Examining the Influence of Intimate Partner Violence on Fertility Planning Status of Couples: Evidence from the 2018 Nigeria Demographic and Health Survey

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Abstract

Intimate partner violence (IPV) is associated with women's poor reproductive health outcomes. This study examined the influence of IPV on couples' fertility planning status (FPS). Couples' data from Nigeria's Demographic and Health Survey (NDHS) conducted in 2018 were used. A weighted sample of 4,650 couples was analyzed from the domestic violence module of the NDHS. Complementary log-log (cloglog) models were fitted to estimate the effects on FPS. The results showed that in marital relationships where husbands were older than wives, there was a 28% higher likelihood of planned fertility than couples where husbands were younger or within the same age range (Exp.B.=1.28; CI=1.10, 1.50). Couples who practiced the same religion had a 25% higher likelihood of planning their fertility than those practicing different religions (Exp.B.=1.25; CI=1.07, 1.47). Couples with no IPV had a 13% higher likelihood of planning their fertility (Exp.B.=1.13; CI=1.04, 1.24). IPV, poverty, and child sex preference had significant negative influences on couples' FPS. Couples should be advised against all forms of IPV, and they should be made to understand that IPV jeopardizes their reproductive intentions. Specific enlightenment programs dissuading child sex preference may also be targeted at them.

Keywords

Couples; fertility planning; intimate partner; unplanned; violence

Introduction

Gender-based violence (GBV) has continued to find its way into the national and international discourse on global health due to its negative implications for the victims' physical, psychological, and reproductive well-being and health (Antai & Adaji, 2012). It is noteworthy that GBV is as old as man and has been formally defined as an act of violence, orchestrated, and perpetrated against an individual due to the individual's sex, gender identity, as well as internalization and display of some norms of masculinity and femininity (USAID, 2012). Gender-based violence ranks as one of the most severe forms of human rights, freedom, and dignity violations (WHO, 2014). A more pronounced aspect of GBV is intimate partner violence (IPV). Many scholars have coined related terms such as domestic violence, spousal violence, relationship violence, and partner violence for research and intervention purposes (WHO, 2014). Given that women are often victims of all identified forms of violence, the United Nations Convention on Elimination of all Forms of Discrimination against women and other international bodies have continuously and consistently condemned these violent and destructive acts. Yet, more can still be done across the globe (WHO, 2010).

Intimate partner violence is quite prevalent in African countries (Ushie et al., 2011). About 37% of all women in African countries have experienced physical and/or sexual violence from their intimate partners (WHO, 2013). This situation is evident in Nigeria, where the proportion of ever-married women who have experienced one or more forms of spousal violence was the highest at 36% in 2018 compared to 2013 (31%) and 2008 (25%) (NPC & ICF, 2019). Earlier studies in Nigeria reported about 47% of women had experienced physical violence (e.g., pushing, shoving, slapping, punching, burning, strangling, stabbing), and 21% have experienced lifetime sexual violence (e.g., sexual coercion or rape) among intimate partners (Alo et al., 2012; Okemgbo et al., 2002; Owoaje & OlaOlorun, 2012). Other forms of psychological violence (through intimidation and humiliation) and other controlling behaviors (Krug et al., 2002). Despite all these, many women often prefer to keep their IPV experience secret due to fear of backlash from their male partners and the possibility of facing intense social stigma. This may be responsible for the lack of accurate data on IPV cases in Nigeria. Owing to this, the magnitude of this social and public health problem tends to be on the increase. It may further subvert women's reproductive health and pose serious challenges to the marriage institution in Nigeria.

Exposure to sexual and physical violence has been identified as a factor affecting women and girls' reproductive health and their infertility and fertility behavior (Bibi et al., 2014; Kishor & Johnson, 2004; Solanke, 2014; Wekwete et al., 2014). For example, a recent study revealed that experience of IPV was negatively associated with infertility among women (Akyuz et al., 2013; Ozgoli et al., 2016; Sheikhan et al., 2014), and it has also been linked to compromised fertility control ability and reduce reproductive autonomy among women (Pearson et al., 2017). Also, difficulty in using contraceptives was more likely among women who reported IPV (Gee et al., 2009), while physical and emotional violence were significant predictors of live birth or stillbirth (Olawole-Isaac et al., 2016). In the same vein, it has been reported that lack of contraceptive decision-making ability was quite pronounced among women who had experienced sexual violence (in the last 12 months) (Elouard et al., 2018), while a more recent study reports that IPV was responsible for contraceptive discontinuation among women (Kupoluyi, 2020). All these further portray IPV as an indispensable proximate determinant of fertility (Odimegwu et al., 2015). On the other hand, increased exposure to an intensive battery, emotional torment, and other forms of violence trigger adverse health outcomes

(Antai, 2011; DeWet, 2009; Himanshu & Panda, 2007; Okemini & Adekola, 2012), including adverse child health outcomes (DeWet, 2009).

Moreover, scholarly evidence supports the claim that any modeling attempt on unwanted pregnancy which ignores IPV may be bias and miss-specified because IPV experience has also been implicated as a strong predictor of pregnancy wantedness (Narasimhan, 2018; Pallitto et al., 2005), unwanted fertility in the case of Malawi (Titilayo & Palamuleni, 2015) and early age at first birth (Tiwari et al., 2018). In this context, the decision-making power for pregnancy timing and fertility is compromised due to IPV. This situation forms the basis of most social norms and practices in sub-Saharan Africa that endorses the absolute supremacy of men over women. Therefore, as sexual violence elevates the risk of unwanted pregnancy, so also is unwanted pregnancy associated with induced abortion and the resulting risk of maternal morbidity and mortality. In this unfavorable situation characterized by violence, some women opt for covert contraceptives (without their husbands' knowledge) to prevent unintended or unwanted pregnancies (Silverman et al., 2020). On the other hand, an unwanted child proceeding from a violent marital relationship may suffer a lack of quality childcare and parenting, leading to poor child health outcomes. All these show the extent to which IPV could rob a married woman of their ability to exercise their reproductive right: to discuss and negotiate fertility planning with their spouse towards achieving a mutually beneficial reproductive goal.

Studies have linked IPV to various aspects of fertility - pregnancy outcomes (Olawole-Isaac et al., 2016), contraceptive use and discontinuation (Kupoluyi, 2020), and unwanted fertility (Titilayo & Palamuleni, 2015). However, all these studies focus on women in general or married women in particular. A scarcity of studies examined IPV as a predictor of unwanted fertility among couples (of reproductive age) in Nigeria. It is essential to focus on couples because marriage is the socially acceptable medium where procreation occurs. Hence, due to social desirability, women who conceived a child out of wedlock may erroneously declare their fertility unintended. Also, focusing on couples will enable comparing the characteristics of husbands and wives that mainly influence their fertility planning status. Similarly, focusing on couples helps researchers ensure that the IPV experienced and reported by women was perpetrated by their current husbands. Moreover, women's decision to declare fertility as unintended may be influenced by the husbands' attitude. This means focusing on the 'victim' alone (women) without carrying along the 'usual perpetrator' may be misleading.

Therefore, in this study, we analyzed how differences in couples' characteristics influenced their fertility planning status and examined how this is affected by IPV. Specifically, this study examined the following hypothesis: (a) There is no statistically significant relationship between differences in couple's sociodemographic and economic characteristics and fertility planning status, and (b) There is no statistically significant relationship between couple's experience IPV and fertility planning status.

Theoretical framework

This study is underpinned by the Theory of Gender and Power (TGP), propounded by Robert Connell in 1987, which explains the patriarchal system that operates in different cultural settings and how this system provides support for all forms of gender inequality and inequity (Connell, 1987). Based on this theory, gender-based inequity and inequality favor men over women, thereby making women less powerful in the decision-making process (which may include pregnancy intention and procreation). Based on the theory, this study posits that

wives are subject to abuse and dictates of power by the husband when they are of much lower sociodemographic positions than their husbands. These are reflective in women's education and employment relative to their husbands.' The study provides information that will complement and supplement efforts at different levels to combat IPV in Nigeria and improve the physical, psychological, sexual, and reproductive well-being of couples in line with Sustainable Development Goal 3.

Materials and Methods

Data and Participants

The Couples' data were extracted from the seventh round of Nigeria's Demographic and Health Survey (NDHS) conducted in 2018 and analyzed in this study. The 2018 NDHS was funded by the United States Agency for International Development (USAID), as part of the MEASURE DHS (Demographic and Health Survey) programs implemented by ICF International. The DHS program provides a series of robust technical assistance to more than 100 low-income and developing countries and has funded (conducted) over 300 surveys in these countries (USAID, 2018). These surveys generate accurate and reliable data on sexual and reproductive health and fertility and family planning issues (among men, women, and couples of reproductive age), maternal and child health, domestic violence, malaria, and other related indicators across developing countries (USAID, 2018).

In the conduct of the 2018 NDHS, a two-stage sampling design was used for the selection of 42,000 households from 1,400 clusters across urban and rural areas in the 36 states and the Federal Capital Territory of Nigeria to have a nationally representative sample. Data were collected through the use of interview schedules by trained fieldworkers. Before that, the survey instruments and data collection procedure were piloted over three weeks. The survey was aimed at providing information that: (i) serves as inputs in designing and evaluating population and health programs, and (ii) provide valid indicators for monitoring and for evaluating performances in the Sustainable Development Goals (SDGs) in Nigeria (NPC & ICF, 2019).

Typically, to understand the peculiar group-specific situations regarding the subject matters of the survey, the NDHS collects information on different groups of people: women aged 15-49, men aged 15-59, married/cohabiting partners aged 15-49, households and children below 5 years. Due to the sensitivity around the reporting of domestic violence and lack of privacy in certain instances, not all individuals captured in each recode were selected for interviews on domestic violence. For this study, the 2018 NDHS couples' data (NDHScr) were analyzed. The Survey defines couples as two people of the opposite sex, married or cohabiting.

Sample

The NDHScr were obtained from 8,061 couples (unweighted), out of which 6,386 were included in the domestic violence module. The study focused on couples who had at least a birth because valid information on the wantedness of birth could only be gotten from those who have ever given birth. Hence, 383 couples with no birth history were dropped from the analysis. Similarly, 1,319 couples who provided no information on the wantedness of their last birth were dropped. Thus, the study analyzed a weighted sample of 4,650 couples.

Variable measurement

Fertility Planning Status (FPS) is the outcome variable. This was gotten from the question asked from women - '*wanted last child*?' - with responses as either *wanted then, wanted later, or wanted no more*. Although women provided this response, the variable referred to the birth the couples had together – not with a previous or another partner. In this study, we regarded couples who 'wanted then' as those who 'planned' their fertility while those who 'wanted later' or 'wanted no more' had 'unplanned' birth. The principal explanatory variable was intimate partner violence (IPV). We assumed that the occurrence of IPV preceded the planning status of the couples' most recent birth, to which this study refers in the measurement of the outcome. This is because almost all of the couples have lived together for several years, and the majority (85%) have had at least two births.

Similarly, many of the remaining 15% who have had only one birth must have lived together for a minimum of one year since it takes about 60% of newly wedded couples an average of three cycles or months to conceive (Kaplan, 2018). It is, therefore, logical to assume that they have lived together long enough for IPV to have happened (among those who had it) before their most recent birth. Moreover, the study aimed to examine the relationships between the variables, not to establish causality effects.

Furthermore, as captured in the domestic violence module of the NDHS, couples who have lived together for several years and among whom IPV occurred only once were unlikely to have reported IPV. Hence, those who said 'yes' to IPV were wives who perceived their partners as unrepentant perpetrators of violence. The selection of IPV was informed by the TGP, which provides a theoretical linkage between partner violence and the reproductive decision-making process. Also, the theory posits that wives are subject to husbands' dictates of power when they are of much lower sociodemographic positions. Hence, husbands' sociodemographic characteristics relative to wives' characteristics emerge as the variables whose influences are to be established on fertility decision making.

Furthermore, based on scholarly evidence linking IPV and pregnancy outcomes (Olawole-Isaac et al., 2016), contraceptive use and discontinuation (Kupoluyi, 2020), and unwanted fertility (Titilayo & Palamuleni, 2015), this study examined the role of IPV in fertility planning status. The NDHS captures IPV in three forms - sexual, emotional, and physical violence by husbands/partners – with a dichotomous (yes [experienced] or no [not experienced]) response to each. Responses to the three forms of violence were merged, and the experience of any of them was used for estimating the prevalence of IPV among couples. The other independent (control) variables depicted the differences in the husband's and wife's sociodemographic and economic characteristics regarding age, educational level, religion, employment status, child sex preference, type of residence, and region. The selection of the variables was guided by Odusina et al. (2020), who examined the influence of differences in couples' sociodemographic characteristics in explaining their fertility desires. We, however, argued that mere fertility desire might not translate to actual fertility planning. Hence, the need to go beyond fertility desire to actual fertility planning behavior in this study is based on the wantedness of last birth. Also, a study by Babalola et al. (2017) informed the selection of the study variables. They found that age, religion, type of place of residence, spousal communication, and agreement about family size were significant predictors of fertility intention, but only from women's perspectives. Since it takes both males and females (couples) to give birth, there is a need to investigate fertility planning from the couple's perspectives. Hence, the choice of couples' variables in this study.

In the NDHScr, separate information on sociodemographic and economic characteristics was collected from the two individuals who constituted a couple, except for information on residence type, wealth index, and region of residence, which were household variables (same for both individuals). Considering the focus of this study, which included examining the relationship between differences in couples' characteristics and FPS, we generated differences in couples' characteristics in the following manner: (i) The data for the two were compared such that the resulting variables would have two response groups as 'same' (where couples had same characteristics) and otherwise as 'different.' For example, the comparison of the two individuals' religions gave couples' religion as 'same religion' and 'different religion.'

Another example in this regard was the couples' desired number of children that had 'same desire' where couples specified the same number as a response to the question "Ideal number of children?" and 'different desires' where otherwise specified. (ii) Concerning other variables like age and education, differences between the two individuals were taken. An example was the individuals' ages captured in a 5-year interval. Taking the differences resulted in types of values as negative, zero, and positive. The negative values indicated instances where 'husbands were younger,' the zero indicated 'same age range' while the positive indicated that 'husbands were older.' Using the same approach, the difference in the couple's education were categorized as 'husband had less education' (negative value), 'same educational level' (zero), and 'husband had higher education' (positive value). As earlier stated, the other study variables such as *wealth index, region of residence,* and *type of place of residence* were used as captured in the survey.

Data analysis

A descriptive analysis (using frequency and percentage, distributions, and mean where applicable) of all the variables of interest was performed. At the univariate level of analysis, series of simple complementary log-log (cloglog) regression models were fitted to estimate the crude main effect of IPV and each of the other explanatory variables (i.e., couple's sociodemographic and economic characteristics). At the bivariate level of analysis, the chi-square test of association was used to examine the difference in the estimated prevalence of unplanned fertility across the levels of each independent variable. This was followed by a multivariable analysis fitting various multiple complementary log-log (cloglog) regression models to estimate the marginal effects of the explanatory variables on the FPS.

Fitting the cloglog model is justifiable when estimating the factors influencing a binary outcome variable in which one of the levels is rare, relative to the other (Alabi et al., 2019; Long & Freese, 2014; Xu & Long, 2005). Hence, the application of the method in this study is considered most suitable for two reasons: (i) the outcome variable, FPS, has binary outcomes (*unplanned*, *planned* fertility) and (ii) the proportion of couples who had unplanned fertility was relatively low (about 10%). The exponentiated coefficients (Exp. B.) of the cloglog model were used to interpret and explain relationships while their statistical significance was tested at a 5% level of significance and 95% confidence interval. Given the complexity of the survey design used in the implementation of the NDHS, the *subpop* command in Stata version 14 (StatCorp, 2015) was applied alongside the *svy* command to produce valid estimates of the standard errors of the fitted Cloglog coefficients (Exp.B.s) (Williams, 2015).
Three models were fitted. The first simple model examined the FPS as a function of IPV. The second model (multiple cloglog model) examined FPS as a function of the couples' sociodemographic and economic characteristics. The final model (using the multiple cloglog model) contained all the explanatory variables in the study. Before the second and final model,

a test of multicollinearity was performed to detect collinear variables that could affect how reliable the regression slopes were. Hence, a variance inflation factor (VIF) analysis was performed, and it showed no serious multicollinearity among the explanatory variables. This is because each variable had less than a VIF score of 5, which is the rule of thumb (Daoud, 2017).

Ethical considerations

The Ethical Review Board of the ICF International approved the NDHS survey protocol, questionnaires, and the certificate of training with approval code (ICF IRB FWA00000845). For this study, the authorization to use the NDHS dataset was obtained through an online process from the MEASURE DHS. The 2018 NDHScr data analyzed in this study are available for public use via https://dhsprogram.com/data/.

Results

Table 1 shows the study variables, including the sociodemographic characteristics of the husbands and wives who made up the couples used as respondents. Results show that 10.2% of the couples had unplanned fertility and about one-third (33.5%) had violent relationships with their partners. Nearly half (49.5%) of the wives were between 25 and 34, but only 28% of husbands were within this age range. It is shown that 47.01% (20.46+26.55) of the husbands were at least 40 years of age. The mean ages were 38.8 for husbands and about 30 years for wives. The highest proportion of husbands (36.13%) and wives (33.45%) had secondary education, but more of husbands (16.03%) than wives (9.46%) had higher education. No less than three-fifths (60.92% of husbands and 59.92% of wives) of the couples practiced Islam. Meanwhile, almost all (99.32%) of the husbands were involved in paid employment in the previous 12 months, but fewer of the wives (72.19%) were involved in paid employment in the preceding 12 months. Slightly more wives (28.67%) than husbands (27.71%) had child sex preference. Furthermore, results show that more than half (56.82%) of the couples lived in rural residences, 62.52% lived in the South and the least proportion (20.22%) were of the middle-income group (by wealth status).

Table 1: Socio-Demographic Characteristics of Couples (n = 4,650)

Variables		Husbands		Wives	
		Frequency	**Percentage**	**Frequency**	**Percentage**
Fertility Planning Status^{H}	Unplanned	472	10.17		
	Planned	4,178	89.83	*Same as husbands'*	
Intimate Partner Violence^{H}	Yes	1,556	33.51		
	No	3,094	66.49		
Age Groups (*in years*)	Below 25	100	2.16	1,019	21.93
	25-29	421	9.05	1,210	26.03
	30-34	879	18.91	1,092	23.47
	35-39	1,063	22.87	893	19.20
	40-44	952	20.46	336	7.22
	Above 44	1,235	26.55	100	2.15
	Mean	**38.8**		**29.9**	
Educational Level	None	1,442	31.02	1,969	42.33
	Primary	782	16.82	686	14.76
	Secondary	1,680	36.13	1,555	33.45

Variables		Husbands		Wives	
		Frequency	Percentage	Frequency	Percentage
	Higher	746	16.03	440	9.46
Religion	Christianity	1,787	38.42	1,844	39.66
	Islam	2,833	60.92	2,786	59.92
	Others	30	0.66	20	0.42
Employment (*in the previous 12 months*)	Worked	4,620	99.32	3,359	72.19
	Not worked	30	0.68	1,291	27.81
Child Sex Preference	Yes	1,287	27.71	1,336	28.67
	No	3,363	72.29	3,314	71.33
Type of Place of Residence^{H}	Urban	2,008	43.18		
	Rural	2,642	56.82		
Region of residence^{H}	North	1,746	37.48		
	South	2,904	62.52	*Same as husbands'*	
Wealth Status	Poor	1,848	39.66		
	Middle	939	20.22		
	Rich	1,864	40.12		

Note: H – Couple level variables

Results on associations between intimate partner violence, couples' characteristics, and fertility planning status are presented in Table 2. It shows that 90.66% of couples with no violence planned their fertility, compared with 88.2% of those with violence. There was a significant association between the two variables (χ^2=8.22; p=0.01). Differences in couples' age were significantly associated with their fertility planning status (χ^2=19.03; p=0.00). Also, the wealth index had a statistically significant relationship with fertility planning status as the proportion of couples with unplanned fertility reduced consistently with increasing wealth (χ^2=90.45; p=0.00). Explicitly stated, 14.16% of the poor and 5.3% of the rich had unplanned fertility. Similarly, unplanned fertility was significantly (χ^2=178.6; p=0.00) higher in the north (17.48%) than in the south (5.77%). However, differences in couples' education, ethnicity, or the desired number of children had no significant relationship with fertility planning status.

Table 2: Association Between Intimate Partner Violence and Fertility Planning Status

Variables		Fertility Planning Status			
		Unplanned [n (%)]	Planned [n (%)]	Total [N]	χ^2 (p)
Intimate Partner Violence	Yes	185 (11.90)	1,372 (88.20)	1,556	8.22*
	No	287 (9.34)	2,808 (90.66)	3,094	(***0.01***)
Couples' Characteristics					
Age	Husbands younger/same age	78 (15.86)	414 (84.14)	492	19.03* (***0.00***)
	Husbands older	394 (9.48)	3,764 (90.52)	4,158	
Education	Husbands less educ.	61 (11.61)	466 (88.39)	528	1.71
	Same level	282 (10.10)	2,504 (89.90)	2,785	(***0.56***)
	Husbands more educ.	129 (9.66%)	1,208 (90.34)	1,337	
Religion	Different	65 (15.43%)	356 (84.57)	420	15.27*
	Same	407 (9.62)	3,822 (90.38)	4,230	(***0.00***)
Desired Number of Children	Different	363 (9.71)	3,366 (90.29)	3,729	4.24
	Same	110 (11.88)	812 (88.12)	921	(***0.07***)
	Yes	317 (12.76)	2,154 (87.24)	2,471	44.72*

Variables		Fertility Planning Status			
		Unplanned [n (%)]	Planned [n (%)]	Total [N]	χ^2 (*p*)
Child Sex Preference	No	155 (7.10)	2,024 (92.90)	2,179	(***0.00***)
Ethnicity	Different	71 (10.19)	628 (89.81)	699	0.00
	Same	401 (10.20)	3,543 (89.80)	3,944	(***0.98***)
Employment	Both worked	97 (7.37)	1,216 (92.63)	1,313	16.46*
	Either/None worked	375 (11.20)	2,962 (88.80)	3,337	(***0.00***)
Wealth Index	Poor	265 (14.16)	1,599 (85.84)	1,864	90.45*
	Middle	109 (11.62)	829 (88.38)	939	(***0.00***)
	Rich	98 (5.30)	1,749 (94.70)	1,848	
Residence Type	Rural	265 (13.17)	1,742 (86.83)	2,008	39.27*
	Urban	207 (7.81)	2,435 (92.19)	2,643	(***0.00***)
Region of Residence	North	305 (17.48)	1,441 (82.52)	1,746	178.6*
	South	167 (5.77)	2,737 (94.23)	2,904	(***0.00***)
Total		472 (10.90)	4,178 (89.10)	4,650	

*Note: *significant at 5%*

Results from the complementary log-log Model 1 (see Table 3) show that couples in non-violent relationships had about 11% higher likelihood of planned fertility (Exp.B**.**=1.11; CI=1.02, 1.22). In other words, couples who were exposed to violence were 11% more susceptible to unplanned fertility. Model 2 shows that among couples where husbands were older than wives, there was a 28% higher likelihood that they planned their fertility than couples where husbands were younger than or within the same age range with wives (Exp.B**.**=1.28; CI=1.10, 1.50). Couples who practiced the same religion were 25% more likely than their counterparts who practiced different religions to plan their fertility (Exp.B**.**=1.25; CI=1.07, 1.47). The likelihood of planned fertility was 22% significantly lower among couples with child sex preference than their counterparts with no child sex preference (Exp.B**.**=0.78; CI=0.72, 0.85). Also, among the couples, the likelihood of planned fertility was 26% significantly higher among urban residents than those living in rural residences (Exp.B**.**=1.26; CI=1.15, 1.38). The residents in northern Nigeria had a 39% lower likelihood than their southern counterparts to plan their fertility (Exp.B**.**=0.61; CI=0.56, 0.67). The model also shows that the middle and the poor (measured by wealth status) had 27% (i.e., 1.0-0.73) and 33% (i.e., 1.0-0.67) significantly less likely to plan their fertility, respectively, compared with their rich counterparts (Exp.B**.**=0.73; CI=0.65, 0.82 and Exp.B**.**=0.67; CI=0.60, 0.74). In other words, the rich were the most likely to plan their fertility while the poor were the least.

Table 3: Complementary Log-Log Regression Model Indicating the Relationship Between Intimate Partner Violence and Fertility Planning Status

	MODEL 1		MODEL 2		MODEL 3	
Variables	**Exp. B.**	95% C.I.	**Exp. B.**	95% C.I.	**Exp. B.**	95% C.I.
Intimate Partner Violence						
Yes	1.0				1.0	
No	1.11*	[1.02, 1.22]			1.13*	[1.04, 1.24]
Age						
Husband younger/same age			1.0		1.0	
Husband older			1.28*	[1.10, 1.50]	1.16	[1.00, 1.34]
Education						
Husband less educated			1.0		1.0	
Same educational level			1.06	[0.94, 1.21]	0.97	[0.85, 1.11]
Husband more educated			1.08	[0.94, 1.25]	0.92	[0.79, 1.08]
Religion						
Different			1.0		1.0	
Same			1.25*	[1.07, 1.47]	1.09	[0.92, 1.30]
Desired Parity						
Different			1.0		1	
Same			0.91	[0.82, 1.01]	1.05	[0.94, 1.16]
Child Sex Preference						
No			1.0		1.0	
Yes			0.78*	[0.72, 0.85]	0.90*	[0.82, 0.98]
Employment						
None/Either worked			1.0		1.0	
Both worked			0.84*	[0.76, 0.93]	0.95	[0.86, 1.06]
Residence Type						
Rural			1.0		1.0	
Urban			1.26*	[1.15, 1.38]	1.01	[0.91, 1.12]
Region of Residence						
South			1.0		1.0	
North			0.61*	[0.56, 0.67]	0.67*	[0.60, 0.76]
Ethnicity						
Same			1.0		1.0	
Different			1.00	[0.89, 1.12]	1.00	[0.89, 1.12]
Wealth Status						
Rich			1.0		1.0	
Middle			0.73*	[0.65, 0.82]	0.82*	[0.73, 0.93]
Poor			0.67*	[0.60, 0.74]	0.84*	[0.74, 0.96]

*Note: *Significant at 5%*

Model 3 (adjusted) shows that intimate partner violence remains a significant predictor of fertility planning status given the differences in couples' characteristics. In other words, either couple practiced same religion (or not), had same child sex preference (or not), notwithstanding the differences in couples ages and irrespective of their wealth status (as well as other characteristics), a non-violent intimate relationship gave a 13% higher likelihood of planned fertility (Exp.B.=1.13; CI=1.04, 1.24). This result shows that when the differences in couples' characteristics were controlled, the likelihood of having planned fertility increased

from 11% (model 1) to 13% (Model 3). The model statistics are significant at a 5% level ($p<0.05$). The likelihood of planned fertility was 10% significantly lower among couples with child sex preference than their counterparts with no child sex preference (Exp.B.=0.90; CI=0.82, 0.98). This shows a 20% further decrease in likelihood (of planned fertility) from the second to third model. Similarly, the likelihood of planned fertility dropped from model 2 to model 3 among couples residing in the northern region and non-poor couples. Couples in the north had 33% less likely than their southern counterparts to have planned their fertility (Exp.B.=0.67; CI=0.60, 0.76) while couples in the middle and poor wealth groups were respectively 18% less likely (Exp.B.=0.82; CI=0.73, 0.93) and 16% less likely (Exp.B.=0.84; CI=0.74, 0.96) to have planned their fertility.

Discussion

The incidence and prevalence of IPV across the globe and particularly in the southern and central parts of Africa, have received increased attention (Bamiwuye & Odimegwu, 2014). This constitutes a major clog in the wheel of achieving gender equality and women empowerment which is in line with the Sustainable Development Goal 5 (United Nations, 2016). When a married woman's autonomy is consistently hindered, and their reproductive decision-making ability is subverted through spousal violence in the forms of physical violence, emotional violence, and sexual violence, then their ability to negotiate and in some cases determine what would benefit their reproductive life and career will be in dire jeopardy (Pearson et al., 2017).

In Nigeria, there is a growing body of evidence on IPV and its role in adverse reproductive health outcomes in response to the rising cases of IPV among couples (Bamiwuye & Odimegwu, 2014). Yet, the scholarly response to these social and public health problems remains inadequate in the contribution of IPV to fertility planning status among couples in Nigeria. In this study, we examined the extent to which IPV, alongside some socio-demographic and economic differentials (between couples), was determined to FPS. This we did by analyzing the nationally-representative couple's data from the 2018 NDHS. In this study, slightly below 90% of the couples planned their fertility. The percentage of unplanned fertility is a bit closer to 13% of women - stated by Oyediran et al. (2020)- who reported that they had unintended childbirths in the last two years.

Findings from this study showed that the likelihood of a couple not having planned their last birth was significantly determined by whether the relationship was violent or not. In other words, couples who did not experience violence in their relationships were more likely to have planned their fertility). This directly supports the Theory of Gender and Power (TGP) and the argument that a violent male spouse reflects the patriarchal system and reinforces male gender dominance in the power dynamics that play out among couples. This sheds more light on reproductive decision-making (among other areas of decision), which falls within the exclusive preserve of male spouses who are more likely to exert power, force, and dominance to achieve their reproductive goals, which may not align with that of their female partners. In return, female partners may be forced to succumb to their partners' forced fertility desire (for a child or more children) (Forrest et al., 2018), by expunging their fertility planning through contraceptive discontinuation (Kupoluyi, 2020), and running the risk of unwanted pregnancy (Silverman et al., 2020).

Furthermore, in consonance with the TGP, the study shows that when there is inequality between husbands and wives, as typical in a patriarchal system, the decision-making process involving pregnancy intention and procreation becomes difficult. This is reflected in the higher prevalence of unplanned fertility where wives were of lower socioeconomic positions. The study showed a 5.8% decline in fertility planning when both couples practiced different religions and a 3.8% decline in planning when one person (usually the wives) had no employment. This result supports the role of women empowerment in fertility decision making as reported by Ojo and Adesina (2014).

In terms of child preference, results from the bivariate analysis attest that child sex preference determined fertility planning status among couples. Again, this is consistent with the TGP. Although the sex preferred was not mentioned in the NDHS, several studies have described Nigeria as a patriarchal system owing to the vast preference for a male child in the country (Nnadi, 2013). Specifically, more couples who preferred particular child sex had unplanned fertility than those who did not have a preference for any child sex. These findings were further strengthened and reconfirmed- after controlling for IPV and other factors in the multivariable model- and showed that couples that demonstrated child sex preference were less likely to have planned their last fertility. This could be explained by a situation where a child is unwanted and unpreferred due to the unpreferred sex of the child and also due to such child not featuring in the fertility goals, plans, and timing of the couples. Another plausible explanation is that a child might be unwanted and unplanned because of being the same sex as those of the preceding children. A couple might prefer and plan towards having another child, but of a different sex. Any child that deviates from that desired sex might end up unwanted and unplanned, and this may determine the further desire for fertility (Kastor & Chatterjee, 2018). This study draws attention towards the essence of studying the importance of child sex preference in couples' fertility desires, as also reported by Titilayo & Palamuleni (2015) in their study of unwanted fertility in Malawi.

The study reports that couples in the northern region - compared to those in the south - were less likely to have planned their fertility. This, in a way, explains the low birth control measures as earlier reported in the low contraceptive uptake in the north (Alabi et al., 2019). Aside from this, the socio-cultural system in the north is known to favor high fertility (Odusina et al., 2020) and with the popular notion that Allah (God) gives children whenever he wants. This conservative belief system which finds itself in a region that predominantly favors the polygamous family system is likely to trivialize fertility planning. Moreover, the pronatalist nature of Islam in the north is a major driver of the orientation and belief system that procreation is so divinely controlled that fertility cannot be planned by a man in addition to the belief that a child journey into the word is divinely designed (Oyediran et al., 2020), thereby implying that children are divine blessings and should always be expected. The lack of planned fertility status in the north could also be attributed to the hitherto low level of education, high poverty level, the ubiquity of early/child marriage, and preponderance of polygyny in the region (Odusina et al., 2020).

We found a statistically significant relationship between couples' wealth index and fertility planning status. Middle and poor couples were less likely to have planned their fertility. This is in tandem with Kastor and Chatterjee (2018), who found that the odds of conceiving additional pregnancy or bearing another child were significantly lower among married women from rich households. This implies that poverty is a risk factor for unplanned fertility among couples in Nigeria.

Intimate partner violence has a significant negative influence on couples' fertility planning status as wives who suffer violence from their intimate partners have a higher likelihood of having unplanned fertility. Couples who were poor practiced different religions, had child sex preference, and lived in rural residences had lower odds of planning their fertility. The study recommends efforts targeted at couples to enlighten them on the dangers of engaging in violence and its effect on their reproductive planning and decision-making. Furthermore, poor couples should be enlightened on the methods to adopt for the prevention of unplanned pregnancy, which could result in unplanned fertility. With a proper value reorientation that helps undermine child sex preference among couples, the incidence of unplanned fertility could be reduced.

However, in as much as this study provides robust evidence to support a significant relationship between intimate partner violence and fertility planning status amongst couples, causation should be exercised in implying causation, given the limitations of the data used. First, the NDHS did not provide information on the reference period regarding the occurrence of IPV. We only reasonably assumed that since the couples have lived together for many years and that the last birth to which the study refers was not the first birth of the vast majority of them, any occurrence of IPV must have preceded the most recent birth. Second, the NDHS design was cross-sectional with simultaneous measurement of both the explanatory and the outcome variables. Although this design has its advantage in that it allows a large sample size, which permits the achievement of external validity, it inhibits cause and effect relationships (Cherry, 2019). This is an area for improvement in further studies. Specifically, a longitudinal study of the fertility planning status of women who experienced intimate partner violence and those who did not experience it within a specified period of years would provide more robust evidence to support causal relationships.

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