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EXPERIENCE OF INTIMATE PARTNER VIOLENCE AS A PREDICTOR OF SEXUALLY TRANSMITTED INFECTIONS AMONG MARRIED WOMEN IN NIGERIA

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ABSTRACT

Background: **Intimate partner violence (IPV) is an important public health issue that is associated with adverse sexual and reproductive health outcomes including sexually transmitted infections (STIs). STIs have recently gained more recognition worldwide because they increase the risk for *HIV* infection. However, there is dearth of information on the association between IPV and STIs particularly among married women in Nigeria.**

Objective: **To determine the association between IPV and STIs among married women in Nigeria.**

Method: **This was a secondary data analysis of the 2008 Nigeria Demographic and Health Survey (NDHS) dataset. A total of 18,402 married women aged between 15 and 49 years were included. Questions about intimate partner violence were adapted from the Conflict Tactic Scale (CTS). Multiple logistic regression models were used to determine relationship between IPV and self-reported STIs.**

Results: **The prevalence of IPV among married women in Nigeria was 29.3%. Majority of the women experienced emotional violence (22.1%), 17.3% of the women experienced physical violence while the least experienced form of violence was sexual IPV (4.4%). Majority (60.1%) of the women experienced just one type of IPV, 30.0% two types, 9.9% all three types. The prevalence of self-reported sexually transmitted infections was 7.2%. Logistic regression demonstrated that after controlling for other covariates, women who experienced any form of IPV were found to be more likely to report STI than women who did not [OR 1.357 (95% CI 1.188-1.551)]. In addition, experience of physical and sexual IPV was significantly associated with history of STIs [OR 1.699 (95% CI 1.420-2.034); OR 1.414 (95% CI 1.085-1.843) respectively]. Experiencing two or more types of IPV was significantly associated with history of STIs [OR 1.759 (95% CI 1.446-2.139); OR 2.193 (95% CI 1.636-2.941) respectively].**

Conclusion: **There is a need to incorporate IPV screening and services in STI clinics. Also, it is important to screen for STIs among women who present with IPV particularly those with multiple types of violence.**

Keywords: Intimate Partner Violence (IPV), Sexually Transmitted Infections (STIs), married women, Nigeria.

INTRODUCTION

Violence Against Women (VAW) is a global phenomenon which has a devastating effect on women's sexual and reproductive health.[1] The United Nations Declaration on the Elimination of Violence against Women defines violence against women as any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life.[2] Although women suffer violence from many institutions and persons, the World Health Organization's "Multi-Country study on women's health and domestic violence against women" confirms that the most common type of violence directed against women is actually carried out by their partners.[3] Violence perpetrated against women by an intimate partner is also referred to as Intimate Partner Violence (IPV).

The Multi-country study found that the proportion of ever-partnered women who had ever experienced physical or sexual violence, or both, by an intimate partner in their lifetime, ranged from 15% to 71%. In sub-Saharan Africa the lifetime prevalence of IPV was reported as 20–71% in marriage or current partnerships.[4, 5] IPV among women in Nigeria is quite

prevalent across the different regions in the country. For instance, community surveys conducted in Nigeria reported a prevalence of 45%[6] among women of reproductive age in six south-western states, 44.6%[7] and 28%[8] were found among ante-natal women abused during index pregnancy in south-eastern and northern parts of Nigeria respectively.

There is increasing evidence that IPV is an important correlate of a wide range of adverse reproductive health outcomes for women, including Sexually Transmitted Infections (STIs).[9] Sexually transmitted infections are a group of contagious diseases in which the main mode of transmission is by sexual intercourse. STIs negatively impact the reproductive health status of women causing lower abdominal pain, dyspareunia, urinary tract abnormalities, recurrent abortions, infertility and even death if not treated.[10] Common STIs include *gonorrhoea, trichomoniasis, chlamydial infection, syphilis* and *Human Immunodeficiency Virus* (*HIV*). Research on the association between IPV and STIs have been widely conducted in developed countries [11-13] while gaps still remain in developing countries such as Nigeria.

To promote the reproductive and sexual health of women, prevention of sexually transmitted infections is crucial. This is because a substantial proportion of female reproductive morbidity is associated with STIs. This study determined the association between experience of intimate partner violence and development of sexually transmitted infections among married women in Nigeria. Hence, it would provide information that will assist interventions to improve the reproductive and sexual health of women.

METHOD

This study was a secondary data analysis of the 2008 Nigeria Demographic and Health Survey (NDHS) data. The 2008 NDHS is a revised version from a series of demographic surveys conducted in 1990, 1999, and 2003. The USAID-funded Measure DHS provided financial and technical assistance for the survey in the collection of data on fertility, family planning and maternal and child health. The survey was conducted in all the 36 states of Nigeria including the Federal Capital Territory (FCT) and the states were grouped into six geopolitical zones: North-Central, North-East, North-West, South-East, South-South and South-West. [14]

The primary survey utilized a cross sectional population based study design. The sampling technique used in the primary survey was a stratified two-stage cluster design. The 2008 NDHS contained data on a nationally representative sample of 33,385 women aged 15-49 years. A domestic violence module questionnaire was administered to 23,752 women based on selection of one woman per sample household. Data was collected using interviewer administered questionnaires by trained data collectors who visited households and conducted face-to-face interviews.

For this study, the study population was married women in their reproductive age namely 15-49 years who answered questions on the domestic violence module. The study looked at intimate partner violence among currently married women and therefore 5350 women who were not currently married were excluded. The final sample size for analysis was 18402 married women aged 15-49 years.

Study variables

Dependent variable: The women's STI status in the 12 months preceding the survey was based on a combination of questions to determine if the woman had a STI in the past year. This combination includes a direct question namely "In the past 12 months, have you had a sexually-transmitted disease?", as well as the two questions on STI symptoms "In the past 12 months have you had a genital sore or ulcer?" and "in the past 12 months have you had an unusual discharge from your vagina?" If women said yes to one or more of these questions they were categorized as having had an STI in the past 12 months.

Independent variables: Women's IPV status was determined by asking married women a number of questions which were modified and shortened using the "Conflict Tactics Scale" (CTS)[15] Emotional IPV was assessed by asking the respondent if her husband had ever humiliated her, threatened her with harm, insulted her, or made her feel bad. To measure physical IPV, respondents were asked whether their husbands had ever pushed, shook, or threw something, slapped, punched with fist or something harmful, kicked or dragged, tried to strangle or burn, or attacked them with a knife or weapon. Sexual IPV was assessed by asking the respondent if her husband had ever physically forced sex or forced other sexual acts when she did not want. Women could answer 'yes' or 'no' to each item.

If a woman said 'yes' to one or more of these items she was considered as having ever experienced IPV in her current relationship. Experience of any physical, sexual or emotional violence was one of the key explanatory variables of interest. The total number of types of IPV experienced was assessed by defining new variables. Experience of one type of IPV included experience of physical, sexual or emotional violence; experience of any two types of IPV included experience of any two combinations of the three types

Table 1: Distribution of independent variables and association with STI (N=18,402)

Variable	Frequency	%		STI	χ^2; p-value
Age (years)			Yes	No	
15-24	4743	25.8	345 (7.3)	4398 (92.7)	0.6;0.8
25-34	7503	40.8	549 (7.3)	6954 (92.7)	
≥ 35	6156	33.5	431 (7.0)	5725 (93.0)	
Mean Age	30.48±8.6				
Educational level					
None	9009	49.0	689 (7.6)	8320 (92.4)	8.5;0.04*
Primary	3974	21.6	266 (6.7)	3708 (93.3)	
Secondary	4190	22.8	272 (6.5)	3918 (93.5)	
Tertiary	1229	6.7	98 (8.0)	1131 (92.0)	
Working status					
Not working	5761	31.3	390 (6.8)	5371 (93.2)	2.3;0.1
Currently working	12641	68.7	935 (7.4)	11706 (92.6)	
Wealth Index					
Poorest	4866	26.4	371 (7.6)	4495 (92.4)	5.4;0.02*
Poorer	4000	21.7	293 (7.3)	3707 (92.7)	
Middle	3393	18.4	266 (7.8)	3127 (92.2)	
Richer	3165	17.2	203 (6.4)	2962 (93.6)	
Richest	2978	16.2	192 (6.4)	2786 (93.6)	
Region					
North Central	3286	17.9	269 (8.2)	3017 (91.8)	124.6;<0.001*
North East	3671	19.9	302 (8.2)	3369 (91.8)	
North West	5022	27.3	386 (7.7)	4636 (92.3)	
South East	1537	8.4	172 (11.2)	1365 (88.8)	
South West	2193	11.9	98 (4.5)	2095 (95.5)	
South-South	2693	14.6	98 (3.6)	2595 (96.4)	
Partner's level of education					
None	7594	41.3	578 (7.6)	7016 (92.4)	9.7;0.02*
Primary	3778	20.5	269 (7.1)	3509 (92.9)	
Secondary	4863	26.4	306 (6.3)	4557 (93.7)	
Tertiary	2167	11.8	172 (7.9)	1995 (92.1)	
Number of partner's other wives					
None	13857	75.3	966 (7.0)	12891 (93.0)	4.4;0.04*
One or more than one	4545	24.7	359 (7.9)	4186 (92.1)	
Pregnancy termination					
Yes	2417	13.1	227 (9.4)	2190 (90.6)	20.0; <0.001*
No	15985	86.9	1098 (6.9)	14887 (93.1)	
Number of Unions/Number of times married					
Once	16079	87.4	1132 (7.0)	14947 (93.0)	4.9; 0.03*
More than once	2323	12.6	193 (8.3)	2130 (91.7)	
Total lifetime number of sexual partners					
One	12718	69.1	875 (6.9)	11843 (93.1)	6.3;0.01*
More than one	5684	30.9	450 (7.9)	5234 (92.1)	
Age at first sex (years)					
≤15	7827	42.5	629 (8.0)	7198 (92)	23.3;< 0.001*
16-17	3262	17.7	229 (7.0)	3033 (93.0)	
≥18	5761	31.3	339 (5.9)	5422 (94.1)	
Missing	1552	8.4			
Alcohol use at last sexual intercourse					
Yes	370	2.0	51 (13.8)	319 (86.2)	25.2;< 0.001*
No	16688	90.7	1167 (7.0)	15521 (93.0)	
Missing	1344	7.3			
Attitude towards a wife's right to refuse sex if he has an STD					
Agree	15151	82.3	994 (6.6)	14157 (93.4)	52.5;< 0.001*
Disagree	3251	17.7	331 (10.2)	2920 (89.8)	

**statistically significant (p<0.05)*

of IPV; while experience of all three types of IPV included experience of physical, sexual and emotional IPV.

Socio-demographic/personal characteristics were assessed using the following indicators: age of respondent (grouped as 15–24, 25–34, ≥35 years); highest level of education (classified as no education, primary, secondary and tertiary); working status (grouped as working, not working); wealth index (classified into five quintiles-poorest, poorer, middle, richer, richest); marital duration (grouped as ≤4, 5-9,10-14, ≥15); number of children ever born (grouped as 0,1-4, ≥5); history of pregnancy termination (classified as "yes" or "no"); age at first intercourse (grouped as ≤15,16 or 17, ≥18 years); multiple sexual partners (classified into one and more than one) ; alcohol consumption during last sexual intercourse (classified as "yes" or "no") number of unions (grouped as once and more than once); number of partner's other wives (classified as "none" and "one or more than one"); attitude towards "wife's right to refuse sex if husband has STD" (classified as "agree" or "disagree").

Data management

The data was analyzed using SPSS® version 19 and summarized as proportions. Chi-square test was used to determine associations between categorical variables. Thereafter, independent variables that were significant at the 10% level of significance were included in multiple logistic regression models to identify correlates of STIs.

Ethical considerations

Ethical approval for the primary survey was obtained from the National Health Research Ethics Committee. Participation in the study was voluntary, confidentiality was assured and the study posed no harm to the participants. Permission to use the 2008 NDHS data set for secondary analysis was obtained from Measure DHS.

RESULTS

Table 1 presents distribution of independent variables and association with STI. Mean age of respondents was 31.6±9.0 years. Respondents with tertiary education reported the highest proportion (8.0%) of STI, compared with all other educational groups. Respondents in the middle wealth quintile reported the highest proportion (7.8%) of STI (p=0.02). Respondents from the South East region reported the highest proportion (11.2%) of STIs compared to all other regions (p<0.001). Almost eight percent of respondents whose partners had one or more wives reported having STI compared with 7.0% of

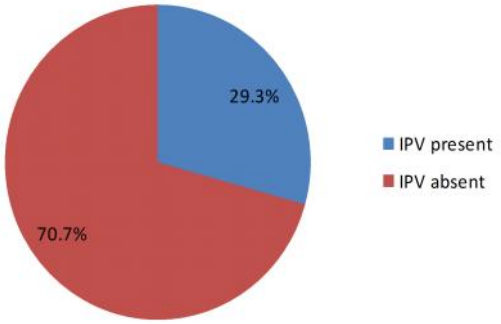

Figure 1: Prevalence of IPV in married women

respondents whose partners had no other wife (p=0.04). A significantly higher proportion (9.4%) of respondents who have had pregnancy termination reported having STI compared with 6.9% of respondents who have not had termination of pregnancy (p<0.001).

A higher proportion (8.3%) of respondents who had been married more than once reported having STI compared with 7.0% of respondents who had only

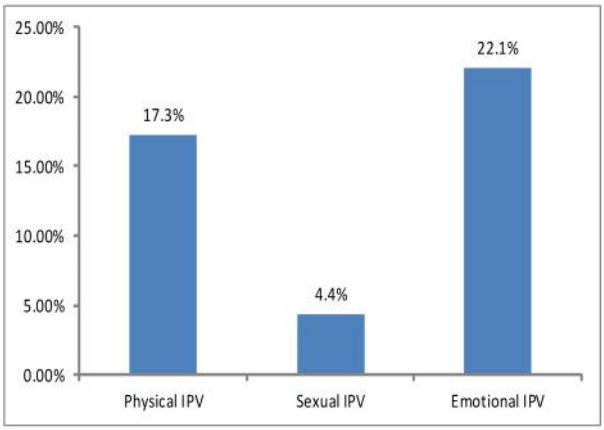

Figure 2: Prevalence of types of IPV in married women

been married once (p=0.03). Almost eight percent of respondents who had more than one sexual partner reported having STI compared with 6.9% of respondents with only one partner (p=0.01). Respondents who experienced their first sexual intercourse 15 years and below reported the highest proportion (8.0%) of STIs compared to respondents whose sexual debut was after 16 years (p< 0.001). A lower proportion (3.8%) of respondents who consumed alcohol at the last sexual intercourse reported

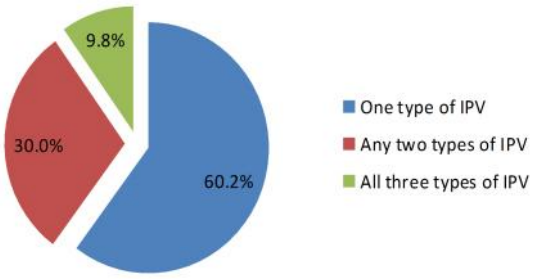

Figure 3: Total number of types of IPV experienced in married women

having STI compared with 7.0% of respondents who did not (p<0.001). Respondents (10.2%) who had poor attitude towards a wife's right to refuse sex if partner has an STD reported having STI compared with 6.6% of respondents who had good attitude (p<0.001).

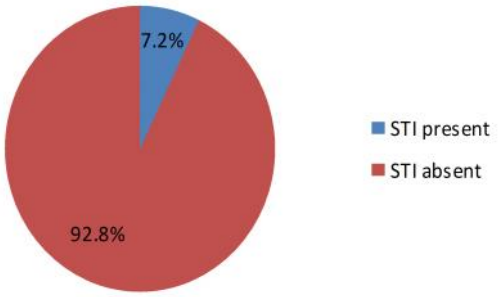

Figure 4: Prevalence of STIs in married women

Figure 1 shows the prevalence of IPV in married women. About a third (29.3%) of the respondents had ever experienced IPV.

Figure 2 shows prevalence of types of IPV. Majority (22.1%) of the respondents experienced emotional IPV, while the least experienced form of violence was sexual IPV (4.4%).

Figure 3 shows total number of types of IPV experienced in married women. Majority (60.1%) of the respondents experienced just one type of IPV, 30.0% two types while 9.9% experienced all three types.

Figure 4 shows prevalence of STI in married women. Prevalence of self-reported STI in the past 12 months was 7.2% among the respondents.

Figure 5 shows prevalence of symptoms of STI. Majority of the respondents (4.8%) had genital discharge, 3.5% had genital sore while 3.2% had other symptoms of STI.

Table 2 shows predictors of having an STI in the past 12 months with experience of any IPV as key covariate. After controlling for all other variables in the model, married women who experienced IPV were 1.4 times more likely to report STI than those who did not (OR 1.4; 95% CI 1.2-1.6) .

Table 3 shows the predictors of STI with experience of each type of IPV as key covariates. After controlling for all other variables in the model, only experience of physical and sexual IPV were significantly associated with history of STI. Respondents who reported experiencing physical IPV were at most twice more likely to have an STI than those who reported no physical IPV (OR 1.7; 95% CI 1.4-2.0). Women who reported experiencing sexual IPV were significantly more likely to report having an STI (OR 1.4; 95% CI 1.1-1.8). However, experiencing emotional violence was not significantly associated with STI (OR 0.9; 95% CI 0.8-1.1)

Table 4 shows the predictors of STI with the number of different types of IPV experienced as the key covariates. After controlling for all other variables in the model, a dose-response relationship existed between the number of different types of IPV experienced and STI. As the number of different types of IPV a woman experienced increased, her risk of STI increased likewise. This relationship was however significant only for experience of two or three different types of IPV (OR 1.8; 95% CI 1.5-2.1); (OR 2.2; 95% CI 1.6-2.9) respectively.

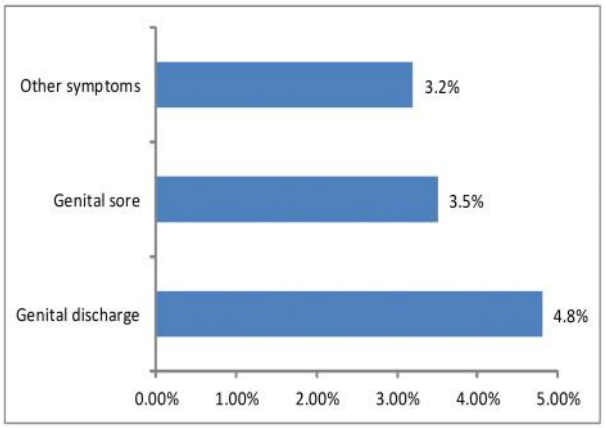

Figure 5: Prevalence of symptoms of STI in married women

Table 2: Adjusted predictors of STI with experience of any IPV as key covariate

Variable	Odds Ratio	95% Confidence Interval	p-value
Any IPV			
Yes	1.357	1.188-1.551	< 0.001*
No (Ref)	1		
Wealth index			
Poorest	0.821	0.674-1.000	0.050
Poorer	0.880	0.722-1.073	0.206
Richer	0.888	0.714-1.104	0.284
Richest	0.910	0.708-1.168	0.459
Middle (Ref)	1		
Region			
North East	1.105	0.899-1.359	0.341
North West	0.991	0.808-1.216	0.934
South East	1.225	0.952-1.575	0.115
South-South	0.405	0.306-0.535	< 0.001*
South West	0.434	0.329-0.572	< 0.001*
North Central (Ref)	1		
Respondents' educational level			
Primary	0.991	0.812-1.210	0.932
Secondary	1.139	0.897-1.446	0.285
Tertiary	1.435	1.005-2.050	0.047*
None (Ref)	1		
Partner's educational level			
Primary	1.078	0.886-1.310	0.453
Secondary	1.044	0.846-1.289	0.685
Tertiary	1.198	0.914-1.570	0.190
None (Ref)	1		
Number of partner's other wives			
One or more than one	1.130	0.976-1.309	0.102
None (Ref)	1		
Pregnancy termination			
Yes	1.336	1.132-1.576	0.001*
No (Ref)	1		
Number of unions/Number of times married			
More than once	0.946	0.755-1.185	0.629
Once (Ref)	1		
Total lifetime number of sexual partners			
More than one	1.295	1.084-1.549	0.004*
One (Ref)	1		
Age at first sex			
16-17 years	1.270	1.047-1.539	0.015*
≤15 years	1.457	1.224-1.734	< 0.001*
≥18 years (Ref)	1		
Alcohol consumption during last sexual intercourse			
Yes	2.000	1.432-2.792	< 0.001*
No (Ref)	1		
Attitude towards a wife's right to refuse sex if he has an STD			
Disagree	1.630	1.405-1.891	< 0.001*
Agree (Ref)	1		

**statistically significant (p<0.05)*

Table 3: Adjusted predictors of STI with experience of each type of IPV as key covariates

Variable	Odds Ratio	95% Confidence Interval	p-value
Physical IPV			
Yes	1.699	1.420-2.034	< 0.001*
No (Ref)	1		
Sexual IPV			
Yes	1.414	1.085-1.843	0.010*
No (Ref)	1		
Emotional IPV			
Yes	0.959	0.815-1.129	0.614
No (Ref)	1		
Region			
North East	1.124	0.913-1.383	0.270
North West	1.069	0.870-1.315	0.524
South East	1.222	0.950-1.573	0.119
South-South	0.386	0.292-0.511	< 0.001*
South West	0.437	0.332-0.576	< 0.001*
North Central (Ref)	1		
Respondents' educational level			
Primary	0.973	0.797-1.189	0.792
Secondary	1.126	0.886-1.429	0.332
Tertiary	1.469	1.027-2.100	0.035*
None (Ref)	1		
Pregnancy termination			
Yes	1.329	1.126-1.569	0.001*
No (Ref)	1		
Total lifetime number of sexual partners			
More than one	1.260	1.053- 1.508	0.011*
One (Ref)	1		
Age at first sex			
16-17 years	1.251	1.032-1.517	0.023*
≤15 years	1.447	1.216-1.722	< 0.001*
≥18 years (Ref)	1		
Alcohol consumption during last sexual intercourse			
Yes	1.830	1.307-2.563	< 0.001*
No (Ref)	1		
Attitude towards a wife's right to refuse sex if he has an STD			
Disagree	1.612	1.389-1.869	< 0.001*
Agree (Ref)	1		

**statistically significant (p<0. 05)*

DISCUSSION

The overall prevalence of IPV was 29.3%. The finding is within the lower bottom range of 20–71% reported in marriage or current partnerships in sub-Saharan Africa.[4, 5] It is also in consonance with prevalence of 15-71% reported among ever-partnered women from the 15 sites surveyed in the World Health Organization Multi-country study (WHOMCS).[16] The low prevalence reported in this study may be due to under reporting as IPV is said to be shrouded in a "culture of silence"[17] as well as the fact that information was obtained from married women only.

Emotional violence was experienced by 22.1% of the respondents. It was the most common type of violence

experienced by the women. This may be because it is easier to perpetrate and often not visible and can be subtle. Yet it is a lethal form of IPV.

In all, 17.3% of the married women experienced physical violence from their intimate partners. This was in contrast with studies conducted in some parts of Africa which reported higher prevalence of physical IPV; for example, 45% of Liberian, 47% rural Tanzanian and 49% of rural Ethiopian married women ever experienced physical IPV.[18-20] Differing societal perception of violence in intimate relationships may possibly explain these differences. The prevalence obtained in this study was also lower than those reported from studies conducted in some parts of South-Western Nigeria.[21-23] A reason may be that this study was carried out among currently married women alone while those studies were conducted among ever partnered women. The prevalence of physical violence in this study was however within the range of 13–61% reported from the WHOMCS.[24]

Table 4: Adjusted predictors of STI with the number of different types of IPV experienced as the key covariates

Variable	Odds Ratio	95% CI	p-value
Pattern of experience of IPV			
One type only	1.068	0.903-1.265	0.441
Any two types	1.759	1.446-2.139	< 0.001*
All three types	2.193	1.636-2.941	< 0.001*
No IPV (Ref)	1		
Region			
North East	1.120	0.911-1.378	0.283
North West	1.040	0.847-1.278	0.706
South East	1.213	0.943-1.560	0.134
South-South	0.402	0.304-0.532	< 0.001*
South West	0.440	0.334-0.580	< 0.001*
North Central (Ref)	1		
Respondents' educational level			
Primary	0.984	0.805-1.202	0.873
Secondary	1.131	0.891-1.437	0.311
Tertiary	1.445	1.011-2.066	0.043*
None (Ref)	1		
Pregnancy termination			
Yes	1.326	1.123-1.566	0.001*
No (Ref)	1		
Total lifetime number of sexual partners			
More than one	1.269	1.061- 1.518	0.009*
One (Ref)	1		
Age at first sex (years)			
16-17	1.254	1.034-1.520	0.021*
≤15	1.448	1.217-1.724	< 0.001*
≥18 (Ref)	1		
Alcohol use at last sexual intercourse			
Yes	1.891	1.351-2.647	< 0.001*
No (Ref)	1		
Attitude towards a wife's right to refuse sex if he has an STD			
Disagree	1.613	1.391-1.872	< 0.001*
Agree(Ref)	1		

**statistically significant (p<0.05)*

The least experienced type of IPV among the respondents was sexual violence. This is consistent with the result from another study in which sexual violence was the least reported form of IPV.[23] Sexual violence may be under reported because sexual coercion within marriages is accepted in many cultures as men are seen as having the right to unconditional sexual access to their wives. They therefore have the power to enforce this access through force, if necessary.[25] In addition, most African communities perceive a wife as her husband's property hence cannot refuse sex even when it is likely to endanger her life.

The occurrence of multiple types of IPV has been reported by Khan et al., (2000) and Gaikwad et al., (2011). The findings in this study corroborate this as some women reported experiencing more than one type of violence. However, most of the women experiencing IPV reported only one type of IPV; this is similar with the study done in India where a larger proportion of women who experienced IPV reported one type of IPV.[26] A possibility of underreporting among these women cannot be ruled out which may be due to denial, shame or stigma associated with violence in marital relationship.

The prevalence of self-reported STI was similar to that of Sierra Leone (8.2%), lower than that of Liberia (20.1%) and higher than that of Cote d'Ivoire (3.0%) and Senegal (1.6%).[19, 27-29] A possible explanation for the varied but low prevalence of self-reported STIs could be that married women's disclosure of STI may likely be inhibited as a result of the stigma associated with acquisition of STIs.

Although most cases of STIs in women are asymptomatic, the most often reported symptom of STIs in this study was genital discharge. This is in consonance with the study conducted among married women in India.[26] However, other studies have found genital ulcer and genital itching to be the commonest self-reported STI symptoms, closely followed by genital discharge.[30, 31]

This study has demonstrated association between intimate partner violence and sexually transmitted infections among currently married women in Nigeria. This is similar with reports from previous studies.[9, 32, 33, 34] Women who experience IPV were at higher risk of reporting STIs as they may likely have partners with risky sexual behaviours such as multiple sexual partners. Physical and sexual violence remained significantly associated with STI after controlling for other factors. Other studies have also found similar association between experience of physical and sexual IPV and occurrence of STIs.[26, 30, 35, 36] This association could be explained by limited ability of women to make decisions regarding their sexual health as a result of physical violence and genital trauma resulting from sexual violence which increases the risk for STIs.[37] In addition, women who experienced physical violence were at greater risk for STI than those who experienced sexual violence. This finding was contrary to some studies that demonstrated sexual violence as the form of violence most closely associated with the risk of women having STI.[9, 36] This difference may be as a result of underreporting of sexual violence.

In contrast to the study done by Winter and Stephenson[26] among married women of reproductive age (15-49) in India, using the 2005-2006 National Family Health Survey-III (the Indian equivalent of the DHS), there was no significant association between emotional violence and history of STIs after controlling for factors significant for STI acquisition. This may likely be explained by the fact that emotional violence is seen as a norm in this environment and therefore may not lead to psychosomatic manifestations.

Findings from this study also demonstrated the effect of multiple forms of IPV on STIs. The more the number of types of violence a woman experienced the more likely she would report experiencing an STI. This is in contrast with the study carried out by Decker *et al* [30] in Bangladesh who reported that experience of both physical and sexual IPV was not associated with genital discharge or with genital sore/ulcer. It is likely that sociocultural and economic distinctions between Nigeria and Bangladesh may explain the differences; second the sample sizes differ; a larger sample size results in more power and significance of association is more likely. Third, the Bangladesh study controlled for husband's recent STIs; however, this data did not include this information and it was therefore not controlled for in the models.

This study has a number of limitations. First, the cross-sectional nature of the data did not allow inferences to be drawn with respect to the causal relationships among variables. Second, STI is self-reported rather than laboratory confirmed. It has been reported from previous studies that there is a substantial disparity between laboratory-confirmed and self-reported STIs.[38] Sexually Transmitted Infections (STIs) could be under reported as a result of participants providing socially desirable responses to sensitive questions. Therefore, participant's self-reported sexual behaviours and STI history could be conservative estimates of their actual behaviour. Despite these limitations, this study fills a large gap in the literature by demonstrating the contribution of IPV to women's risk of STIs in Nigeria.

Health care providers should be sensitized to the possible role of IPV when women present for gynaecologic care, specifically with STI symptoms. There is therefore a need to incorporate IPV screening and services in gynaecologic clinic settings. Awareness campaigns on the prevention and spread of STIs should be targeted among the sexually active general population. These should include promotion of community awareness about STIs by the media and the establishment of STI clinics free of charge.

Intimate partner violence is a consequence of gender inequality therefore empowerment of women should be put in place to ensure equal opportunities for women to be employed so as to improve their ability in decision making with regards to their health and wellbeing. Due to the patriarchal nature of Nigeria, many women are not aware of their fundamental human rights hence may even justify violence perpetrated by their partners. The coordinated efforts of various sectors such as legal, educational, medical, etc. are essential to combat violence against women. Existing policies, laws and legislations on Gender Based Violence should also be implemented and enforced at national and international levels. However, there is need to ensure that these interventions for dealing with IPV are culturally acceptable if they are to be effective and successful.

CONCLUSION

This study found that currently married women who experienced IPV were more likely to report history of STI. This study also revealed that experience of physical and sexual violence including multiple forms of violence were significantly associated with history of STI. Therefore, programs to reduce the burden of sexually transmitted infections should also target intimate partner violence screening and services such as treatment of injuries, psychotherapy and referrals.

REFERENCES

1. **Cook J,** Bewley S. Acknowledging a persistent truth: domestic violence in pregnancy. Journal of the Royal Society of Medicine. 2008;101(7):358-363.
2. United Nations. Declaration on the elimination of violence against women. Proceedings of the 85th plenary meeting, Geneva. 1993. [Accessed 30th March, 2012]
3. World Health Organization. Multi-country study on women's health and domestic violence against women. 2008. http://www.who.int/gender/violence/who_multicountry_study/en/index.html. [Accessed 30th March, 2012]
4. **Jewkes R,** Levin J, Penn-Kekana L. Risk factors for domestic violence: findings from a South African cross-sectional study. Social Science & Medicine. 2002;55(9):1603-1617.
5. **Koenig MA,** Lutalo T, Zhao F, *et al.* Domestic violence in rural Uganda: evidence from a community-based study. Bulletin of the World Health Organization. 2003;81(1):53-60.
6. **Alo OA,** Kereem OA, Olayinka AB. Prevalence, frequency and concequences of violence against women: Empirical findings from southwest Nigeria. The International Journal of Social Sciences and Humanities Invention. 2014;1(9):783-812.
7. **Onoh R,** Umeora O, Ezeonu P, *et al.* Prevalence, pattern and consequences of intimate partner violence during pregnancy at abakaliki southeast Nigeria. Ann Med Health Sci Res. 2013;3(4):484-491.
8. **Ameh N,** Abdul MA. Prevalence of domestic violence amongst pregnant women in Zaria, Nigeria. Annals of African Medicine. 2004;3(1):4-6.
9. **Kishor S.** Married women's risk of STIs in developing countries: the role of intimate partner violence and partner's infection status Violence Against Women. 2009;18(7):829–853.
10. **Ravi R,** Nair SB. Correlates of sexually transmitted infections among women in southern India. The Journal of Family Welfare. 2011;57(1):45-54.
11. **Augenbraun M,** Wilson TE, Allister L. Domestic violence reported by women attending a sexually transmitted disease clinic. Sexually Transmitted Diseases. 2001;28(3):143-147.
12. **Bauer HM,** Gibson P, Hernandez M, *et al.* Intimate partner violence and high-risk sexual behaviors among female patients with sexually transmitted diseases. Sexually Transmitted Diseases. 2002;29:411-416.
13. **Wingood GM,** DiClemente RJ, Raj A. Identifying the prevalence and correlates of STDs among women residing in rural domestic violence shelters. Women and Health. 2000;30 (4):15-26.
14. National Population Commission (NPC)[Nigeria] and ICF Macro. Nigeria Demographic and Health Survey 2008. Abuja, Nigeria. National Population Commission and ICF Macro 2009
15. **Straus MA.** Measuring intrafamily conflict and violence. The conflict tactic scales. New Brunswick, New Jersey, USA: Transaction Publishers; 1990: 29-47.
16. **Abramsky T,** Watts C, Garcia-Moreno C, *et al.* What factors are associated with recent intimate partner violence? Findings from the WHO multi-country study on women's health and domestic violence. Biomed Central Public Health. 2011;11(109):1-17.

17. **Umeora OU,** Dimejesi BI, Ejikeme BN, *et al.* Pattern and determinants of domestic violence among prenatal clinic attendees in a referral centre, South-east Nigeria. Journal of Obstetrics and Gynaecology 2008;28(8):769-774.
18. Ghana Demographic and Health Survey. Fact Sheet: Ghana. Calverton MD:National Population Commission and ORC Macro 2008
19. Liberia Demographic and Health Survey. Monrovia, Liberia: Liberia Institute of Statistics and Geo-Information Services (LISGIS) and Macro International Inc. 2007
20. World Health Organization. WHO Multi-country Study on Women's Health and Domestic Violence against Women: summary report of initial results on prevalence, health outcomes and women's responses. Geneva, World Health Organization: 2005
21. **Fawole OI,** Aderonmu AL, Fawole AO. Intimate partner abuse: wife beating among civil servants in Ibadan, Nigeria. African Journal of Reproductive Health. 2005;9(2):54-64.
22. **Owoaje E,** OlaOlorun F. Women at risk of physical intimate partner violence: A cross-sectional analysis of a low-income community in Southwest Nigeria. African Journal of Reproductive Health. 2012;16(1):43-54.
23. **Balogun MO,** Fawole OI, Owoaje ET, Adedokun B. Experience and attitude of rural women to intimate partner violence in Nigeria. Journal of Public Health. 2013;21(4):333–341.
24. **Garcia-Moreno C,** Jansen HA, Ellsberg M, *et al.* WHO multicountry study on women's health and domestic violence against women. Geneva, Switzerland: World Health Organization, 2005
25. **Gaikwad V,** Madhukumar S, Sudeepa D. An epidemiological study of domestic violence against women and its association with sexually transmitted infections in Bangalore rural. Online Journal of Health & Allied Sciences. 2011;10(3):3.
26. **Winter A,** Stephenson R. Intimate Partner Violence and symptoms of sexually transmitted infections among married Indian women. European Population Conference 2012. epc2012.princeton.edu/papers/120120. [Accessed 5th February, 2013]
27. Cote D'Ivoire Demographic and Health survey. Cote D'Ivoire: National Institute of Statistics Calverton, Maryland, U.S.A and ORC Macro 2006.
28. Sierra Leone Demographic and Health Survey. Calverton, Maryland, USA: Statistics Sierra Leone (SSL) and ICF Macro 2008.
29. Senegal Demographic and Health and Multiple Indicators Survey. L'Agence Nationale de la Statistique and ICF International: Key Findings. Calverton, Maryland, USA: ANSD and ICF International. 2012.
30. **Decker MR,** Miller E, Kapur NA, *et al.* Intimate partner violence and sexually transmitted disease symptoms in a national sample of married Bangladeshi women. International Journal of Gynecology and Obstetrics. 2008;100:18-23.
31. **Chen SM,** Van den Hoek A, Shao CG, *et al.* Prevalence of and risk indicators for STIs among women seeking induced abortions in two urban family planning clinics in Shandong province, people's republic of China. Sexually Transmitted Infections. 2002;78:1-3.
32. **Seth P,** Raiford JL, Robinson LS, *et al.* Intimate partner violence and other partner-related factors: correlates of sexually transmissible infections and risky sexual behaviours among young adult African American women. Sexual Health. 2010;7(1):25-30.
33. **Dhakal L,** Berg-Beckhoff G, Aro AR. Intimate partner violence (physical and sexual) and sexually transmitted infection: results from Nepal Demographic Health Survey 2011. International Journal of Women's Health. 2014;6:75-82.
34. **Allsworth JE,** Anand M, Redding CA, Peipert J. Physical and sexual violence and incident sexually transmitted infections Journal of Women's Health. 2009;18(4):529-534.
35. **Ellsberg M,** Jansen HA, Heise L, *et al.* Intimate partner violence and women's physical and mental health in the WHO multi-country study on women's health and domestic violence: an observational study. Lancet. 2008;371(9619):1165-1172.
36. **Stephenson R,** Koenig MA, Ahmed S. Domestic violence and symptoms of gynecologic morbidity among women in North India. International Family Planing Perspective. 2006;32(4):201-208.
37. **Maman S,** Campbell J, Sweat MD, Gielen AC. The intersections of HIV and violence: directions for future research and interventions. Social Science & Medicine. 2000;50(4):459-478.
38. **Bulut A,** Yolsal N, Filippi V, Graham W. In search of truth: comparing alternative sources of information on reproductive tract infection. Reproductive Health Matters. 1995(6):31-39