

# Gender-Based Violence among Pregnant Women Consulting at the Antenatal Care Unit of the Bamenda Regional Hospital

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## Abstract

**Background:** Gender-based violence is violence against men and women in which the woman is more likely to be the victim. Globally, one in every four women is physically or sexually abused during pregnancy. The main objective was to study gender-based violence among pregnant women attending antenatal care at the Bamenda Regional Hospital (BRH). **Methods:** We carried out a hospital-based cross-sectional study among 231 pregnant women at the antenatal care unit of the BRH from January to March 2018. The study included all women who gave a written informed consent. A questionnaire adapted from the WHO multi-country study was used to collect data on sociodemographic characteristics, aspects of gender-based violence (GBV), and data for other associated factors were collected by face-to-face interview. Data were analysed using SPSS version 23.0. Chi-square test and Fisher exact test were used to compare frequencies. Student *t*-test was used to compare means. Binary logistic regression analysis and multivariate analysis were used to eliminate confounders. The level of statistical significance was set at  $p < 0.05$ . **Results:** A total of 56.3% ( $n = 130$ ) of pregnant women involved in the study were found to be survivors of GBV. Psychological trauma, physical assault and sexual violence were found in 47.2%, 30.2% and 19.9% respectively. Depression and anxiety were the most frequent clinical manifestations. Only 37.7% of the survivors sought management. The factors statistically associated with the occurrence of GBV were: for physical violence a partner that smokes; for sexual violence a history of sexual assault on the survivor as a child, a primary level of education of the partner, and a partner that is alco-

holic; for psychological violence a history of sexual assault on the survivor as a child, a primary level of education of the partner, and a partner that is alcoholic. After adjusting for confounders, having a partner with only a primary education had a statistically significant association [3.610 (1.431 - 9.091),  $p = 0.007$ ] with the occurrence of GBV. **Conclusion:** GBV is a key health risk among pregnant women consulting at the ANC unit of the Bamenda Regional Hospital and proper education of the partner is primordial in its prevention.

## Keywords

Gender-Based Violence, Prevalence, Associated Factors

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## 1. Background

Gender-based violence (GBV) is violence involving men and women, in which females are usually the victims, and which is derived from unequal power relationships between men and women. Violence is directed specifically against a woman because she is a woman or affects women disproportionately [1]. GBV is generally understood to include physical (*i.e.* pushing, kicking, throwing objects, hitting with hands or objects, choking, attacking with a knife or blade), sexual (*i.e.* forced sexual relations), and psychological (*i.e.* insults, belittlement, threats to or threat of abandonment) abuse from intimate partners, sexual violence by non-partners, sexual abuse of girls, and acts such as trafficking women for sex [2]. As GBV remains one of the most rigorous challenges to women's health and well-being, it is one of the indispensable issues regarding equity and social justice [2]. The causes of gender-based violence are multidimensional including social, economic, cultural, political, and religious [2] [3].

Pregnancy and childbirth are times of unique vulnerability to violent victimization because of changes in women's physical, social, emotional, and economic needs during pregnancy [4]. Violence during pregnancy escalates during a woman's gestation with serious consequences not only for the woman, but also for the foetus and ultimately for the child's development. Extreme stress and anxiety provoked by violence during pregnancy may reduce women's ability to obtain nutrition, rest, exercise, and medical care [5]. This is the reason why the WHO recommends the clinical evaluation of partner violence during prenatal consultations to reach the objective of a positive pregnancy experience for all women. Some adverse effects include foetal death, low birth weight, preterm delivery, small for gestational age, maternal mortality, mental health problems, kidney infections, reduced weight gain during pregnancy, and increased likelihood of undergoing operative delivery in pregnant women [2]. Similarly, violence during pregnancy is associated with spontaneous abortion, bleeding during pregnancy and higher neonatal deaths [6].

Globally, one woman in every four is physically or sexually abused during

pregnancy, usually by her partner [7]. A study carried out in Nepal in 2012 showed that 33% of women suffered from GBV [8]. Another study conducted by Sunjay *et al.* in Nepal in 2016 showed a prevalence of GBV among pregnant women to be at 91.1% [9]. Makayoto *et al.* in Kenya reported the prevalence of GBV among pregnant women to be 37% [10]. A survey done in Cameroon reported the prevalence of GBV [physical violence] among women to be 53%, with 11% of them occurring during pregnancy [1].

Little is known about GBV among pregnant women and the factors that could be associated with its occurrence in Cameroon. We had as aim to determine the prevalence and factors associated with GBV among pregnant women consulting at the antenatal clinic of the Bamenda Regional Hospital (BRH).

## 2. Methods

This was a hospital-based cross-sectional study carried out at the Antenatal Care Unit of the BRH, Cameroon from the 5<sup>th</sup> of January to the 5<sup>th</sup> of March 2018. The BRH is a referral hospital in the North-West Region of the country, serving a population of about 1,728,953 inhabitants. The antenatal consultation unit receives clients from the North-West Region and neighbouring Regions of different ethnic groups. We included all pregnant women consulting at the Antenatal Unit of the BRH during the study period and who gave their consent to participate in the study. Using the Cochrane's formula and a prevalence (p) of 15.23% [11], the minimum sample size needed was 198 pregnant women.

Ethical clearance was obtained from the Institutional Review Board of the Faculty of Health Sciences, University of Bamenda and administrative authorisations were obtained from the Regional Delegation of Public Health for the North West Region and the Director of the BRH.

Participants were approached at the ANC unit upon arrival, and the study was explained to them in detail. Using a convenience sampling method, all interested participants who read and signed the consent form were consecutively enrolled into the study and those who were not literate placed thumbprints after accepting to have fully understood the study. All eligible participants underwent a face-to-face interview using the language preferred by the participant and data was collected using an interviewer administered pre-tested, structured questionnaire, adapted from a WHO multi-country study [12].

The study variables included: 7 questions on specific acts of physical violence (slaps, pushing, hit with a fist, kicked, dragged, burnt, and gun or knife used on her), 4 questions on psychological violence (insults, humiliated in front of others, intimidated on purpose, threatened to be hurt) and 3 questions on sexual violence (physically forced to have sexual intercourse, sexual intercourse because she was afraid of being hurt by the spouse and forced to do a humiliating or degrading sexual act); sociodemographic characteristics (age in years, gravidity, marital status, family structure, level of education, occupation); survivors history (sexual history, HIV status and experience of sexual assault as a child); clinical manifestations such as bruises, abdominal pain, headaches, sprains, depression

and anxiety (depression and anxiety were studied using the Hospital Anxiety and Depression Scale [13] and participants with a score of > 8 were considered as having symptoms of depression or anxiety); management (pharmacological or non-pharmacological); the sociodemographic characteristics of their partners; and experience of violence by the participant's mother.

Data were entered into an electronic database on CS Pro version 7.1 and analysis was done with SPSS version 23.0. Chi-square or Fischer's exact test was used to compare proportions while differences in means were compared using the student's *t*-test. The odds ratio (OR) with a 95% confidence interval [95% CI] was used to summarize the strength of association between the variables and GBV. The level of statistical significance for the study was set at  $p < 0.05$ . Binary logistic regression and multivariate analysis were used to eliminate confounders.

### 3. Results

A total of 260 pregnant women were approached from which 240 gave their consent to participate in the study. From these 240 pregnant women, 231 provided complete information and were enrolled in the study. The mean age of the participants was 26 years with extremes of 16 years and 44 years. Most (66.2%) ( $n = 153$ ) were multigravida, 71.4% ( $n = 165$ ) were married either traditionally or legally, 51.1% ( $n = 118$ ) were employed and 45.0% ( $n = 104$ ) had attained university education (Table 1). For each sociodemographic variable, GBV survivors represented more than 50% of the population of each category except for the age group 30 - 39 years (48.5%).

**Table 1.** The sociodemographic characteristics of the participants and GBV survivors.

Variable	Category	Sample population		GBV SURVIVORS		Percentage of GBV survivor in each category [%]
		Number (n = 231)	Percentage [%]	n = 130	Percentage (%)	
Age groups (in years)	10 - 19	20	8.7	14	10.8	70.0
	20 - 29	141	61.0	81	62.3	57.4
	30 - 39	66	28.6	32	24.6	48.5
	40 - 49	4	1.7	3	2.3	75.0
Gravidity	Primigravida	78	33.8	40	30.8	51.3
	Multigravida	153	66.2	90	69.2	58.8
Marital status	Single	40	17.3	23	17.7	57.5
	Cohabiting	26	11.3	14	10.8	53.8
	Married	165	71.4	93	71.5	56.4
Occupation	Unemployed	113	48.9	64	49.2	56.6
	Employed	118	51.1	66	50.8	55.9
	None	4	1.8	3	2.3	75.0
Educational level	Primary	31	13.4	17	13.1	54.8
	Secondary	92	39.8	55	42.3	59.8
	University	104	45.0	55	42.3	52.9

The prevalence of GBV was 56.3% (n = 130). The prevalence of the different types of violence were: 47.2% (n = 109) for psychological violence, 30.3% (n = 70) for physical violence and 19.9% (n = 46) for sexual violence. Among the GBV survivors, some of these pregnant women presented with two types of violence, with psychological and physical violence being the most frequent at 28.5% (n = 37), while 15.4% (n = 20) presented with all three types of violence (**Table 2**). The perpetrator of GBV was a partner in 76.2% (n = 99) of cases.

The most represented sociodemographic variables as concerns the survivors of GBV were; the age group 20 - 29 years at 62.3% (n = 81), multigravida at 69.2% (n = 90), married women at 71.5% (n = 93), employed at 50.8% (n = 66) and both secondary and university level of education at 42.3% (n = 55) each.

The principal symptoms described were both borderline depression and borderline anxiety in 18.5% (n = 24) of cases each. The other symptoms were abdominal pain in 16.9% (n = 22), bruises in 15.4% (n = 20), anxiety in 12.3% (n = 16), headaches in 11.5% (n = 15), depression in 3.8% (n = 5), and sprains in 3.1% (n = 4) of the survivors.

Eighty-one (62.3%) of the survivors of GBV received no management. Of the 49 (37.7%) survivors who were managed, 23 (46.9%) received medications (pharmacological management) and 26 (53.1%) were managed with non-pharmacologic means. There was no statistical significance between the sociodemographic factors of the survivor and the occurrence of any type of GBV (**Table 3**).

**Table 2.** The characteristics of gender-based violence.

GBV	Frequency (n)	Percentage (%)
<b>Experience of GBV (n = 231)</b>		
Yes	130	56.3
No	101	43.7
<b>Prevalence of each type of GBV (n = 231)</b>		
Physical	70	30.3
Psychological	109	47.2
Sexual	46	19.9
<b>Categories of GBV (n = 130)</b>		
Physical violence only	10	7.7
Psychological only	37	28.5
Sexual violence only	8	6.2
Physical + psychological	37	28.5
Physical + sexual	3	2.3
Psychological + sexual	15	11.5
Physical + psychological + sexual	20	15.4
<b>Perpetrator of GBV (n = 130)</b>		
Intimate partner	99	76.2
Non-partner	28	21.5
Both intimate and non-partners	3	2.3

**Table 3.** Association between sociodemographic factors and presence of GBV.

Variable	Category	P values			
		Presence of violence	Physical violence	Psychological violence	Sexual violence
Age groups (years)	10 - 19	0.195	0.135	0.792	0.077
	20 - 29	0.654	0.505	0.349	0.086
	30 - 39	0.131	0.113	0.134	0.755
	40 - 49	0.631	1.000	0.346	0.178
Gravidity	Primigravida	0.275	0.201	0.289	0.853
	Multigravida	1.091	0.272		
Marital status	Single	0.864	0.740	0.965	0.674
	Cohabiting	0.791	0.612	0.760	0.256
	Married	0.967	0.526	0.803	0.256
Occupation	Employment	0.914	0.224	0.858	0.622
	No employment	0.914			
Educational level	None	0.634	0.587	0.261	0.129
	Primary	0.862	0.869	0.808	0.064
	Secondary	0.382	0.228	0.303	0.914
	University	0.347	0.194	0.281	0.119

On the survivors' history, 25.4% (n = 33) had a history of sexual assault as a child; 14.6% (n = 19) had a positive history of violence on the mother, and 4.6% (n = 6) were HIV seropositive. The victim's history and partner characteristics that were statistically associated with more frequent occurrence of GBV were; a history of sexual assault on the survivor as a child [2.784 (1.328 - 5.835), p = 0.005], the age group 20 - 29 years [1.9 (1.07 - 3.37), p = 0.027] and a primary level of education of the partner [3.52 (1.46 - 8.46), p = 0.03] as seen on **Table 4**.

The only factor that was statistically associated with more frequent occurrence of physical violence among pregnant women was a partner that smokes [3.25 (1.16 - 9.1), p = 0.026] as seen on **Table 5**.

The factors that were statistically associated with more frequent occurrence of sexual violence were; a history of sexual assault on the survivor as a child [4.5 (2.19 - 9.28), p < 0.001]; a primary level of education of the partner [4.23 (1.94 - 9.2), p < 0.001]; and a partner that is alcoholic [2.12 (0.99 - 4.51), p = 0.048] as seen on **Table 6**.

The factors that were statistically associated with more frequent occurrence of psychological violence were: a history of sexual assault on the survivor as a child [2.93 (1.46 - 5.89), p = 0.002]; a primary level of education of the partner [2.69 (1.25 - 5.84), p = 0.01]; and a partner that is alcoholic [2.35 (1.17 - 4.7), p = 0.014] as seen on **Table 7**.

After adjusting for confounders, there was a statistically significant association between partners who had achieved only a primary education and the presence of GBV among pregnant women [3.610 (1.431 - 9.091), p = 0.007] as seen on **Table 8**.

**Table 4.** Association between victim's history, partner characteristic and GBV.

Variable	Presence of violence (n/%)		Odds ratio (CI 95%)	P value	
	Yes (n = 130)	No (n = 101)			
<b>History of sexual assault on victim as a child</b>	33 (25.4)	11 (10.9)	<b>2.784 (1.328 - 5.835)</b>	<b>0.005</b>	
<b>Experience of violence by participant's mother</b>	19 (14.6)	12 (11.9)	0.023 (0.015 - 1.236)	0.167	
<b>Presence of HIV</b>	6 (4.6)	6 (6.0)	0.766 (0.240 - 2.451)	0.653	
<b>Age of partner (years)</b>	10 - 19	1 (0.8)	/	1.000	
	20 - 29	50 (38.5)	25 (24.8)	1.9 (1.07 - 3.37)	<b>0.027</b>
	30 - 39	55 (42.3)	60 (59.4)	0.5 (0.3 - 0.85)	0.010
	40 - 49	22 (16.9)	13 (12.9)	1.38 (0.66 - 2.9)	0.394
	50 - 59	2 (1.5)	2 (1.9)	0.77 (0.12 - 5.59)	1.000
	60 - 69	0 (0.0)	1 (0.9)	/	0.438
	Female older	1 (0.8)	2 (1.9)	0.38 (0.03 - 4.29)	0.582
<b>Age difference between spouses (years)</b>	<2	24 (18.5)	14 (13.9)	1.41 (0.69 - 2.88)	0.350
	3 - 5	46 (35.4)	40 (39.6)	0.84 (0.48 - 1.42)	0.511
	6 - 10	40 (30.8)	34 (33.7)	0.88 (0.5 - 1.53)	0.640
	>10	19 (14.6)	11 (10.9)	1.4 (0.63 - 3.09)	0.404
	None	1 (0.8)	0 (0.0)	/	1.000
<b>Educational level of partner</b>	Primary	27 (20.8)	7 (6.9)	3.52 (1.46 - 8.46)	<b>0.003</b>
	Secondary	50 (38.5)	41 (40.6)	0.91 (0.54 - 1.56)	0.742
	University	52 (40.0)	53 (52.5)	0.6 (0.36 - 1.02)	0.059
<b>Smoking partner</b>	11 (8.5)	5 (5.0)	0.02 (0.02 - 1.24)	0.297	
<b>Alcoholic partner</b>	30 (23.1)	12 (11.9)	0.77 (0.24 - 2.45)	0.029	

**Table 5.** Associated factors and physical violence.

Variable	Physical violence (n/%)		Odds ratio (CI 95%)	P value	
	Yes (N = 70)	No (N = 161)			
<b>History of sexual assault on victim as a child</b>	16 (22.9)	28 (17.4)	1.41 (0.71 - 2.81)	0.331	
<b>Experience of violence by participant's mother</b>	11 (15.7)	20 (12.4)	1.31 (0.59 - 2.91)	0.500	
<b>Presence of HIV</b>	3 (4.3)	9 (5.6)	0.76 (0.19 - 2.88)	0.682	
<b>Age of partner (years)</b>	10 - 19	1 (1.4)	/	0.303	
	20 - 29	26 (37.1)	49 (30.4)	1.35 (0.75 - 2.44)	0.317
	30 - 39	32 (45.7)	83 (51.5)	0.79 (0.45 - 1.39)	0.415
	40 - 49	11 (15.7)	24 (14.9)	1.06 (0.49 - 2.31)	0.875
	50 - 59	0 (0.0)	4 (2.5)	/	0.317
	60 - 69	0 (0.0)	1 (0.6)	/	1.000

## Continued

	Female older	1 (1.4)	2 (1.2)	1.15 (0.1 - 12.91)	1.000
<b>Age difference between spouses (years)</b>	<2	12 (17.1)	26 (16.1)	1.07 (0.51 - 2.27)	0.851
	3 - 5	25 (35.7)	61 (37.9)	0.91 (0.51 - 1.63)	0.753
	6 - 10	21 (30.0)	53 (32.9)	0.87 (0.48 - 1.6)	0.662
	>10	11 (15.7)	19 (11.8)	1.39 (0.63 - 3.11)	0.416
	None	1 (1.4)	0 (0.0)	/	0.303
<b>Educational level of partner</b>	Primary	13 (18.6)	21 (13.0)	1.52 (0.71 - 3.24)	0.276
	Secondary	27 (38.6)	64 (39.8)	0.95 (0.54 - 1.69)	0.866
	University	29 (41.4)	76 (47.2)	0.79 (0.45 - 1.39)	0.418
<b>Smoking partner</b>		9 (12.9)	7 (4.3)	3.25 (1.16 - 9.1)	<b>0.026</b>
<b>Alcoholic partner</b>		18 (25.7)	24 (14.9)	1.98 (0.99 - 3.94)	0.050

**Table 6.** Associated factors and sexual violence.

Variable	Sexual violence (n/%)		Odds ratio (CI 95%)	P value	
	Yes (N = 46)	No (N = 185)			
<b>History of sexual assault on victim as a child</b>	19 (41.3)	25 (13.5)	4.5 (2.19 - 9.28)	<b>&lt;0.001</b>	
<b>Experience of violence by participant's mother</b>	6 (13.0)	25 (13.5)	0.96 (0.35 - 2.49)	0.933	
<b>Presence of HIV</b>	5 (10.9)	7 (3.8)	3.10 (0.94 - 10.26)	0.063	
	10 - 19	1 (2.2)	0	/	0.199
	20 - 29	16 (34.8)	59	1.14 (0.58 - 2.25)	0.708
<b>Age of partner (years)</b>	30 - 39	18 (39.1)	97	0.58 (0.3 - 1.13)	0.106
	40 - 49	10 (21.7)	25	1.78 (0.79 - 4.03)	0.164
	50 - 59	1 (2.2)	3	1.35 (0.14 - 13.27)	1.000
	60 - 69	0 (0.0)	1	/	1.000
	Female older	1 (2.2)	2 (1.1)	2.03 (0.18 - 22.92)	0.488
<b>Age difference between spouses (years)</b>	<2	7 (15.2)	31 (16.8)	0.89 (0.37 - 2.18)	0.801
	3 - 5	19 (41.3)	67 (36.2)	1.24 (0.64 - 2.4)	0.523
	6 - 10	13 (28.3)	61 (33.0)	0.8 (0.39 - 1.63)	0.540
	>10	6 (13.0)	24 (12.9)	1.0 (0.39 - 2.63)	0.990
	None	1 (2.2)	0 (0.0)	/	0.199
<b>Educational level of partner</b>	Primary	15 (32.6)	19 (10.3)	4.23 (1.94 - 9.2)	<b>&lt;0.001</b>
	Secondary	17 (36.9)	74 (40.0)	0.88 (0.45 - 1.71)	0.705
	University	13 (28.3)	92 (49.7)	0.39 (0.19 - 0.81)	0.009
<b>Smoking partner</b>		5 (10.9)	11 (5.9)	1.93 (0.64 - 5.86)	0.325
<b>Alcoholic partner</b>		13 (28.3)	29 (15.7)	2.12 (0.99 - 4.51)	<b>0.048</b>



**Table 7.** Associated factors and psychological violence.

Variable	Psychological violence (n/%)		Odds ratio (CI 95%)	P value	
	Yes (N = 109)	No (N = 122)			
<b>History of sexual assault on victim as a child</b>	30 (27.5)	14 (11.5)	2.93 (1.46 - 5.89)	<b>0.002</b>	
<b>Experience of violence by participant's mother</b>	17 (15.6)	14 (11.5)	1.43 (0.67 - 3.05)	0.358	
<b>Presence of HIV</b>	4 (3.7)	8 (6.6)	0.53 (0.16 - 1.86)	0.330	
10 - 19	0 (0.0)	1 (0.8)	/	1.000	
20 - 29	41 (37.6)	34 (27.9)	1.56 (0.9 - 2.72)	0.114	
30 - 39	46 (42.2)	69 (56.6)	0.56 (0.33 - 0.95)	0.029	
<b>Age of partner (years)</b>	40 - 49	20 (18.3)	15 (12.3)	1.6 (0.77 - 3.31)	0.200
50 - 59	2 (1.8)	2 (1.6)	1.12 (0.16 - 8.1)	1.000	
60 - 69	0 (0.0)	1 (0.8)	/	1.000	
Female older	1 (0.9)	2 (1.6)	0.56 (0.05 - 6.21)	1.000	
<b>Age difference between spouses (years)</b>	<2	21 (19.3)	17 (13.9)	1.47 (0.73 - 2.97)	0.275
3 - 5	37 (33.9)	49 (40.2)	0.77 (0.45 - 1.31)	0.329	
6 - 10	33 (30.3)	41 (33.6)	0.86 (0.49 - 1.49)	0.588	
>10	17 (15.6)	13 (10.7)	1.55 (0.72 - 3.36)	0.265	
<b>Educational level of partner</b>	None	1 (0.9)	0 (0.0)	/	0.472
Primary	23 (21.1)	11 (9.0)	2.69 (1.25 - 5.84)	<b>0.010</b>	
Secondary	42 (38.5)	49 (40.2)	0.93 (0.55 - 1.59)	0.800	
University	43 (39.4)	62 (50.8)	0.63 (0.37 - 1.06)	0.083	
<b>Smoking partner</b>	10 (9.2)	6 (4.9)	1.95 (0.69 - 5.56)	0.203	
<b>Alcoholic partner</b>	27 (24.8)	15 (12.3)	2.35 (1.17 - 4.7)	<b>0.014</b>	

**Table 8.** Factors associated with gender-based violence (multivariate analysis).

Variable	Adjusted OR (CI 95%)	Adjusted P value
<b>Age participant 10 - 19 years</b>	0.603 (0.202 - 1.796)	0.363
<b>Level Education Partner (Primary)</b>	<b>3.610 (1.431 - 9.091)</b>	<b>0.007</b>
<b>Alcoholic partner</b>	0.531 (0.239 - 1.182)	0.161
<b>History sexual abuse on participant as child</b>	0.498 (0.222 - 1.119)	0.091
<b>Mother of participant experiencing violence</b>	0.884 (0.380 - 2.056)	0.774

## 4. Discussion

### Sociodemographic characteristics of sample population

The mean age of our sample population was 26 years which is close to the mean age of  $26.6 \pm 6.5$  years of Idoko *et al.* in Gambia [14], 25 years of Dunkle *et al.* in South Africa [15] and 24 years reported by Makayato *et al.* in Kenya [10].

The similarity observed could be because more women tend to become pregnant around this age in sub-Saharan Africa. Married women were most represented (71.4%) in our study which is similar to the findings of Makayato *et al.* [10] and Idoko *et al.* in [14] but differs from the study carried out by Dunkle *et al.* [15] who reported a majority of his study participants were cohabiting. However, pregnant women are more likely to be in relationships compared to non-pregnant populations. The most represented level of education in our study was at least a university education, which was higher when compared to 19% who had a university education in a study by Abebe *et al.* in Western Ethiopia [16]. This could be explained by the fact that our study was carried out in an urban area with many schools of higher education.

#### **The prevalence of GBV**

The prevalence of GBV reported in this study was 56.3% which is close to the prevalence of 43% reported by Oyedunni *et al.* [5] in Abuja, Nigeria, and that of 61% of intimate violence reported by Idoko *et al.* [14] in Gambia but higher than the 37% reported by Makayoto *et al.* in Kenya [10]. Our prevalence is lower than the 91.1% prevalence reported by Samjhana *et al.* in Nepal [17] who included aspects of verbal and economic violence that are not included in the WHO-adapted questionnaire used in our study. The differences in GBV prevalence could be explained by the diversity in the definitions of GBV in the various studies, which are culturally embedded. They can also be explained by differences in the types of violence that were studied and the differences in the populations sampled. In some of these studies, only intimate partner violence was considered. Thus, if regional prevalence values are to be determined and compared, then a standardized tool should be developed and used universally.

#### **Psychological violence**

Psychological violence was the most common type of violence in our study, with a prevalence of 47.2%. This finding is similar to the findings of the studies done by Makayoto *et al.* in Kenya [10] of 29%, the WHO multi-country study [12] by Idoko *et al.* in Gambia [14] of 60% and by Oyedunni *et al.* in Nigeria of 38.0% [5]. The higher prevalence of Idoko *et al.* [14] could be explained by the high verbal forms of intimate partner violence, which were the commonest forms. The prevalence of psychological intimate partner violence was 16.3% in the study by Abebe *et al.* [16] second to physical violence and was 8% in the study by Das *et al.* in Mumbai [18]. The differences observed could be due to differences in the perception of psychological violence in the various communities, as well as family influence when answering the questions, as was the case in the study in Mumbai.

#### **Physical violence**

The prevalence of physical violence in our study was 30.3% which is close to the prevalence of 29.2% reported by Abebe *et al.* [16] among pregnant women in Western Ethiopia and in the study by Oyedunni *et al.* in Nigeria where physical violence was the most represented at 36.4% [5]. The possible reason could be the presence of traditional norms that support beating women in the study area.

This value is relatively higher when compared to 10% recorded by Makayoto *et al.* in Kenya [10]. Kenya is a patriarchal society where violence is recognized as one way of “disciplining” one’s wife, with many women socialized to anticipate this discipline. Das *et al.* reported a prevalence of 12% in Mumbai [18]. In this study, the participants were interviewed in their homes with relatives intruding during interviews and maximum privacy could not be attained. The prevalence of physical violence in the study by Idoko *et al.* [14] in Gambia was above 55%. This was probably influenced by the definitions used in these studies.

#### **Sexual violence**

Sexual violence was reported at 19.9% in our study which is close to 22% found by Idoko *et al.* in Gambia [14], but lower than that reported by Abebe *et al.* (30%) which was the most common form of violence in his study, possibly due to sexual autonomy imbalance among the study areas. Our finding is higher than 12% found by Makayoto *et al.* in Kenya [10], and this can be explained by the fact that the educational level of participants in the study carried out in Western Ethiopia was lower than that in our study, as more than half of our study participants had at least a secondary level of education. These differences in literacy levels could have led to the disparity in results, as the more literate participants may have easily identified and reported cases of sexual violence. The prevalence of sexual violence was only 2% in the study by Das *et al.* in Mumbai [18] where relative influence could have biased the findings.

#### **Psychological, physical and sexual violence**

The most common types of violence in our study were psychological violence (28.5%), and a combination of psychological and physical violence (28.5%). Our observation is similar to those of Makayoto *et al.* in Kenya who recorded 49% of psychological abuse alone, followed by a combination of physical and psychological abuse at 14% [10]. In our study, 15.4% (n = 20) of the participants presented with all three types of violence, which is higher than 4% found by Makayoto *et al.* [9].

#### **The perpetrator of gender-based violence**

The perpetrators of GBV were principally intimate partners in 76.2% (n = 99) of cases which is close to 86.2% in the study by Abebe *et al.* [16] and 70.2% in the study by Oyedunni *et al.* [5] given that being a couple exposes the woman more to intimate partner violence.

#### **Clinical manifestations of gender-based violence**

The most frequent clinical manifestation seen in our study was the presence of borderline depression and borderline anxiety both at 18.5%. Depressive and anxiety symptoms have been reported to be associated with GBV during pregnancy as seen in the study by Rodriguez *et al.* in a study among pregnant Latina women living in America [19], among pregnant women in Turkey by Karacam *et al.* [20], and by Nasreen *et al.* in Bangladesh [21]. GBV has been described as the single most important predictor of depression [22] and anxiety [23] in women.

#### **Management of gender-based violence**

More than half (62.3%) of the survivors in our study received no form of

management, and for those who sought treatment, 75% of this treatment were offered by non-medical personnel (friends and relatives). This is consistent with the observation of Idoko *et al.*, where most of the women (59%) did nothing about the abusive behaviour with 5% of them prevented from seeking health care [14]. Similarly, Das *et al.* reported that only 18% of GBV survivors in Mumbai sought clinical care for their injuries [18]. The high adherence to the idea that family matters should be discussed within the family may be the factor influencing the choice of seeking health care or not for the sake of family harmony.

### **Factors associated with GBV**

#### **The age of the survivor**

The absence of financial autonomy at a young age is thought to be a source of GBV but not all studies have the same finding. The age group 20 - 29 years [1.9 (1.07 - 3.37),  $p = 0.027$ ] was statistically associated with more frequent occurrence of GBV after univariate analysis but was not associated with GBV after multivariate analysis. This finding is similar to the finding of Makayoto *et al.* [10] and that of Samjhana *et al.* [17]. However, in the WHO multi-country study a young age was found to be a risk factor of GBV [24].

#### **Cohabitation and marriage**

Our study showed no statistically significant association between women who were cohabiting or married and the presence of GBV. However, some studies showed that there was more partner violence among women who were cohabiting rather than married [12] [24], with marriage being a protective factor. But Oladepo *et al.* found that married women were more likely to experience physical violence than single respondents [25].

#### **HIV**

HIV infection was not found to be a risk factor of GBV in our study. This finding was similar to the findings of Makayoto *et al.* [10] and in a study done in rural Rwanda [26].

#### **Education and employment**

The educational level of our participants was not associated with the occurrence of GBV. This is similar to the studies carried out in Kenya [10], and Mumbai [18]. Other studies, however, had shown that low level of education was a risk factor for experiencing abuse [27]. The WHO multi-country study found secondary education to be a protective factor [24] whereas Abebe *et al.* found that illiterate partners were 50% less likely to experience violence by their intimate partner during pregnancy [16]. Employment was not associated with the occurrence of GBV in our study although other studies had shown that being unemployed is a risk factor for experiencing abuse [27]. This is contrary to the finding that women who were employed were more likely to have reported intimate partner violence in the study by Das *et al.* in Mumbai [18].

#### **Assault as a child**

It is generally accepted that a history of assault as a child is a risk factor for

future GBV. In this study, assault on the survivor as a child was statistically associated with more frequent occurrence of GBV [2.784 (1.328 - 5.835),  $p = 0.005$ ] globally, as well as sexual [4.5 (2.19 - 9.28),  $p < 0.001$ ] and psychological violence [2.93 (1.46 - 5.89),  $p = 0.002$ ] at univariate analysis but was not statistically associated with presence of violence after multivariate analysis. Other studies demonstrated strong evidence that a history of violence is significantly associated with intimate partner violence in pregnancy [12] [15].

#### **Age of the partner**

In our study, the age group of the partners was not statistically associated with the occurrence of GBV which is contrary to the finding of Oladepo *et al.* [25] who had the 20 - 29 years age group significantly associated with GBV. A possible explanation for these results could be that men in the younger age group are more violent.

#### **Education of the partner**

Primary level of education of the partner was statistically associated, at univariate analysis, with more frequent occurrence of GBV [3.52 (1.46 - 8.46),  $p = 0.03$ ], psychological violence [2.69 (1.25 - 5.84),  $p = 0.01$ ] and sexual violence [4.23 (1.94 - 9.2),  $p < 0.001$ ], and after adjusting for confounders, having a partner with only a primary education was the only factor that was independently associated with gender-based violence [3.610 (1.431 - 9.091),  $p = 0.007$ ]. This is similar to results got from a WHO multi-country study [12] which reported that partners who had attained a higher level of education were less likely to violate their pregnant partner and the finding of Hayati *et al.* [28] where sexual violence was associated with husbands educated less than 9 years.

#### **Alcohol and smoking**

After univariate analysis, a partner that is alcoholic was statistically associated with the occurrence of sexual violence [2.12 (0.99 - 4.51),  $p = 0.048$ ] and psychological violence [2.35 (1.17 - 4.7),  $p = 0.014$ ], but there was no statistically significant association after adjusting for confounders. This was consistent with studies by Hayati *et al.* [28], Idoko *et al.* [14], Makayoto *et al.* [10], Hindi *et al.* [29], Oyedunni *et al.* [5], Das *et al.* [18] and in the WHO Multi-country Study [24]. This contrasts with studies that have shown otherwise [27]. Field *et al.* [30] in a study carried out in Texas, USA reported the presence of aggressive behaviour following alcohol consumption. This aggressive behaviour places alcoholics at a greater chance of inflicting any form of violence.

The only factor that was statistically associated with more frequent occurrence of physical violence among pregnant women after univariate analysis was a partner that smokes [3.25 (1.16 - 9.1,  $p = 0.026$ ], but there was no association after adjusting for cofounders which is contrary to the findings in other studies [11] [14].

**Study limitations:** The main limitation of this study is that it was a hospital-based study and therefore, the data analysed herein does not include information from partners but rather relies solely on the reports of main respondents.

Also, the sensitive nature of the subject matter makes underreporting a possible consideration.

## 5. Conclusion

Gender-based violence is a key health risk among pregnant women consulting at the ANC unit of the Bamenda Regional Hospital and proper education of the partner is primordial in its prevention. These high rates of GBV require more concerted efforts to identify, screen and facilitate care for affected women. The myth and silence that surround this practice have to be broken to permit appropriate interventions to be made.

## Acknowledgements

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## Ethics Approval and Consent to Participate

Ethical clearance was obtained from the Institutional Review Board of the Faculty of Health Sciences of the University of Bamenda and administrative authorisations were obtained from the Regional Delegation of Public Health for the North West Region and from the Director of the Bamenda Regional Hospital. Before administering the questionnaire, the study was explained to each participant in detail, and a written consent was obtained. Those who were not literate placed thumbprints after accepting to have fully understood the study.

## Availability of Data and Materials

The datasets used and/or analysed during the current study are available from the corresponding author on a reasonable request.

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This study did not receive any funding from any agency.

## Authors' Contributions

DWP, SM BZA and FP were involved in the design of the study and drafted the protocol with input from other authors. DWP, SM BZA, FP, AAF analysed the data. DWP and BZA drafted and finalized the manuscript for publication. DSJ and AAF edited the manuscript. All authors contributed to the writing of the paper and approved the final version.

## Conflicts of Interest

We, the authors, declare that we did not have competing interests.

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## Appendix

### Questionnaire

Instructions; Write the code (number) in the box e.g. If Yes, write 1

Date	_ _ / _ _ / _ _  DD MM YY	
Telephone number	_ _ / _ _ / _ _ / _ _   _ _ / _ _ / _ _ / _ _	
<b>1. Sociodemographic characteristics</b>		
	Age	_ _
Marital status	1. single	_ _
	2. cohabiting	
	3. married	
Occupation	1. Unemployed	_ _
	2. Employed	
Educational level	1. uneducated	_ _
	2. primary education	
	3. secondary education	
	4. university	
	How many times have you been pregnant	_ _
	How many children do you have	_ _
HIV status	1. positive	_ _
	2. negative	
	3. I don't know	
<b>2. Assessing gender-based violence</b>		
<b>2.1. Physical violence</b>		
Have you been slapped or thrown at something that can hurt you?	1. Yes	_ _
	2. No	
Have you been pushed or shoved?	1. Yes	_ _
	2. No	
Have you been hit with a fist or something else that could hurt?	1. Yes	_ _
	2. No	
Have you been kicked?	1. Yes	_ _
	2. No	
Have you been dragged or beaten up?	1. Yes	_ _
	2. No	
Have you been choked or burnt on purpose?	1. Yes	_ _
	2. No	
Have you had a gun, knife or other weapons used against you?	1. Yes	_ _
	2. No	
<b>2.2. Sexual violence</b>		
Have you be physically forced to have sexual intercourse against your will?	1. Yes	_ _
	2. No	
Have you had sexual intercourse because you are afraid of what your partner might do?	1. Yes	_ _
	2. No	

**Continued**

Have you been forced to do something sexual that you find degrading or humiliating?	1. Yes 2. No	_ _
<b>2.3. Psychological violence</b>		
Have you been insulted or made to feel bad about yourself?	1. Yes 2. No	_ _
Have you been humiliated or made to feel bad in front of others?	1. Yes 2. No	_ _
Have you been intimidated or scared on purpose (for example by a partner yelling and smashing things)	1. Yes 2. No	_ _
Have you been threatened with harm (directly or indirectly in the form of a threat to hurt someone the respondent cares about).	1. Yes 2. No	_ _
<b>3. Assessing Risk factors</b>		
Who carries out the violence	1. Intimate partner 2. Non-partner	_ _
Age of partner		_ _
Educational level of partner	1. uneducated 2. primary education 3. secondary education 4. university	_ _
Does your partner smoke	1. Yes 2. No	_ _
Is your partner an alcoholic?	1. Yes 2. No	_ _
Did you experience sexual assault as a child? Example		
a) When you were a child, before you were 15 years of age, did a man ever touch you sexually or force you to touch him sexually when you didn't want to?	1. Yes 2. No	_ _
b) When you were a child, before you were 15 years of age, did anyone ever persuade or force you to have sex when you did not want to?	1. Yes 2. No	_ _
Total		
Is your mother being violated by your father//or did your mother experience gender-based violence	1. Yes 2. No 3. I don't know	_ _

Thank you for your time.

**List of Abbreviations**

ANC: Antenatal Care  
 BRH: Bamenda Regional Hospital  
 GBV: Gender-Based Violence  
 HIV: Human Immuno-Deficiency Virus  
 WHO: World Health Organization