zambia reported that approximately USD 8.61 million (1ZMW:0,048USD, 3 April 2023) was spent on costs towards survivors and their families, which included medical, legal and displacement expenses [9].

Sampling frame

The 2018 ZDHS used a stratified two-stage sample design with a sampling frame from the 2010 Census of Population and Housing (CPH) of the Republic of Zambia [11]. Zambia has 10 provinces with each being divided into districts, and each district is divided into constituencies, the constituencies then get subdivided into wards. These wards are further divided into convenient areas (CSA) and each CSA is divided into standard enumeration areas (SEA) [11]. Section 4.3.1 from the 2018 ZDHS Report indicate the distribution of SEAs more in detail. Individuals who were in hospitals, old-age homes, student residents, prisons and military barracks were excluded from the survey [11].

Sample size

The 2018 ZDHS was sampled using a two-stage stratified sampling design: [1] first stage included sampling clusters of standard enumeration areas (SEA) with a probability proportional to their size, which yielded a total of 545 SEA/clusters [2], stage two involved the systematic sampling of households which yielded a sample size of 13 625 households representative of the national, urban, rural and provincial levels [11]. The distribution of SEAs have a total of 25 631, 7 728 in urban areas and 17 903 in rural areas [11]. As outlined in the 2018 ZDHS Report, at each stage and cluster, sampling weights were calculated based on sampling probabilities [11]. For this particular study, the domestic violence module was used from the women's individual dataset. The inclusion criteria for this study included women who were selected for the domestic violence module. A further 195 women were excluded from the study because even though they were selected for the module, privacy was not attained. As a result, this

yielded a sample of 9 503 women who were used in this analysis.

Measurements

The 2018 ZDHS used structured questionnaires which were carried out using face-to-face interviews in selected households across all 10 provinces in Zambia. The 2018 ZDHS used four questionnaires, the Household Questionnaire, the Woman's Questionnaire, Man's Questionnaire and the Biomarker Questionnaire [11]. This study only utilized the Woman's Questionnaire that collected information from all eligible women aged 15–49 years in the selected households. This questionnaire addressed various topics, but for the aim of this study, the focus was on the Domestic Violence module, which address background characteristics, marriage and sexual activity, women's work and husband's background characteristics, knowledge, attitudes and behaviours regarding HIV/AIDS and other health issues, domestic violence and women's empowerment.

Definitions of dependent and independent variables

This study has one dependent variable, intimate partner violence (IPV). Based on the extracted data from the 2018 Zambia Demographic and Health Survey (2018 ZDHS), IPV is defined as any act of spousal violence expressed through physical, sexual or emotional harm that has ever been experienced within 12 months of the survey. Having experienced physical spousal violence was determined by the respondent answering "yes" to any of the following string of questions: (a) pushed, shook or threw something at her; (b) slapped her; (c) twisted her arm or pulled her hair; (d) punched her with a fist or something that could hurt her; (e) kicked, dragged or beat her up, (f) tried to choke or burn her on purpose; or (g) threatened or attacked her with a knife, gun or other weapons. Sexual spousal violence was determined by the respondent answering "yes" to any of the following questions: (h) physically forced her to have sexual intercourse with him when she did not want to; (i) physically forces her to perform any other sexual acts she did not want to; or (j) forced her with threats or in any other way to perform sexual acts she did not want to. Lastly, experiencing spousal emotional violence was determined by the respondent answering "yes" to any of the following questions: (a) has your partner/husband ever said or done something to humiliate you in front of others; (b) threatened to hurt or harm you or someone you care about, or (c) insults you or makes you feel bad about yourself [11]. The dependent variable 'IPV' was generated by making a new composite variable that included physical, sexual and emotional violence. If a woman experienced any one of the 3 forms of violence, this was coded as "Yes", and if

they didn't experience all three forms of violence it was coded as "No".

The independent variables are arranged thematically based on their relevance in literature. The set of associated risk factors of IPV that were explored are women's characteristics which include; age, marital status, educational level, area of residence, paid for work in the last 12 months, province, religion, HIV disclosure (refers to women who have disclosed their HIV positive status to their husband or partner), witnessed parental violence, alcohol consumption, and decision on the use of money, justified wife beating and their partner's characteristics which also include educational level, paid for work in the last 12 months, and alcohol consumption.

Data quality assurance

To test and ensure that the ZDHS questionnaires were clear and understandable, a pilot study with 30 participants was carried out across a 4-week period outside of Lusaka District. The questionnaires were administered to the 30 participants both on paper and by computer assisted personal interviews (CAPI) [11]. This was all done before the main training of field staff. All fieldwork done by master trainers was monitored by senior technical staff from ZamStats who also aided in providing technical support to resolve any CAPI-related issues [11]. During fieldwork, fieldwork tables were generated to ensure data quality parameters. All primary electronic data files were securely stored on a password-protected computer, de-identified to uphold confidentiality and secondary editing was accomplished to code for open-ended questions and to resolve any computer-identified inconsistencies. The secondary data set used for this research study was cleaned using Stata MP statistical software (version 14, Stata Corp LLC, College Station, TX, United States of America, 2019) by formatting, re-coding, labelling and removing duplicates. All secondary data edited for the purpose of this research were stored safely in a password protected computer and cloud storage.

Ethics considerations

This study exclusively relied on the use of secondary data from the 2018 Zambian Demographic Health Survey (2018 ZDHS). Therefore, approval to use the secondary data were sought from the DHS program website (Appendices). There were no potential harms or direct benefits incurred by study participants since this is a secondary data analysis.

All survey participants in the 2018 ZDHS were informed that participation was voluntary and informed consent was provided that outlined the study details and any potential risks. All the participants' personal identification was anonymised with no process of data linkage by

using generated ID numbers. To ensure confidentiality, the database was protected by an encrypted password.

Furthermore, ethical approval was sought from the University of Pretoria's Faculty of Health Sciences Research Ethics Committee (Ethics Number: 414/2023).

Data analysis

All analyses were performed using Stata and were adjusted for unequal sampling probabilities using survey weights from the ZDHS. An estimate of the prevalence of intimate partner violence (IPV), and corresponding 95% confidence intervals, was calculated.

To determine associated risk factors of IPV, bivariate and multivariable logistic regression models were used. The list of predictor variables in the bivariate analysis used a cut-off value of <0.25 to identify risk factors to be entered into the multivariable model, using the manual backward elimination procedure. In the final multivariable model, a cut-off p-value of <0.05 was used for statistical significance. A multivariable logistic regression model was used because of its ability to control for multiple confounders. The results were presented as crude and adjusted odds ratios, with their corresponding 95% confidence intervals and p-values, in Table 1.

Using QGIS software, the geospatial distribution of the prevalence of IPV across provinces in Zambia was depicted, and hotspot areas coloured in dark red. See Fig. 1.

Results

Demographic characteristics of study participants

This study assessed the demographic characteristics of women aged 15–49 years in the 2018 ZDHS as the study participants. Among the women, 40.7% were aged 15–25 years, 36.8% 26–35 years, and 22.4% 37–49 years. Most of the study participants were married or living together (65.3%), whereas only 2.8% were widowed, 10% were divorced or separated, and 20.8% were never in union. Only 5% of the participants reached a tertiary level of education, 39.5% reached a secondary level, 46.6% reached a primary level, and only 8.8% had no education at all. Most participants lived in rural areas (57.3%) compared to the urban areas (42.7%). Among the women, 80.6% had disclosed their HIV positive status to their partner, 27.3% had witnessed parental violence and 19.5% had justified wife beating. See Table 2.

Overall and geospatial prevalence of IPV

The overall prevalence of IPV amongst women aged 15–49 years in this study was 36.5% (95%CI: 34.9 to 38.2), and when assessing the geospatial distribution of IPV across provinces in Zambia, Muchinga province had the highest prevalence of 55.2% (95% CI 50.4 to 59.8), closely followed by Luapula at 43.7% (95% CI 37.7 to 49.8) and

Table 1 A bivariate and multivariate analysis of factors associated with IPV among women aged 15–49 years in Zambia

Variable	Category	n	OR	bivariate		aOR	Multivariate	
				95% CI	p-Value		95%CI	p-Value
Age	15–25	3927	Ref					
	26–36	3408	2.46	2.19 to 2.75	<0.001			
	37–49	2168	2.83	2.48 to 3.23	<0.001			
Educational level	No education	896	Ref					
	Primary	4558	0.85	0.73 to 0.98	0.030			
	Secondary	3557	0.45	0.38 to 0.53	<0.001			
	Tertiary	492	0.38	0.28 to 0.53	<0.001			
Area of residence	Urban	3477	Ref					
	Rural	6026	1.28	1.09 to 1.49	0.002			
Province	Central	929	Ref					
	Copperbelt	1065	1.75	1.35 to 3.30	0.006	1.66	1.10 to 2.49	0.015
	Eastern	1108	2.00	1.19 to 2.65	<0.001	2.31	1.55 to 3.43	<0.001
	Luapula	988	2.07	1.43 to 3.54	0.001	2.14	1.37 to 3.34	0.001
	Lusaka	1184	0.94	0.64 to 1.44	0.762			
	Muchinga	839	3.30	2.28 to 5.33	<0.001	2.58	1.473 to 3.83	<0.001
	Northern	916	1.69	1.06 to 2.49	0.009			
	North-Western	735	0.78	0.56 to 1.29	0.202			
	Southern	949	1.98	1.26 to 2.94	0.001	2.12	1.24 to 3.63	0.006
HIV disclosure to partner	No	211	Ref					
	Yes	846	1.33	0.83 to 2.14	0.231			
Witnessed parental violence	No	6207	Ref					
	Yes	2600	2.35	2.09 to 2.64	<0.001	1.75	1.45 to 2.12	<0.001
	Don't know	696	1.69	1.40 to 2.03	<0.001			
Justified wife beating	No	4606	Ref					
	Yes	1397	2.36	2.03 to 2.75	<0.001	1.75	1.37 to 2.25	<0.001
	Don't know	91	0.06	0.009 to 0.442	0.005			
Husband/Partner educational level	No education	358	Ref					
	Primary	2302	0.98	0.76 to 1.26	0.876			
	Secondary	2710	0.77	0.58 to 1.02	0.073			
	Tertiary	525	0.55	0.39 to 0.78	0.001			
Husband/Partners alcohol consumption	No	4492	Ref					
	Yes	2866	3.98	3.47 to 4.57	<0.001	3.81	3.21 to 4.53	<0.001

OR-odds ratio; aOR-adjusted odds ratio; CI-confidence interval; Ref-reference category; IPV-intimate partner violence

Eastern at 42.8% (95% CI 39.4 to 46.3) as depicted in Fig. 1. After adjusting for confounders, study participants living in Muchinga had a 2.58 times increased odds of experiencing IPV compared to those in Central province.

Sociodemographic characteristics associated with IPV

Among the study participants, there were various sociodemographic factors that had no statistically significant association with IPV. These factors included; religion, marital status, paid work in last 12 months, HIV+status disclosure, the women's educational level and area of residence. However, other factors such as witnessing parental violence, justified wife beating and alcohol consumption did have an association with IPV that was statistically significant after adjusting for confounders (Table 1).

Witnessed parental violence

Study participants who reported witnessing parental violence from father to mother had increased odds of experiencing IPV compared to those who did not witness anything (OR=2.35; 95% CI: 2.09 to 2.64; $p<0.001$). This remained significant after adjusting for potential confounders (aOR=1.75, 95% CI: 1.45 to 2.11; $p<0.001$). Therefore, women who witnessed parental violence from father to mother had 1.8 times increased odds of experiencing IPV compared to those who did not. Participants who also responded to witnessing parental violence and "Don't know" also had increased odds of experiencing IPV compared to those who did not witness it (OR=1.69; 95% CI: 1.40 to 2.03; $p<0.001$), however this did not remain statistically significant after adjusting for confounders (Table 1).

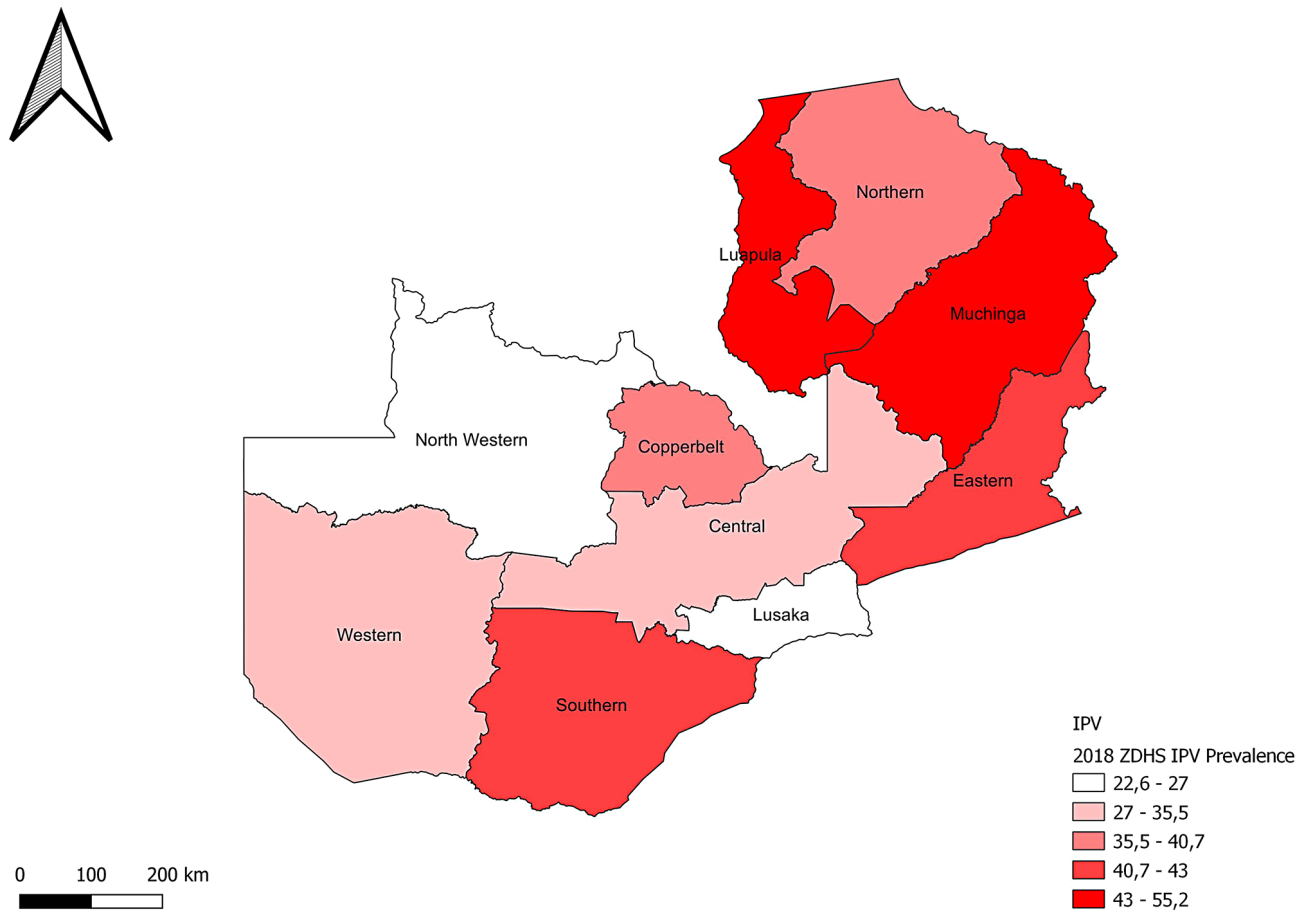


Fig. 1 2018 Geospatial distribution of IPV among women aged 15–49 years in Zambia

Attitudes for justifying wife beating

Study participants who justified wife beating had an increased odds of experiencing IPV compared to those who did not justify it (OR=2.36; 95% CI 2.03 to 2.75; $p<0.001$). This remained statistically significant after adjusting for potential confounders (aOR=1.75; 95% CI:1.37 to 2.25; $p<0.001$). The results of participants who also responded “Don’t know” to attitudes justifying wife beating did not remain statistically significant after adjusting for confounders (Table 1).

Husband’s/Partner’s alcohol consumption

Study participants with husbands or partners who consume alcohol had higher odds of experiencing IPV at least once in their lifetime compared to participants whose husbands or partners do not consume alcohol (OR=3.98; 95% CI: 3.47 to 4.57; $p<0.001$). This remained statistically significant even after adjusting for potential confounders (aOR=3.81; 95% CI: 3.21 to 4.53; $p<0.001$). This means that women with husbands or partners who consume alcohol had 3.8 times increased odds of experiencing IPV compared to those whose husbands and partners do not consume alcohol (Table 1).

Discussion

This study assessed the associated risk factors of intimate partner violence (IPV) and analysed the geospatial distribution of IPV prevalence across provinces in Zambia among women aged 15–49 years based on the 2018 ZDHS. Assessing the risk factors and prevalence of IPV is important as Zambia has an Anti-Gender Based Violence Act that aims at providing refuge shelters for victims, and emergency monetary relief [12]. Therefore, such studies can aid in identifying, not only key associated risk factors of IPV, but hotspot areas across the country in need of intervention.

This study reported an overall prevalence of IPV to be 36.5%, with Muchinga, Luapula and Eastern province accounting for the large majority of reported cases. Similarly, in a study by Chibwilli (2023), since the age of 15, over a third of Zambian women have suffered physical violence and 20% have experienced sexual abuse from the age of 18 [12, 13]. In adjusted analysis, the women’s level of education had no statistical significance with IPV. Comparatively, in a study by Phiri et al., (2023), women with no education were at an increased odds of experiencing IPV compared to women with a tertiary level of

Table 2 Demographic and sociodemographic characteristics of women aged 15–49 years in Zambia DHS 2018

Variable	Category	n	Percent
Age in years	15–25	3927	40.7
	26–36	3408	36.8
	37–49	2168	22.4
Educational level	No education	896	8.8
	Primary	4558	46.6
	Secondary	3557	39.5
	Tertiary	492	5.0
Marital status	Never in union	2145	21.9
	Married/living together	6130	65.3
	Widowed	283	2.8
	Divorced/separated	945	10.0
Area of residence	Urban	3477	42.7
	Rural	6026	57.3
Province	Central	929	8.2
	Copperbelt	1065	14.8
	Eastern	1108	12.6
	Luapula	988	8.1
	Lusaka	1184	18.6
	Muchinga	839	5.7
	Northern	916	8.4
	North Western	735	5.2
	Southern	949	12.2
	Western	790	6.3
Religion	Catholic	1637	17.1
	Protestant	7714	81.0
	Muslim	49	0.5
	Other	103	1.4
Paid for work in last 12 months	Cash only	3008	62.0
	Cash and kind	1011	17.3
	In kind only	77	1.5
	Not paid	1155	19.2
HIV disclosure to partner	No	211	19.4
	Yes	846	80.6
Witnessed parental violence	No	6207	65.5
	Yes	2600	27.3
	Don't know	696	7.2
Justified wife beating	No	4606	78.9
	Yes	1397	19.5
	Don't know	91	1.6
Husband/Partner educational level	No education	358	5.9
	Primary	2302	37.6
	Secondary	2710	48.2
	Tertiary	525	8.3
Husband/Partner paid for work in last 12 months	Cash only	3941	76.0
	Cash and kind	935	14.7
	In kind only	38	0.6
	Not paid	583	8.7
Husband/Partners alcohol consumption	No	4492	61.8
	Yes	2866	38.2

n=9503

education [14]. These results can often be linked to the fact that most uneducated women and men are not well informed about legal legislatives tailored for the right to protection and refusal of harmful cultural or societal norms [13].

This study further established that the following factors were associated with higher odds of experiencing IPV: witnessing parental violence, justified wife beating and their husbands or partners alcohol consumption. Women who reported witnessing parental violence from father to mother had higher odds of experiencing IPV compared to those who had not. These findings are supported by various studies done in Nigeria [15] and one particular study in America reported on how women who have experienced interparental violence in their childhood are 6 times more likely to experience it in their adulthood, coupled with frequent mental disorder and poor physical health [16]. Witnessing parental violence as a risk factor for IPV can be explained through the social learning theory, which has captured the idea that children learn by observing how their parents relate to each other, so if there were no repercussions for the aggressor on the victim, it may be perceived as the normal way of life [15]. This would therefore increase women's tolerance to IPV.

This study also reports increased odds of IPV amongst women who were more inclined to have attitudes that justified wife beating. Similarly, in a study that assessed factors associated with women's attitude towards spousal abuse, women were 1.3 times more likely to justify wife beating if they were from the middle income group, compared to the high income group [17]. This indicated that by virtue of their justification, they were also more likely to experience spousal abuse. Moreover, the aforementioned study attributed the justification of wife beating amongst women to male supremacy, wealth index, and place of residence [17]. The previous study also highlighted that women in urban areas were more likely to justify wife beating and experience spousal violence because urban areas do not hold an interwoven nature of relationships like rural areas, as a result, there is less social control and public knowledge about physical violence in people's homes [17]. Additionally, acts of violence coupled with attitudes that justify wife beating are associated with social attitudes and expectations. In a study done in Zambia and Zimbabwe, it was reported that societal expectations involved men being the sole providers in the household, and a man's inability to fulfil the role of a provider would result in violence as a way to affirm their masculinity [18].

Lastly, this study reported a significantly increased odds of IPV amongst women with husbands or partners who consumed alcohol compared to those who do not. This finding echoes other studies done in Uganda [19] and a multilevel analysis that was conducted in Zambia

[14]. Such findings can be substantiated by the fact that alcohol consumption can often result in reduced self-control that arouses toxic masculinity and increased aggressive behaviour that impairs conflict resolution within a partnership.

Limitations

This study comes with some limitations. The 2018 ZDHS questionnaires has some questions that addressed historical self-reported information. This increases the potential of recall bias and therefore increasing the probability of false conclusions and an inability to recognize patterns in data. There is also a potential of social desirability bias, especially amongst women who are uncomfortable to reveal their true opinions with regards to wife beating.

A study in the literature addressed faith as a potential influencing factor of IPV, religion was measured solemnly based on denominational affiliation and other measuring factors of religion based on religiosity and spirituality were not captured [5]. Moreover, it would have been important to examine how people's beliefs are and what kind of impact it has on changing behaviour, especially changed behaviour characterised as abusive [5].

Conclusion

The overall prevalence of intimate partner violence (IPV) amongst women aged 15–49 years in this study was 36.5%. This study showed that the main factors associated with IPV include witnessing parental violence from father to mother, having a husband or partner who consumes alcohol and attitudes justifying wife beating from women. The study participants' level of education, area of residence and status of HIV disclosure showed no statistically significant association with IPV. Across all the provinces in Zambia, the three main ones with the highest prevalence of IPV are Muchinga, Luapula, and Eastern. As a result of these study findings, there is a need to tailor interventions that are targeted towards eradicating IPV in homes. This can be done by engaging and educating men in communities about the physical and psychological harms associated with IPV. Moreover, there is a need to implement strategies that promote the cessation of alcohol consumption by engaging with community leaders and religious institutions. Such interventions can particularly be directed to hot spots areas of IPV in Zambia.

Recommendations

To fully understand the associated risk factors of IPV, it would be beneficial to carry out further research on the fine distinctions of risk factors between different provinces in Zambia. This will aid in tailoring specific programs to address the most prevalent risk factors. It will also be recommended to implement women

empowerment programs through education and couples counselling with community leaders and psychologists. All of these can aid in eradicating any negative societal or cultural norms of IPV that women have been accustomed to. Moreover, non-governmental organisations (NGOs) can partner with law enforcement and civic leaders to sensitize communities about the IPV.

Abbreviations

IPV	Intimate Partner Violence
ZDHS	Zambia Demographic Health Survey
WHO	World Health Organisation
HIV	Human Immunodeficiency Virus
ZamStats	Zambian Statistics
MoH	Ministry of Health
GBV	Gender Based Violence
CPH	Census of Population and Housing
CSA	Convenient areas
SEA	Standard enumeration areas
CAPI	Computer Assisted personal interviews
CI	Confidence Intervals
OR	Odds Ratio
aOR	Adjusted Odds Ratio
NGO	Non-governmental Organisation

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Author contributions

Conceptualization: B.M. and A.M.; Methodology: B.M. and A.M.; Software: B.M.; Validation: A.M. and B.M.; Formal analysis: B.M.; Wrote the main text of the manuscript, B.M. Prepared Fig. 1: B.M. Supervision: A.M. All authors contributed in reviewing the manuscript.

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Data availability

This study used publicly available datasets which can be sourced from the following website: <https://www.dhsprogram.com/> (accessed on 20 August 2022).

Declarations

Consent for publication

not applicable for this study because secondary data was used for the analysis.

Institutional review board statement

The study was approved by the Ethics Committee of the University of Pretoria, Faculty of Health Sciences (Protocol code 414/2023 and approval date 31 August 2023).

Competing interests

The authors declare no competing interests.

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References

1. Simona SJ, Mazuba M, Harriet N. Intimate partner violence (IPV) in Zambia: Sociodemographic determinants and association with use of maternal

- health care. DHS Working Papers No. 121. 2015; Rockville, Maryland, USA: ICF International.
2. Njim T, Mbolingong FN. Intimate partner violence and depression among pregnant women in the North West region of Cameroon: a research proposal. *BMC Res Notes*. 2018;11(868). <https://doi.org/10.1186/s13104-018-3979-0>.
3. Beres LK, Merrill KG, McGready J, Denison JA, Schwartz S, Sikazwe I, et al. Intimate partner violence polyvictimisation and hiv among coupled women in Zambia: analysis of a population-based survey. *Glob Public Health*. 2020;15(4):558–70. <https://doi.org/10.1080/17441692.2019.16865>.
4. Simona S, Muchindu M, Ntalasha H. Intimate partner violence (IPV) in Zambia: Socio-demographic determinants and association with use of maternal health care. *Int J Soc Sci Stud*. 2018;6(42). <https://doi.org/10.11114/ijsss.v6i6.3300>.
5. Takyi BK, Lamptey E. Faith and marital violence in sub-saharan Africa: exploring the links between religious affiliation and intimate partner violence among women in Ghana. *J Interpers Violence*. 2020;35(1–2):25–52. <https://doi.org/10.1177/0886260516676476>.
6. Ojifinni O, Maposa I, Ibisomi L. Bayesian semi-parametric spatial modelling of intimate partner violence in Namibia using 2013 Demographic Health Survey Data. *BMC Womens Health*. 2021;21:286. <https://doi.org/10.1186/s12905-021-01421-2>.
7. Durevall D, Lindskog A. Intimate partner violence and HIV in ten sub-saharan African countries: what do the demographic and health surveys tell us? *Lancet Global Health*. 2015;3:e34–43.
8. Kabwe M, Phiri E. The state of domestic violence in Zambia. Women and gender relation is social work. *Res Gate*. 2021;5(4). <https://doi.org/10.2139/ssrn.3783000>.
9. Kane JC, Glass N, Bolton PA, Mayeya J, Paul R, Mwenge M, et al. Two-year treatment effects of the common elements treatment approach (CETA) for reducing intimate partner violence and unhealthy alcohol use in Zambia. *Global Mental Health*. Cambridge University Press; 2021. 8(4).
10. Ahinkorah BO. Polygyny and intimate partner violence in sub-saharan Africa: evidence from 16 cross-sectional demographic and health surveys. *SSM – Popul Health*. 2021;1(13):2352–8273. <https://doi.org/10.1016/j.ssmph.2021.10.0729>.
11. Zambia Statistics Agency, Ministry of Health (MOH), Zambia, and ICF. Zambia Demographic and Health Survey 2018. Lusaka, Zambia, and Rockville, Maryland, USA: Zambia Statistics Agency, Ministry of Health, and ICF; 2019.
12. Chibwilli E. Zambians see gender-based violence as a top priority, though many consider domestic violence a private matter. *Afrobarometer*. 2023;1–2:Dispatch685.
13. Tadesse AW, Tarekegn SM, Wagaw GB, Muluneh MD, Kassa AM. Prevalence and Associated Factors of Intimate Partner Violence among Married Women during COVID-19 pandemic restrictions: A Community-based study. *J Intri Vio*. 2022;37(11–12). <https://doi.org/10.1177/0886260520976222>.
14. Phiri M, Namayawa S, Sianyeuka B et al. Determinants of spousal physical violence against women in Zambia: a multilevel analysis. *BMC Public Health*. 2023; 23:934. Retrieved from: <https://doi.org/10.1186/s12889-023-15927-x>
15. Solanke BL. Does exposure to interparental violence increase women's risk of intimate partner violence? Evidence from Nigeria demographic and health survey. *BMC Int Health Hum Rights*. 2018;18(1):1. <https://doi.org/10.1186/s12914-018-0143-9>.
16. Bensley L, Van Eenwyk J, Wynkoop Simmons K. Childhood family violence history and women's risk for intimate partner violence and poor health. *Am J Prev Med*. 2003;25(1):38–44. [https://doi.org/10.1016/s0749-3797\(03\)00094-1](https://doi.org/10.1016/s0749-3797(03)00094-1).
17. Thankian K, Mwaba S, Menon A. Factors associated with women's attitude towards spousal abuse: the case of Zambia. *J Health Sci*. 2015;3:217–24. <https://doi.org/10.17265/2328-7136/2015.05.003>.
18. Tsawe M, Mhele K. (2022). Determinants of wife-beating justification amongst men in southern African countries: Evidence from demographic and health surveys. *Afr J Reprod Health*. 2022, 26(9): 85–93. <https://www.jstor.org/stable/27231780>
19. Black E, Worth H, Clarke S et al. Prevalence and correlates of intimate partner violence against women in conflict affected northern Uganda: a cross-sectional study. *Confl Health*. 2019;15(35). <https://doi.org/10.1186/s13031-019-0219-8>

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