

Prevalence and Risk Factors for Intimate Partner Violence Amongst Pregnant Women in a Rural Hospital in Rivers State, South-South Nigeria

Hyness Awoye-Godspower^{1*}

Department of Obstetrics and Gynaecology,
Faculty of Clinical Sciences, College of Medical Sciences,
Rivers State University, Rivers State, Nigeria

Ishmael Daniel Jaja²

Department of Community Medicine,
Faculty of Clinical Sciences, College of Medical Sciences,
Rivers State University, Rivers State, Nigeria.

Correspondence Author:- Hyness Awoye-Godspower^{1*}

Abstract:-

➤ Background

Intimate partner violence (IPV) perpetrated during pregnancy exposes not only the woman, but also her unborn baby to adverse pregnancy outcomes and poses a great threat to achieving targets one and two of the United Nations Sustainable Development Goal (SDG) 3. Previous studies investigating IPV during pregnancy were done in urban setting. This study set out to evaluate the prevalence of IPV during pregnancy and its associated risk factors in a rural hospital in Rivers State, South-south Nigeria.

➤ Methodology

This was a cross-sectional study conducted between March 2024 and August 2024, involving 216 pregnant women who attended antenatal clinic at the General Hospital Okrika, Rivers State Nigeria. Consecutive sampling method was employed, and a structured questionnaire, adopting the Woman Abuse screening Tool (WAST) was used to obtain abuse information from the respondents after obtaining consent. Data were analysed using IBM Statistical Package for Social Sciences (SPSS) version 26.0 for windows. Statistical significance was set at p-value < 0.05. Multivariate analysis model was done using unconditional binary logistic regression. Odds ratios were determined at the 95 % level.

➤ Results

Out of the 216 pregnant women who participated in this study, thirty (13.9 %) experienced at least one of the three forms of IPV in the index pregnancy. Physical violence was the most prevalent form of IPV, 22 (10.2%). The prevalence of sexual and psychological violence was 13 (6.0%) and 18 (8.3%) respectively. The educational status of the woman (OR=5.161; 95% CI: 1.409-18.908; p-value 0.013) and social habit of husband (OR=3.840; 95% CI: 1.28-11.515; p-value 0.016) were significantly associated with Physical IPV. Only the social habit of the husband had association with sexual IPV in this study (OR=6.311; 95% CI: 1.310-30.409; p-value 0.022).

➤ Conclusion

The educational status of the woman and social habit of the husband were significantly associated with IPV during pregnancy in this study. Education of the girl-child, implementation of violence against persons prohibition law as well as gender equality as stipulated by the United Nations SDG 5 will bring this menace to its barest minimum.

Keywords:- Pregnancy, Violence, Intimate Partner, Rural, South-South, Nigeria.

I. INTRODUCTION

Intimate partner violence (IPV) is the most common form of violence against women and is prevalent in the lifetime of most women.^{1,2} It is a serious global issue that cuts across all socio-economic, religious, racial and cultural groups.

It involves any behaviour within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship. The United States Centre for Disease Control and Prevention defined IPV as physical or sexual violence, stalking or psychological aggression (including coercive acts) by a current or former intimate partner, whether or not the partner is a spouse.³

Physical violence may be, slapping, hitting, kicking, pushing and beating. Sexual violence on the other hand is mostly forced sexual intercourse and other forms of sexual coercion.^{3,4} Emotional/psychological violence include; insults, belittling, constant humiliation, intimidation, threats of harm and threats to take away children, controlling behaviours that isolate from families and friends, restricting access to medical care and financial resources.^{3,4}

➤ Statement of Problem and Justification

Globally, the prevalence of IPV in a multi-country study by World Health Organization (WHO) ranges from 23% - 56% both physical and sexual IPV accompanied by emotional abuse.⁴

Intimate partner violence during pregnancy is a serious public health challenge that exposes not only the woman but also her unborn baby to adverse pregnancy outcomes.⁵ The exposure of pregnant women to IPV poses a great threat to achieving the United Nations advocated Sustainable Development Goals (SDGs) 3 and 5.⁶ The first and second targets of SDG 3 (reduce maternal mortality and end preventable deaths of new-borns and children under 5 years of age) are directly affected by the complications of IPV during pregnancy.⁵

The prevalence of IPV during pregnancy varies across countries.⁷ More recently, a systematic review by some researchers showed that about one-quarter of mothers were exposed to IPV during pregnancy globally, with the highest prevalence in Africa.⁷ Similarly, the prevalence of 51.5% was documented by researchers in Iran in a systematic review.⁸ The prevalence of IPV during pregnancy in Nigeria varies from 15.4% in the Southwest, 44.6% in the Southeast, 34.9% in the South-south and 30.4% in the Northwest.⁹⁻¹²

Several studies have shown that women who are directly exposed to IPV during pregnancy, have increased risk of genitourinary infections, spontaneous miscarriages, preterm prelabour rupture of membranes, preterm labour, low birth weight babies, placental abruption, severe neonatal morbidity and neonatal deaths.^{5,9,13-17} These women who experience IPV during pregnancy, may likely develop low self-esteem, and subsequently come down with postpartum depression.^{5,17} Maladaptive coping strategies employed by them, could culminate in negative maternal behaviours, such as alcohol or drug abuse, smoking, inadequate maternal nutrition or inadequate prenatal care which may also result in serious adverse pregnancy outcomes.⁵

Intimate partner violence is viewed as a confidential family matter in Nigeria, and thus most exposed women rarely divulge their ordeal to safeguard their marriages.^{10,12} Several predisposing factors have been implicated and literature has shown that women who are unemployed are more at risk of IPV during pregnancy.^{18,19} Majority of the studies done globally implicated alcohol consumption of the male partner as a risk factor for IPV.^{9,15-19} Other documented risk factors include, low socio-economic status, young maternal age, women who had primary and secondary education, male partners with primary and secondary education and risky sexual behaviour of the male partner.^{10,15-17,19,20,21}

Understanding the predisposing factors for intimate partner violence amongst pregnant women, will help to develop intervention programs that will curb this menace. The antenatal period provides golden opportunity to screen for IPV, as pregnant women interact regularly with health workers, especially the midwives and thus confide in them.

Most studies investigating IPV during pregnancy were done in urban setting, this study set out to investigate the prevalence and risk factors for IPV among pregnant women in a rural setting.

➤ *Aim and Specific Objectives of the Study*

The aim of this study is to evaluate the prevalence of IPV during pregnancy and its associated risk factors in a rural hospital.

➤ *The Specific Objectives*

- To determine Prevalence of IPV during pregnancy in a rural setting in Rivers State.
- To identify the factors associated with IPV during pregnancy in a rural setting in Rivers State.

II. METHODOLOGY

➤ *Study Area*

This study was carried out at the General Hospital Okrika which is located in Okrika Local Government Area of Rivers State, in the Niger Delta region of Nigeria. Okrika is an Island which lies on the north bank of the Bonny river and 56 km upstream from the Bight of Benin. The General Hospital has 90 bed spaces and provides secondary health care services to the local government area and its environs.

➤ *Study Population*

The study population include all consenting married pregnant women attending antenatal clinic at the General Hospital Okrika, Rivers State.

➤ *Inclusion Criteria*

All consenting and married women.

➤ *Exclusion Criteria*

Pregnant women who were very ill, those who were unmarried and women who did not give their consent were excluded from the study.

➤ *Study Design*

This is a cross-sectional study involving pregnant women who attended antenatal clinic at the General Hospital Okrika, in Okrika Local Government Area, Rivers State, Nigeria. The total number of antenatal attendees during the study period of March 2024 to August 2024 was 338 women.

➤ *Sample Size Determination*

The sample size was determined using the prevalence of 15.4 % reported by Okunola TO et al,⁹ confidence interval of 95 % and standard error of 5 %. The Kish Leslie formula for cross-sectional study²² was used.

$$N = Z^2 P (1-P)/d^2,$$

Where;

N= Sample size

P= Assumed prevalence of IPV which is 15.4 % =0.15

Z= Standard normal deviation at 95 % confidence interval corresponding to 1.96

d= Absolute error between the estimated and true population prevalence of IPV of 5 %

$N = 1.96^2 \times 0.15 (1-0.15)/0.05^2 = 195.9$. Thus, the total sample size calculated was 196. Adjustment was made for a non-response rate of 10 % (19.6), the minimum sample size was 216 women.

➤ *Sampling Technique*

Consecutive sampling method was employed and all consenting women who met the inclusion criteria were recruited into the study until the required sample size was achieved.

➤ *Data Collection and Analysis*

The midwives in the antenatal clinic were trained on ethical concerns and confidentiality to assist in the data collection. Structured questionnaire adopting the Woman Abuse Screening Tool (WAST),²³ was privately administered to the pregnant women by the midwives after obtaining a verbal consent, during the antenatal clinic between March 2024 to August, 2024. Abuse information during pregnancy was obtained from the participants. Total of three domains of IPV were assessed; two items for physical violence, two items for sexual violence and 9 items for emotional/psychological violence. Women were asked to provide the frequency of experience for each item according to a 3-point Likert scale: Often (2), Sometimes (1) or Never (0). A score of 2 or above indicated an experience of physical and sexual IPV. Furthermore, a score of 9 and above signifies exposure to emotional/psychological IPV. The responses from the participants were entered into a spread sheet and analysed using the IBM Statistical Package for Social Sciences (SPSS) v.26 for windows. Descriptive statistics employed frequencies and proportions. Bivariate analysis was performed using Pearson’s Chi-square test or a Fisher’s exact test when the expected cell count was below five in at least

twenty percent of the crosstab cells. Statistical significance was set at p-value less than 0.05. Statistically significant variables on bivariate analysis were entered into multivariate analysis model to control for confounders and identify predictors. Multivariate analysis model was done using unconditional binary logistic regression. Odds ratios were determined at the 95% level.

➤ *Ethical Considerations*

The survey was carried out in accordance with the Helsinki declaration, taking cognizance of confidentiality, voluntary participation and the right to refuse or withdraw from the survey without penalty. These were clearly explained to the women through written information.

Ethical approval was obtained from the Rivers State Health Research Ethics Committee. The ethical clearance certificate number was RSHMB/RSHREC/2024/069.

III. RESULTS

➤ *Socio-Demographic Characteristics of Participants*

Sixty-three (57.4%) of the respondents were between the ages of 25-34 years. Two hundred and eight (96.3%) of the women had at least secondary education and above. One hundred and eighty-five (85.6 %) of the participants were christians and ninety (41.7 %) of them were primigravidae. Thirty-seven (17.1 %) of the respondents were unemployed. One hundred and eighty-five (85.6 %) were in a monogamous relationship and 139 (64.4 %) had marriages less than 5 years. One hundred and twenty-seven (58.8 %) of the participant’s spouses had tertiary education and 23 (10.6 %) were unemployed. Twenty-five (11.6 %) of respondent’s spouses take alcohol and eat outside their homes while 20 (9.3 %) of them had extra-marital affairs. Eighteen (8.3 %) of them keep late night while eight (3.7 %) of them smoke. See tables 1 and 2 below.

Table 1 Sociodemographic Characteristics in the Study Population

Variables (216)	Frequency	Percentage
Maternal Age		
<20 years	12	5.6
20 – 24years	32	14.8
25 – 29years	63	29.2
30 – 34years	61	28.2
35 – 39years	37	17.1
≥40 years	11	5.1
Educational Status of woman		
Primary	8	3.7
Secondary	101	46.8
Tertiary	107	49.5
Religion		
Christianity	185	85.6
Islam	22	10.2
Traditional	1	0.5
Others	8	3.7
Number of children		
None	90	41.7
One child	43	19.9
2 – 3children	65	30.1

>3 children	18	8.3
Occupation of the woman		
Business	127	58.8
Teacher	23	10.6
Fashion Designer	11	5.1
Civil Servant	9	4.2
Others	9	4.2
Currently unemployed	37	17.1

Table 2 Sociodemographic Characteristics in the Study Population (Continuation)

Variables	Frequency	Percentage
Family Setting		
Monogamous	185	85.6
Polygamous	31	14.4
Duration of Marriage		
<5years	139	64.4
6 – 9years	40	18.5
≥10 years	37	17.1
Age of Husband		
<30years	25	11.6
30 – 34years	46	21.3
35 – 39years	67	31.0
40 – 44years	51	23.6
45 – 50years	17	7.9
>50years	10	4.6
Educational Status of Husband		
No formal education	2	0.9
Primary	8	3.7
Secondary	79	36.6
Tertiary	127	58.8
Occupation of the Husband		
Business	101	46.8
Public servant	26	12.0
Civil Servant	22	10.2
Engineer	16	7.4
Artisan	15	6.9
Clergy	13	6.0
Currently unemployed	23	10.6
Social Habit of Husband		
Keeps late night	18	8.3
Smokes	8	3.7
Drinks alcohol	25	11.6
Eats outside	25	11.6
Extramarital affairs	20	9.3
None	120	55.6

Table 3 Physical IPV

Variables	Frequency	Percentage
Do arguments ever result in hitting, slapping, kicking, pushing or choking you?		
Often	9	4.2
Sometimes	75	34.7
Never	132	61.1
Has your spouse physically restrained you, kept you from going out or blocked access to the exit?		
Often	8	3.7
Sometimes	20	9.3
Never	188	87.0

➤ *Prevalence of IPV*

The overall prevalence of IPV during pregnancy in this study was 13.9 % (30/216). Physical IPV was the most

prevalent, 10.2 %. The prevalence of sexual violence and psychological violence in this study was 6.0 % and 8.3 % respectively. See Figure 1 below.

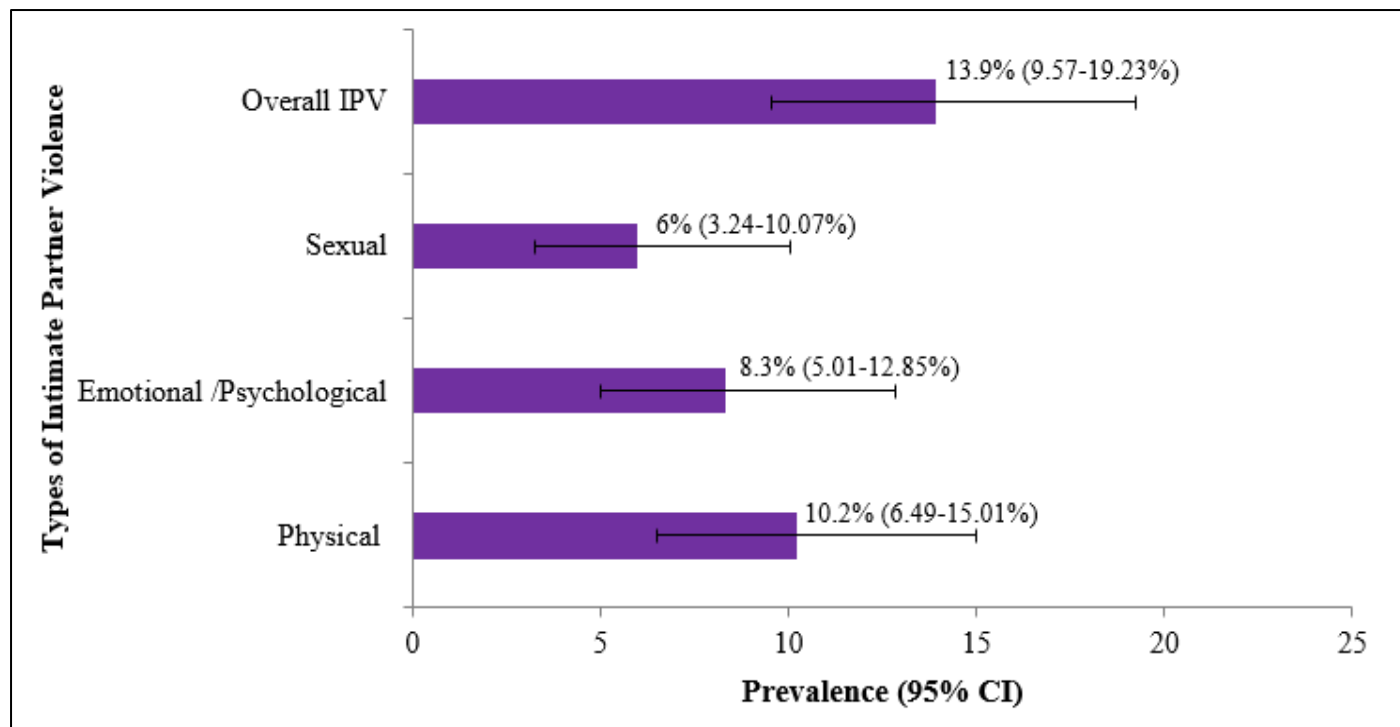


Fig 1 Chart Showing Types of Intimate Partner Violence among the Study Population

➤ *Factors Associated with Physical IPV*

In this study, younger women (<20 years) were more exposed to physical IPV, 33.3 % compared to other age cohorts but this was not statistically significant (Fisher’s Exact=8.147; p-value= 0.111). Women who had only primary education experienced more of physical IPV, 37.5 % compared to those who had secondary (15.8 %) and tertiary education (2.8 %). This was statistically significant (Chi square= 16.192; p-value=0.0001). The occupation of the woman and number of children and religion had no association with physical violence in this study, (p-value = 0.496, p-value = 0.534, p-value=0.461 respectively). Fifty percent of women whose husbands had primary education were exposed to physical violence (Fisher’s Exact =18.789;

p-value = 0.0001). Four (26.7 %) of the women whose spouses were artisan experienced physical violence (Fisher’s Exact =11.619; p-value = 0.036). Thirty-five percent of women whose husbands had extra-marital affairs and 25 % of women whose spouses smoke were exposed to physical IPV and this was statistically significant (Fisher’s Exact=18.638; p-value = 0.0001). See tables 4 and 5 below.

Educational level of the woman (primary education), educational level of the husband (primary education), occupation of the husband (artisan) and social habit of husbands (extra-marital affairs), were statistically associated with physical IPV.

Table 4 Factors Associated with Physical IPV during Pregnancy in a Rural Setting in Rivers State

Variables	Physical Intimate Partner Violence		Total n (%)
	Present n (%)	Absent n (%)	
Maternal Age			
<20 years	4 (33.3)	8 (66.7)	12 (100.0)
20 – 24years	4 (12.5)	28 (87.5)	32 (100.0)
25 – 29years	6 (9.5)	57 (90.5)	63 (100.0)
30 – 34years	6 (9.8)	55 (90.2)	61 (100.0)
35 – 39years	1 (2.7)	36 (97.3)	37 (100.0)
≥40 years	1 (9.1)	8 (66.7)	12 (100.0)
	<i>Fisher’s Exact = 8.147; p-value = 0.111</i>		
Educational Status of woman			
Primary	3 (37.5)	5 (62.5)	8 (100.0)
Secondary	16 (15.8)	85 (84.2)	101 (100.0)
Tertiary	3 (2.8)	104 (97.2)	107 (100.0)

	<i>Chi Square = 16.192; p-value = 0.0001*</i>		
Religion			
Christianity	18 (9.7)	167 (90.3)	185 (100.0)
Islam	4 (18.2)	18 (81.8)	22 (100.0)
Traditional	0 (0.0)	1 (100.0)	1 (100.0)
Others	0 (0.0)	8 (100.0)	8 (100.0)
	<i>Fisher's Exact = 2.774; p-value = 0.461</i>		
Number of children			
None	11 (12.2)	79 (87.8)	90 (100.0)
One child	2 (4.7)	41 (95.3)	43 (100.0)
2 – 3children	8 (12.3)	57 (87.7)	65 (100.0)
>3 children	1 (5.6)	17 (94.4)	18 (100.0)
	<i>Fisher's Exact = 2.272; p-value = 0.534</i>		
Occupation of the woman			
Business	13 (10.2)	114 (89.8)	127 (100.0)
Teacher	1 (4.3)	22 (95.7)	23 (100.0)
Fashion Designer	2 (18.2)	9 (81.8)	11 (100.0)
Civil Servant	0 (0.0)	9 (100.0)	9 (100.0)
Others	0 (0.0)	9 (100.0)	9 (100.0)
Currently unemployed	6 (16.2)	31 (83.8)	37 (100.0)
	<i>Fisher's Exact = 3.940; p-value = 0.496</i>		

*Statistically significance

Table 5 Factors Associated with Physical IPV during Pregnancy in a Rural Setting in Rivers State (Continuation)

Variables	Physical Intimate Partner Violence		Total n (%)
	Present n (%)	Absent n (%)	
Family Setting			
Monogamous	18 (9.7)	167 (90.3)	185 (100.0)
Polygamous	4 (12.9)	27 (87.1)	31 (100.0)
	<i>Fisher's Exact p-value = 0.531</i>		
Duration of Marriage			
<5years	13 (9.4)	126 (90.6)	139 (100.0)
6 – 9years	3 (7.5)	37 (92.5)	40 (100.0)
≥10 years	6 (16.2)	31 (83.8)	37 (100.0)
	<i>Fisher's Exact = 1.856; p-value = 0.365</i>		
Age of Husband			
<30years	3 (12.0)	22 (88.0)	25 (100.0)
30 – 34years	5 (10.9)	41 (89.1)	46 (100.0)
35 – 39years	9 (13.4)	58 (86.6)	67 (100.0)
40 – 44years	4 (7.8)	47 (92.2)	51 (100.0)
45 – 50years	0 (0.0)	17 (100.0)	17 (100.0)
>50years	1 (10.0)	9 (90.0)	10 (100.0)
	<i>Fisher's Exact = 3.017; p-value = 0.691</i>		
Educational Status of Husband			
No formal education	0 (0.0)	2 (100.0)	2 (100.0)
Primary	4 (50.0)	4 (50.0)	8 (100.0)
Secondary	13 (16.5)	66 (83.5)	79 (100.0)
Tertiary	5 (3.9)	122 (96.1)	127 (100.0)
	<i>Fisher's Exact = 18.789; p-value = 0.0001*</i>		
Occupation of the Husband			
Business	11 (10.9)	90 (89.1)	101 (100.0)
Public servant	0 (0.0)	26 (100.0)	26 (100.0)
Civil Servant	1 (4.5)	21 (95.5)	22 (100.0)
Engineer	0 (0.0)	16 (100.0)	16 (100.0)
Artisan	4 (26.7)	11 (73.3)	15 (100.0)
Clergy	3 (23.1)	10 (76.9)	13 (100.0)
Currently unemployed	3 (13.0)	20 (87.0)	23 (100.0)
	<i>Fisher's Exact = 11.619; p-value = 0.036*</i>		

Social Habit of Husband			
Keeps late night	2 (11.1)	16 (88.9)	18 (100.0)
Smokes	2 (25.0)	6 (75.0)	8 (100.0)
Drinks alcohol	2 (8.0)	23 (92.0)	25 (100.0)
Eats outside	4 (16.0)	21 (84.0)	25 (100.0)
Extramarital affairs	7 (35.0)	13 (65.0)	20 (100.0)
None	5 (4.2)	115 (95.8)	120 (100.0)

Fisher's Exact = 18.638; p-value = 0.0001*

*Statistically significance

Table 6 Sexual IPV

Variables	Frequency	Percentage
Do your spouse put pressure on you to agree to certain sexual practices that you dislike or are not interested in?		
Often	2	0.9
Sometimes	24	11.1
Never	190	88.0
Do your spouse put pressure on you or physically force you to have sex?		
Sometimes	20	9.3
Never	196	90.7

➤ Factors Associated with Sexual IPV

Women who had primary education, were more exposed to sexual IPV (37.5 %), than those who had higher education (secondary 7.9%, tertiary 1.9%) in our study and this was statistically significant, [Chi square =17.921; p-value = 0.0001]. Furthermore, women whose husbands had primary education experienced more of sexual IPV (37.5 %) compared to those with secondary (7.6%) and tertiary education (3.1%), [Fisher's Exact = 11.170; p-value = 0.010]. There was statistically significant association between husbands who smoked and sexual IPV, as well as those who

had extra-marital affairs. [Fisher's Exact = 17.938; p-value = 0.001].

The age of the woman, religion, family setting, duration of marriage, number of children, occupation of woman, age of husband and occupation of husband were not associated with sexual IPV (p-value =0.128, p-value = 0.190, p-value = 1.000, p-value = 0.914, p-value = 0.430, p-value = 0.882, p-value =0.415, p-value = 0.247, respectively) See tables 7 and 8 below.

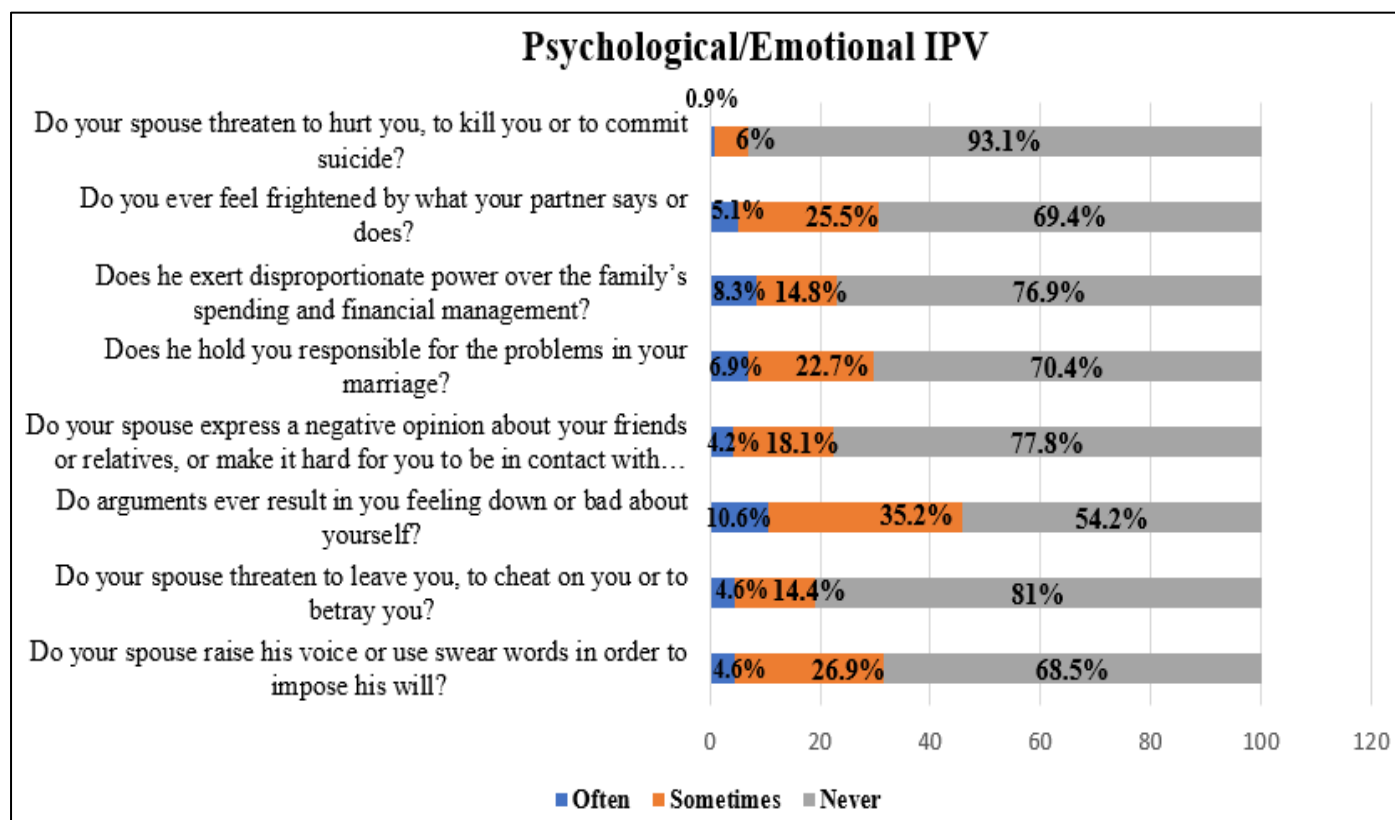


Fig 2 Chart Showing Psychological Intimate Partner Violence among the Study Population

➤ *Factors Associated with Psychological IPV*

This study showed that 37.5 % of women who had primary education experienced psychological IPV compared to those with higher education and this was statistically significant [Fisher’s Exact = 26.219; p-value = 0.0001]. Half of the women whose husbands had no formal education and 37.5 % of women whose husbands had primary education were exposed to psychological IPV [Fisher’s Exact= 35.902; p-value= 0.0001]. Those participants whose spouses had tertiary education were not psychologically/emotionally abused in this study. A quarter of the women whose husbands smoked and 25 % of the participants whose husbands had extra-marital affairs were exposed to psychological IPV and this was statistically significant [Fisher’s Exact = 24.027; p-value = 0.0001].

The age of the woman, religion, number of children in the family, occupation of the woman, family setting, age of husband and occupation of the husband and duration of marriage were not associated with psychological IPV (p-value = 0.442, p-value = 0.634, p-value = 0.098, p-value = 0.484, p-value = 1.000, p-value = 0.612, p-value = 0.245, p-value=0.050 respectively) see tables 9 & 10 below. Educational status of the woman (primary education), educational status of the husband (No formal education and primary education) and social habit of husband (smoking and extra-marital affairs) were significantly associated with psychological IPV in this study.

Table 7 Factors Associated with Sexual IPV during Pregnancy in a Rural Setting in Rivers State

Variables	Sexual Intimate Partner Violence		Total n (%)
	Present n (%)	Absent n (%)	
Age Category			
<20 years	2 (16.7)	10 (83.3)	12 (100.0)
20 – 24years	1 (3.1)	31 (96.9)	32 (100.0)
25 – 29years	3 (4.8)	60 (95.2)	63 (100.0)
30 – 34years	6 (9.8)	55 (90.2)	61 (100.0)
35 – 39years	0 (0.0)	37 (100.0)	37 (100.0)
≥40 years	1 (9.1)	10 (90.9)	11 (100.0)
	<i>Fisher’s Exact = 7.301; p-value = 0.128</i>		
Educational Status of woman			
Primary	3 (37.5)	5 (62.5)	8 (100.0)
Secondary	8 (7.9)	93 (92.1)	101 (100.0)
Tertiary	2 (1.9)	105 (98.1)	107 (100.0)
	<i>Chi Square =17.921; p-value = 0.0001*</i>		
Religion			
Christianity	9 (4.9)	176 (95.1)	185 (100.0)
Islam	3 (13.6)	19 (86.4)	22 (100.0)
Traditional	0 (0.0)	1 (100.0)	1 (100.0)
Others	1 (12.5)	7 (87.5)	8 (100.0)
	<i>Fisher’s Exact = 5.199; p-value = 0.190</i>		
Number of children			
None	6 (6.7)	84 (93.3)	90 (100.0)
One child	1 (2.3)	42 (97.7)	43 (100.0)
2 – 3children	6 (9.2)	59 (90.8)	65 (100.0)
>3 children	0 (0.0)	18 (100.0)	18 (100.0)
	<i>Fisher’s Exact = 2.589; p-value =0.43</i>		
Occupation of the woman			
Business	8 (6.3)	119 (93.7)	127 (100.0)
Teacher	1 (4.3)	22 (95.7)	23 (100.0)
Fashion Designer	0 (0.0)	11 (100.0)	11 (100.0)
Civil Servant	0 (0.0)	9 (100.0)	9 (100.0)
Others	0 (0.0)	9 (100.0)	9 (100.0)
Currently unemployed	4 (10.8)	33 (89.2)	37 (100.0)
	<i>Fisher’s Exact = 1.766; p-value = 0.882</i>		

*Statistically significance

Table 8 Factors Associated with Sexual IPV during Pregnancy in a Rural Setting in Rivers State (Continuation)

Variables	Sexual Intimate Partner Violence		Total n (%)
	Present n (%)	Absent n (%)	
Family Setting			
Monogamous	11 (5.9)	174 (94.1)	185 (100.0)
Polygamous	2 (6.5)	29 (93.5)	31 (100.0)
	<i>Fisher's Exact p-value = 1.000</i>		
Duration of Marriage			
<5years	8 (5.8)	131 (94.2)	139 (100.0)
6 – 9years	3 (7.5)	37 (92.5)	40 (100.0)
9≥10 years	2 (5.4)	35 (94.6)	37 (100.0)
	<i>Fisher's Exact = 0.395; p-value = 0.914</i>		
Age of Husband			
<30years	1 (3.8)	24 (96.0)	25 (100.0)
30 – 34years	4 (8.7)	42 (91.3)	46 (100.0)
35 – 39years	6 (9.0)	61 (91.0)	67 (100.0)
40 – 44years	1 (2.0)	50 (98.0)	51 (100.0)
45 – 50years	0 (0.0)	17 (100.0)	17 (100.0)
>50years	1 (10.0)	9 (90.0)	10 (100.0)
	<i>Fisher's Exact =4.395; p-value = 0.415</i>		
Educational Status of Husband			
No formal education	0 (0.0)	2 (100.0)	2 (100.0)
Primary	3 (37.5)	5 (62.5)	8 (100.0)
Secondary	6 (7.6)	73 (92.4)	79 (100.0)
Tertiary	4 (3.1)	123 (96.9)	127 (100.0)
	<i>Fisher's Exact = 11.170; p-value = 0.010*</i>		
Occupation of the Husband			
Business	7 (6.9)	94 (93.1)	101 (100.0)
Public servant	0 (0.0)	26 (100.0)	26 (100.0)
Civil Servant	0 (0.0)	22 (100.0)	22 (100.0)
Engineer	1 (6.3)	15 (93.8)	16 (100.0)
Artisan	2 (13.3)	13 (86.7)	15 (100.0)
Clergy	2 (15.4)	11 (84.6)	13 (100.0)
Currently unemployed	1 (4.3)	22 (95.7)	23 (100.0)
	<i>Fisher's Exact = 6.380; p-value = 0.247</i>		
Social Habit of Husband			
Keeps late night	1 (5.6)	17 (94.4)	18 (100.0)
Smokes	2 (25.0)	6 (75.0)	8 (100.0)
Drinks alcohol	1 (4.0)	24 (96.0)	25 (100.0)
Eats outside	2 (8.0)	23 (92.0)	25 (100.0)
Extramarital affairs	5 (25.0)	15 (75.0)	20 (100.0)
None	2 (1.7)	118 (98.3)	120 (100.0)
	<i>Fisher's Exact = 17.938; p-value = 0.001*</i>		

*Statistically significance

Table 9 Factors Associated with Psychological IPV during Pregnancy in a Rural Setting in Rivers State

Variables	Psychological Intimate Partner Violence		Total n (%)
	Present n (%)	Absent n (%)	
Age Category			
<20 years	3 (25.0)	9 (75.0)	12 (100.0)
20 – 24years	2 (6.3)	30 (93.8)	32 (100.0)
25 – 29years	5 (7.9)	58 (92.1)	63 (100.0)
30 – 34years	5 (8.2)	56 (91.8)	61 (100.0)
35 – 39years	2 (5.4)	35 (94.6)	37 (100.0)
≥40 years	1 (9.1)	10 (90.9)	11 (100.0)
	<i>Fisher's Exact = 4.367; p-value = 0.442</i>		
Educational Status of woman			

Primary	3 (37.5)	5 (62.5)	8 (100.0)
Secondary	15 (14.9)	86 (85.1)	101 (100.0)
Tertiary	0 (0.0)	107 (100.0)	107 (100.0)
<i>Chi Square = 26.219; p-value = 0.0001*</i>			
Religion			
Christianity	15 (8.1)	170 (91.9)	185 (100.0)
Islam	2 (9.1)	20 (90.9)	22 (100.0)
Traditional	0 (0.0)	1 (100.0)	1 (100.0)
Others	1 (12.5)	7 (87.5)	8 (100.0)
<i>Fisher's Exact = 1.759; p-value = 0.634</i>			
Number of children			
None	7 (7.8)	83 (92.2)	90 (100.0)
One child	1 (2.3)	42 (97.7)	43 (100.0)
2 – 3children	6 (9.2)	59 (90.8)	65 (100.0)
>3 children	4 (22.2)	14 (77.8)	18 (100.0)
<i>Fisher's Exact = 6.012; p-value = 0.098</i>			
Occupation of the woman			
Business	13 (10.2)	114 (89.8)	127 (100.0)
Teacher	0 (0.0)	23 (100.0)	23 (100.0)
Fashion Designer	0 (0.0)	11 (100.0)	11 (100.0)
Civil Servant	0 (0.0)	9 (100.0)	9 (100.0)
Others	1 (11.1)	8 (88.9)	9 (100.0)
Currently unemployed	4 (10.8)	33 (89.2)	37 (100.0)
<i>Fisher's Exact = 3.761; p-value = 0.484</i>			

*Statistically significance

Table 10 Factors Associated with Psychological IPV during Pregnancy in a Rural Setting in Rivers State (Continuation)

Variables	Psychological Intimate Partner Violence		Total n (%)
	Present n (%)	Absent n (%)	
Family Setting			
Monogamous	16 (8.6)	169 (91.4)	185 (100.0)
Polygamous	2 (6.5)	29 (93.5)	31 (100.0)
<i>Fisher's Exact p-value = 1.000</i>			
Duration of Marriage			
<5years	8 (5.8)	131 (94.2)	139 (100.0)
6 – 9years	3 (7.5)	37 (92.5)	40 (100.0)
≥10 years	7 (18.9)	30 (81.1)	37 (100.0)
<i>Fisher's Exact = 5.849; p-value = 0.050</i>			
Age of Husband			
<30years	2 (8.0)	23 (92.0)	25 (100.0)
30 – 34years	3 (6.5)	43 (93.5)	46 (100.0)
35 – 39years	8 (11.9)	59 (88.1)	67 (100.0)
40 – 44years	2 (3.9)	49 (96.1)	51 (100.0)
45 – 50years	2 (11.8)	15 (88.2)	17 (100.0)
>50years	1 (10.0)	9 (90.0)	10 (100.0)
<i>Fisher's Exact = 3.396; p-value = 0.612</i>			
Educational Status of Husband			
No formal education	1 (50.0)	1 (50.0)	2 (100.0)
Primary	3 (37.5)	5 (62.5)	8 (100.0)
Secondary	14 (17.7)	65 (82.3)	79 (100.0)
Tertiary	0 (0.0)	127 (100.0)	127 (100.0)
<i>Fisher's Exact = 35.902; p-value = 0.0001*</i>			
Occupation of the Husband			
Business	11 (10.9)	90 (89.1)	101 (100.0)
Public servant	0 (0.0)	26 (100.0)	26 (100.0)
Civil Servant	1 (4.5)	21 (95.5)	22 (100.0)
Engineer	0 (0.0)	16 (100.0)	16 (100.0)
Artisan	3 (20.0)	12 (80.0)	15 (100.0)

Clergy	1 (7.7)	12 (92.3)	13 (100.0)
Currently unemployed	2 (8.7)	21 (91.3)	23 (100.0)
<i>Fisher's Exact = 6.878; p-value = 0.245</i>			
Social Habit of Husband			
Keeps late night	4 (22.2)	14 (77.8)	18 (100.0)
Smokes	2 (25.0)	6 (75.0)	8 (100.0)
Drinks alcohol	4 (16.0)	21 (84.0)	25 (100.0)
Eats outside	1 (4.0)	24 (96.0)	25 (100.0)
Extramarital affairs	5 (25.0)	15 (75.0)	20 (100.0)
None	2 (1.7)	118 (98.3)	120 (100.0)
<i>Fisher's Exact = 24.027; p-value = 0.0001*</i>			

*Statistically significance

Table 11 Binary Logistics Regression analyses of Predictors of Physical Intimate Partner Violence and Sexual Intimate Partner Violence

Variables	Coefficient(B)	OR	95%CI	p value
Physical Intimate Partner Violence				
Educational Status of woman				
Secondary level and below	1.641	5.161	1.409; 18.908	0.013*
Tertiary level ^R		1		
Educational Status of Husband				
Secondary level and below	1.001	2.722	0.900; 8.235	0.076
Tertiary level ^R		1		
Occupational Status of Husband				
Currently employed	0.437	1.548	0.373; 6.421	0.547
Currently unemployed ^R		1		
Social Habit of Husband				
One or more	1.345	3.840	1.280; 11.515	0.016*
None ^R		1		
Sexual Intimate Partner Violence				
Educational Status of woman				
Secondary level and below	1.546	4.692	0.957; 22.997	0.057
Tertiary level ^R		1		
Educational Status of Husband				
Secondary level and below	0.382	1.465	0.398; 5.388	0.566
Tertiary level ^R		1		
Social Habit of Husband				
One or more	1.842	6.311	1.310; 30.409	0.022*
None ^R		1		

*Statistically Significant

R – Reference category

CI – Confidence interval

Note that the variables that were initially statistically significant under psychological intimate partner violence had zero in some cells hence did not meet the criteria for a multivariate logistics analysis so they were not included in the table above.

After adjusting for confounders in logistic regression; educational status of the woman (AOR=5.161, 95% CI =1.409- 18.908) and social habit of the husband (AOR=3.840, 95% CI= 1.280-11.515) were significantly associated with physical IPV in this study. Only social habit of the husband had significant association with sexual IPV (AOR=6.311, 95% CI =1.310-30.409).

IV. DISCUSSION

The overall prevalence of intimate partner violence in this study was 13.9 % which is lower than documented prevalence of previous studies done in Nigeria, ranging from

15.4 % to 44.6 %.⁹⁻¹² Researchers in Nigeria have shown that Intimate partner violence is viewed as a sensitive family matter and thus the exposed women rarely divulge their ordeal to protect the sanctity of their marriages.^{10,12} This also may have played out in our study as most pregnant mothers were cautious divulging their ordeal resulting in the lower prevalence compared to previous studies carried out in Nigeria. Though, prevalence lower than the one recorded in this study, 7.2 % and 2.0 % have been reported by Lockington et al and Devries et al respectively outside Africa.^{16, 25}

The most prevalent IPV during pregnancy in this study was physical violence, this agrees with findings of other researchers in Africa.^{12,26} However, it is at variance with findings from most previous studies, which reported psychological violence as the most common IPV during pregnancy.^{8, 10,11,13} Our finding may be due to the tendency of regarding physical violence as an expression of masculinity in our society.²⁶

More than one quarter of the respondents < 20 years in this study (33.3%), experienced physical IPV in the rural setting, although this was not statistically significant. This finding is in tandem with previous hospital-based studies that younger maternal age is a predisposing factor for IPV during pregnancy.^{10,18,19,25} These younger age group are socio-economically disadvantaged and are thus prone to IPV.

Pregnant women who had only primary level of education experienced more of physical and sexual IPV (37.5%) than that of their counterparts with secondary (15.8%) and tertiary (2.8%) level of education. This is consistent with studies carried out in urban areas which also show that pregnant women with lower educational status are more prone to physical IPV.^{12,18,19} The higher the educational level of the woman, the lower the risk of physical and sexual abuse in this study. This is so because education enlightens the woman of her rights and also empowers the woman financially. However, educational status of the woman did not confer any protection from physical IPV as shown in Ethiopia by Abebe Abate and colleagues.²⁷

Other factors like smoking habits of husbands and extra-marital affairs of male partners increased the experience of physical and sexual IPV of pregnant women in this study. This finding was also reported by researchers in Nigeria and other countries.^{10, 24} Most previous studies however, implicated alcohol abuse of male partners as a major risk factor for physical IPV during pregnancy which is at variance with the findings of this study.^{11, 12, 18, 19}

This study also brought to the fore the effect of male education on IPV, as half of the women whose husbands had no formal education and 37.5 % of women whose partners had primary education experienced psychological IPV. Furthermore, half and 37.5 % of the women whose husbands had primary education were exposed to physical and sexual IPV during pregnancy respectively. This finding corroborates that of Onoh et al in Abakaliki, Oche et al in Sokoto and Ahinkorah et al in the sub-Saharan Africa, that the experience of IPV during pregnancy is lower with male partners with tertiary education.^{10,12,18} Partners who have low levels of education are unemployed and poor, but would want to maintain control in the relationship by resorting to violence to assert their supremacy. It thus implies that to reduce the incidence of IPV among pregnant mothers, interventions and advocacy in the educational sector have to be intensified greatly to curb this ugly trend.

After adjusting for confounders in logistic regression, women with lower educational qualifications have 5 times the odds of experiencing physical IPV in this study. Similarly, there was significant association between social habit of husband and physical IPV as well as sexual IPV. These findings underscore the necessity for targeted interventions such as women empowerment, legal advocacy and counselling. These interventions are crucial, because despite the violence against persons prohibition law (VAPP) passed by the Rivers State house of Assembly in 2020,²⁸ implementation of this Act has been a challenge.

V. CONCLUSION

Intimate partner violence during pregnancy is still a burden even in the rural setting. There was significant association between educational status of the woman and physical IPV. Social habit of the husband was significantly associated with physical and sexual IPV during pregnancy in this study.

VI. RECOMMENDATIONS

Female education and implementation of Goal 5 of SDG (gender equality) will reduce the burden of IPV during pregnancy. The general public should be sensitized about the VAPP law to create awareness of offences and punitive measures meted out against offenders.

Routine screening for IPV during the antenatal period will identify exposed women and to be able to offer help and support.

VII. LIMITATIONS

This is hospital-based survey, to have a good representation, a more robust survey involving all the wards of the Local government Area will suffice.

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