CHAPTER 24

MISTIMED AND UNWANTED FERTILITY AMONG RURAL WOMEN IN NIGERIA: THE ROLE OF MALE DOMINEERING BEHAVIOUR

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Abstract:

The patriarchal traditions in most sub-Saharan African countries provide a context that facilitates an oppressive relationship where the husband establishes a pattern of unhealthy control over his wife. This paper examines whether rural women whose husbands exhibit domineering behaviour (DB) are more likely to have mistimed / unwanted births than those with no such behaviour. Data was extracted from the 2018 Nigeria Demographic and Health Survey (NDHS) of a weighted sample of 3422 ever married rural women. Nearly 64% of the women have husbands who exhibit 1 or more DBs. The prevalence of mistimed / unwanted fertility was nearly 10%. Results from binary logistic regression analysis showed that women whose husbands displayed at least three DB significantly had higher odds of having mistimed / unwanted births than women with two or less DB, even after adjusting for confounding variables [$F(15, 751)= 13.58$; $p<0.01$]. The study concluded that male DB may influence fertility outcomes the same way gender-based violence associates with worse reproductive health outcomes. The study suggested an urgent need for evidence-based intervention based on an understanding of the link between DB and adverse birth outcomes of rural women in Nigeria.

Keywords: Domineering Behaviour; fertility, mistimed; patriarchal; violence

Background/Introduction

Mistimed and unwanted fertility pose a significant threat to the health and well-being of families in general and women in particular. Mistimed births are births that happen earlier than desired births. A birth is mistimed when the mother reports that she wants the child but at a later time. Unwanted birth is defined as birth that was not wanted at all at any time. Mistimed and unwanted births are likely to associate with the health of mother and child as well as contribute to rapid population growth. Unchecked rapid population growth on the other hand may also contribute to a range of socioeconomic and environmental problems, such as food insecurity, poverty, unemployment, overcrowding, and environmental pollution. In Nigeria, reports from the two most recent successive Demographic and Health Surveys showed that prevalence of births that were wanted at the time of conception has been constant at 90% with marginal changes in the percentages of unwanted births (2% in 2013; 3% in 2018) and mistimed births (7% in 2013; 8% in 2018).The patriarchal traditions in most sub-Saharan African countries encourage an oppressive relationship where the husband establishes a pattern of unhealthy control over his wife, including her own health and reproductive choices. The issue of gender inequity in fertility decisions was emphasized at the International Conference for Population and Development (ICPD) Programme for Action in Cairo. It brought light to the fact that fertility decisions are not taken by women alone, but are most times driven by men's preferences (Hayford & Agadjanian, 2019). Some research efforts in sub-Saharan Africa have demonstrated that men take a dominant role in the decision-making regarding family planning (Bamiwuye & Odimegwu, 2014; Kriel *et. al.,* 2019). Male domineering behaviour, synonymous to marital control, describes the behaviour of married men who are possessive and domineering of their spouses. Demographic and Health Surveys (DHS) identified indicators of such

domineering behaviours as extreme possessiveness, jealousy, attempts to isolate the woman from her family and friends, and untrusting behaviours by the husbands towards their wives (National Population Commission (NPC) [Nigeria] and ICF, 2019). In the context of the DHS indicators, a domineering husband or partner may exercise control over the type and number of persons his spouse talks to, where she goes, or how and when his spouse spends money. He may be extremely jealous and falsely accuse the wife of unfaithfulness and constantly monitor and ask about his spouse's whereabouts. Such behaviours are likely to associate with domestic violence. Although several factors have been linked with mistimed and unwanted fertility in sub-Saharan Africa, the association between male domineering behaviour and unintended birth (mistimed and unwanted) is not well understood. While Gender Based Violence (GBV) violates women's rights and may threaten their reproductive health (Bamiwuye and Odimegwu, 2014), male domineering behaviour may also lead to violence and thus be a reason for worse reproductive outcomes. There is a dearth of sub-national level data on how male domineering behaviour may contribute to mistimed and unwanted fertility of rural women. Such information is vital to achieving effective reproductive health service delivery to rural women. This paper investigates the association between male domineering behaviour and unintended (mistimed and unwanted) fertility among rural women in Nigeria.

Research questions

i. What is the prevalence of mistimed / unwanted births among rural women in Nigeria?

ii. Do rural women whose husbands exhibit a domineering behaviour differ in specific ways from those whose husbands do not?

iii. Are rural women whose husbands exhibit more domineering behaviours more likely to have mistimed / unwanted births than those with less or no behaviours?

Literature review and theoretical framework

In many sub-Saharan African countries including Nigeria, fertility levels are still considerably high, and prospects for fertility decline are still quite remote despite several interventions by governments and non-governmental agencies. In Nigeria, the Total Fertility Rate (TFR) remained above 5 in the ten-year period between 2008 and 2018 [National Population Commission (NPC) [Nigeria] and ICF. (2019)]. According to most recent estimates by the Nigeria Demographic and Health Survey (2018), rural areas have a much higher TFR than the urban TFR (5.9 versus 4.5). Adolescent fertility is also much higher in the rural areas than in the urban. For example, 27.2% of rural women as against 8.4% of urban women started childbearing between the ages of 15 to19 years. The TFR is the average number of children a woman would have by the end of her childbearing years if she bore children at the current age-specific fertility rates. Among the several factors have that have contributed to the persistent high fertility in Nigeria are early marriage and low use of contraception.

The current state of knowledge on fertility planning status of women shows varying prevalence of mistimed and unwanted births among women of childbearing ages across countries in sub-Saharan Africa. The most recent national estimates for sub-Saharan Africa in the past five years showed that South Africa has the highest prevalence of mistimed births (33.6%) for their last birth and 20.4% for unwanted births [National Department of Health (NDoH), Statistics South Africa (Stats SA), South African Medical Research Council (SAMRC), and ICF. (2019)]. The second and third highest prevalence of mistimed births were recorded for Zambia (33.3%) [Zambia

Statistics Agency, Ministry of Health (MOH) Zambia, and ICF. 2019] and Zimbabwe (32.1%) [Zimbabwe National Statistics Agency and ICF International. 2016.]. Nigeria had the lowest prevalence of mistimed (8.0%) and unwanted births (2.5%) in sub-Saharan Africa, however the prevalence of mistimed births increased from 6.6% in 2013 to 8.0% in 2018 while the percentage of unwanted births rose from 1.7% to 2.5% over the five-year period [National Population Commission (NPC) [Nigeria] and ICF. (2019)]. Findings from many previous nationally representative studies have revealed an increase in male dominance as well as unplanned births but have not linked unplanned births to male dominance [National Department of Health (NDoH), Statistics South Africa (Stats SA) and ICF (2019); Zambia Statistics Agency, Ministry of Health (MOH) Zambia, and ICF (2019); Zimbabwe National Statistics Agency and ICF International (2016)].

Research findings have shown that the experience of unplanned births has serious health and social consequences especially in countries with persistently high fertility and a fast-growing population (Omo-Aghoja, 2013). Health consequences associated with unplanned pregnancy or birth include burden on already overstressed health facilities, delayed prenatal care, low birth weights, and other adverse reproductive health outcomes such as poorer physical health during childhood and poorer and poorer maternal health (Kavanaugh & Schwarz 2009; Logan *et. al,* 2017). Social consequences associated with unplanned births include lower child-mother relationship quality, poorer educational and behavioural outcomes of the child, and increased risk of mother's experience of violence during pregnancy (Logan *et. al,* 2017; Hartnett & Margolis, 2019).

Previous studies on fertility behaviour have found age, education parity, economic status, the unmet need for contraception, experience of sexual violence, and spousal violence as significant predictors of mistimed / unwanted births / pregnancies among women of childbearing age (Acharya

et. al, 2016; Ali *et. al,* 2016; Omani-Samani *et. al,* 2018; Adhikari *et. al,* 2019; Acharya *et. al,* 2019, Nyarko. 2019). Little or no research efforts have been expended on possible association between male domineering behaviour and birth outcomes of women in Nigeria.

The patriarchal tradition in most African countries is in support of oppressive relationships where the husband establishes a pattern of unhealthy control or dominance over his wife (Asiyanbola, 2005, Allen, 2018, Bamiwuye, Owoeye and Oyinloye, 2019. There are several reasons why mistimed and unwanted births may be linked to husband's domineering behaviour. For example, a woman who has a domineering husband is more likely to discontinue contraceptive use, or might be afraid to use at all. Studies have reported that turning down a husband's sexual advances is one of the most common causes of domestic violence (Gervais, DiLillo, & McChargue, 2014; Schulkind *et al.*, 2016).

The current state of knowledge on rural-urban differentials in estimate of mistimed and unwanted births reveals that women in the rural areas have a higher prevalence of mistimed and unwanted births [(National Population Commission (NPC) [Nigeria] and ICF. (2019)]. The contribution of rural women to food security and national development is enormous despite their limited access to productive resources, low education, lower paid jobs and lower statuses (Bamiwuye *et al.*, 2019). Leaning on gender studies, this work relies on the theory of hegemonic masculinity which explains the practice that gives and legitimizes men's dominant position in society and justifies the subordination of the women under the man, which varies across time, culture and individuals (Connell, 2005). How domineering behaviour connects with unplanned births among rural women is rarely documented and forms the justification for our study.

DATA AND METHOD

Data Source

We sourced data for the present study from the most current nationally representative Nigeria Demographic and Health Surveys (NDHS) conducted in 2018 and made available in the public domain on request in 2019. The Demographic and Health Survey (DHS) provides an up-to-date information on demographic and health indicators. The survey is cross-sectional in design, nationally representative, and variables are comparable across over 90 countries where the surveys are being conducted. The DHS survey programme started in Nigeria in 1987 in only one State in Nigeria (Ondo State) and included all the States in Nigeria from 1990 till date. So far, six such surveys have been conducted at the national level (1990, 1999, 2003 2008 2013 and 2018). In Nigeria, the DHS was conducted under the authority of the National Population Commission, Nigeria with technical and financial support from ICF International of Calverton (Maryland, USA) and the United States Agency for International Development (USAID) respectively [source]. For the current study, the unit of analysis was a weighted sample of 3422 ever married rural women who have had at least one child, five years preceding the survey and who were interviewed using the domestic violence module. The details of survey design, sampling procedures, data collection and ethical issues can be found in the NDHS final report [National Population Commission (NPC) [Nigeria] and ICF, 2019].

Variable selection and measurement

The outcome variable is fertility planning status measured in terms of mistimed / unwanted fertility. In the DHS, ever married women with a live birth in the five years preceding the survey and women who were pregnant at the time of the survey were asked whether, at the time they became pregnant

with their last birth / current pregnancy, they had wanted a child then, later, or not at all. Thus, the outcome variable has three categories. Because of the fewness of data, we dichotomized this variable into mistimed birth / unwanted birth, coded 1 if the last birth was mistimed / not wanted at all or 0 if the last birth was wanted / planned.

The main explanatory variable in this paper is male domineering behaviour measured in five dimensions. The DHS questionnaire sought information on different combinations of five such behaviours:

i. the respondent's husband is jealous or angry if she talks to other men;

ii. he frequently accuses her of being unfaithful;

iii. he does not permit her to meet her female friends;

iv. he limits her contacts with her family; and

v. he insists on knowing where she is all the time.

Each of the indicators of male domineering behaviour is scored 1 if the respondents ever experienced any of such domineering behaviours from their husband / partner or 0 otherwise. We computed the composite score of the five domineering behaviours ranging from 0 to 5 to arrive at an overall measure of male domineering behaviour with score of 0 suggesting that husband exhibits no domineering behaviour and 5 suggesting that husband displays all the five behaviours.

We were guided by the literature on fertility intention in the selection of control variables (Kishor and Johnson, 2006; Odimegwu, Bamiwuye, & Adedini, 2015) and data availability for the control variables in the 2018 NDHS survey. The control variables that emerged for the study were the age of the respondents measured in three groups (15-24, 25-34, 35+), highest education (no formal education, primary, and secondary or more); region of

residence, age at marriage, current working status, and household wealth status. We also included partner's alcoholic intake, years lived in residence and some husband / partner's attributes.

Data management and analysis

We analysed data taking into cognizance the complex nature of DHS survey design by incorporating sampling weights from the DHS domestic violence module which adjusts for national representativeness and for nonresponse. We also adjusted for the standard errors for the cluster sampling of primary sampling units using Stata's svy family of commands. There were three levels of analysis, namely univariate, bivariate and multivariate levels. We examined, at the first level of analysis, the percentage distribution of married women aged 15-49, by their fertility planning status (mistimed / unwanted, or wanted), male domineering behaviour, and socio-demographic characteristics. At the bivariate level of analysis, we first obtained the associations between each of the background variables and male domineering behaviour for statistical significance. We also examined associations between each of the five indicators of domineering behaviour as well as the overall measure of male domineering behaviour and fertility planning using the Chi-Square statistic. At the multivariate level, we used two Models of Binary Logistic Regression (BLR) analysis to examine the simultaneous effects of male domineering attitude on mistimed / unplanned births. The first Model presents the unadjusted odd ratios (ORs) and the 95% confidence interval of the effect of male domineering behaviour on likelihood having a mistimed / unwanted birth. The second model shows ORs and the 95% confidence interval of the effect of domineering behaviour on the fertility outcome adjusted by selected background characteristics of the respondents. We used the Stata software version 15 for all the levels of analyses.

Ethical Issues:

All issues about ethical clearance were reported in the Final Report of 2018 Nigeria Demographic and Health Survey, which is available in the public domain. We got the approval to use the dataset for the purpose of research and for further analysis.

RESULTS

The results are based on a weighted sample of 3422 ever married rural women of childbearing ages (15-49 years) with at least one birth within the five years before the survey. Results on the socioeconomic characteristics of the respondents in Table 1 revealed that 25.2% were below 25 years of age and 45.4% were between the ages 25-34 years. The mean and the standard deviation of ages were 29.8 and 7.4 respectively which implies that most of the respondents were still young and in their fertile ages. Nearly 3 in 5 (58.9%) respondents had no education and six out of ten respondents (60.7%) were poor while 22.5% were in the middle class of wealth status. Majority of the respondents (65.7%) were working as at the time of the survey. The dominant religion was Islam (65.7%). Considering the partner's educational status, the results revealed that as many as 43.2% did not have formal education while 36.3% had secondary school education or higher. At least 70% of the respondents have either been living in their place of residence always or for a period not less than ten years as at the time of the survey. The results also indicated that a substantial proportion of the respondents (17.1%) said their spouse / partner have taken alcohol.

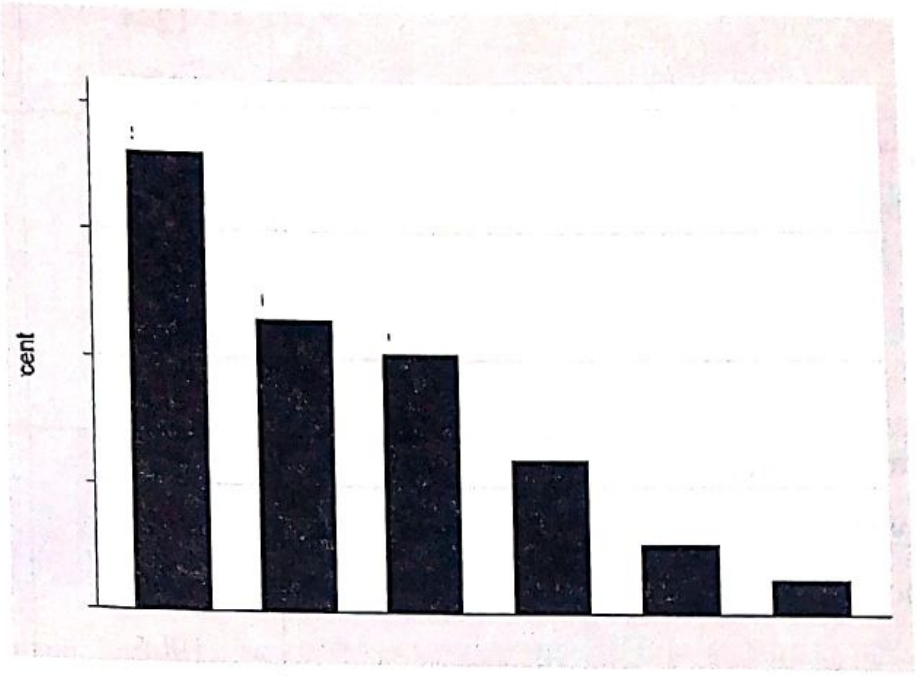
Table 1: Percentage distribution of respondents according to socio-economic and demographic characteristics.

Variables	Nigeria (n=3422)	
	Frequency	Percentage
Age		
15-24	861	25.16
25-34	1552	45.35
35-49	1009	29.49
Mean age = 29.8; standard deviation= 7.4		
Educational attainment		
No education	2015	58.89
Primary	520	15.18
Secondary+	887	25.93
Wealth status		
Poorest	1043	30.50
Poorer	1032	30.16
Middle	771	22.54
Richer	393	11.51
Richest	181	5.29
Occupational status		
not working	1174	34.32
Working	2247	65.68
Religion		
No religion		
Christianity	1152	33.67
Islam	2247	65.68
Traditionalist/others	22	0.65
Partners Education		
No formal education	1477	43.16
Primary	514	15.03

Secondary +	1241	36.25
Don't Know	190	5.56
Partner's age		
15-34	976	28.54
35-49	1707	49.89
50+	624	18.24
Don't Know	114	3.34
Years lived in residence		
Less than 10 years	862	25.20
10 years or more	654	19.10
Always	1906	55.70
Husband alcoholic intake		
Yes	584	17.08
No	2838	82.92

Source: NDHS 2018

Figure 1 displays results of the extent of domineering behaviour among ever married rural women by the number of domineering behaviours exercised by their husbands. Overall, 36.2% of the respondents claimed that their husbands demonstrated none of the five listed domineering behaviours. Nearly 1 in 4 rural women (23.0%) said their husband displayed one domineering behaviour, while one fifth (20.6%) of the respondents reported that their husbands exhibited two domineering behaviours. About 2.7% of the women said their husband demonstrated all the five domineering behaviours.



Source: NDHS 2018

4.1 Distribution of respondents by mistimed / unwanted fertility and by specific domineering behaviours

Table 2 shows the results of the percentage distribution of ever married rural women who had had at least a child five years preceding the survey, by fertility outcome, and by specific domineering behaviours. The results show that mistimed / unplanned fertility was nearly 10%. The results of the five domineering behaviours show nearly half of the respondents (49.0%) reported that their husband / partner was jealous if they talk with other men; 11.2% claimed their husband / partner often accused them of unfaithfulness; 15.9% reported their husband / partner exhibited domineering behaviour of limiting their contact with other female friends; 12.2% reported the limiting of their contact with their family members. The highest domineering behaviour exercised by respondents' husbands / partners was the insistence on knowledge about the women's whereabouts (45.9%).

Table 2: Percentage distribution of respondents according to socio-economic and demographic characteristics.

Variables	Nigeria (n=3422)	
	Frequency	Percentage
Fertility planning status		
Mistimed/ unplanned	328	9.59
Planned	3117	90.41
Husband/partner jealous if respondent talks with other men		
Yes	1676	48.99
No/don't know	1746	51.01
Husband/partner accuses respondent of unfaithfulness		
Yes	382	11.17
No/don't know	3040	88.83
Husband/does not permit respondent to meet with other female friends		
Yes	578	16.89
No/don't know	2844	83.11
Husband/partner tries to limit respondent's contact with family		
Yes	416	12.17
No/don't know	3006	87.83
Husband/partner insist on knowing where the respondent is		
Yes	1548	45.25
No/don't know	1874	54.75

Source: NDHS 2018

4.2 Relationship between respondents' socio-economic and demographic characteristics according to husband / partner's domineering behaviour

In Table 3, we compared the characteristics of rural women whose husbands displayed at least one domineering behaviour with those with no domineering behaviour. At least 36% of the respondents claimed that their husbands / partners exercised no domineering behaviour. The percentage of women whose husbands exhibited at least one domineering behaviour significantly decreased as the age of respondents increased (χ^2=6.27; $p<0.05$). Specifically, the percentage of women whose husbands displayed at least one domineering behaviour was the highest for ages 15-24 (66.0%), compared with 60.7% in the oldest age category. There appears to be no marked difference in percentage of women whose husbands exhibited at least one domineering behaviour by respondent's level of education compared with their counterparts whose husbands exhibited no domineering behaviour. The percentages of women whose husbands displayed at least one domineering behaviour varied significantly by wealth status (χ^2=14.42; $p<0.01$), with the highest for those in the poorest category of the wealth quintile (67.5%) and the lowest for the richer (58.0%) and the richest categories (59.0%). Rural women who were working were significantly more likely to experience at least one domineering behaviour from their husbands / partners compared to those who were not working (65.5% vs. 60.3%; $p<0.05$). There was also a significant relationship between the religious affiliation of the respondents and male domineering behaviours. Specifically, the proportion of rural women who were adherents of the Islamic religion whose husbands displayed at least one domineering behaviour was significantly higher than rural women who were Christians (65.2% vs. 61.0%;χ^2=6.83; $p<0.01$). Male domineering behaviour also

varied significantly by respondent's region of residence (χ^2=147.02; p<0.01). Male domineering behaviour was highest in the North-East (77.0%) and South-South (66.6%), and lowest in the South-West (35.7%) and the South-East (52.5%). Although, male domineering behaviour decreased as the number of children ever born increased, the relationship was not significant. The husband's attribute such as age and education did not significantly associate with male domineering behaviour, but household headship was significantly associated with male domineering behaviour (χ^2=9.97; p<0.01). For instance, in a male-headed household, the proportion of rural women whose husbands exhibited at least one domineering behaviour (64.5%) was significantly higher than in a female-headed household (55.6%). We compared male domineering behaviour among rural women by the husbands' alcoholic intake and found a strong evidence between domineering behaviour and the husband alcoholic intake (χ^2=14.98; p<0.01). Specifically, domineering behaviour was more evident among rural women whose husbands drank alcohol (70.7%) than those whose husbands did not (29.3%).

Table 3: Bivariate analysis of Respondents' Socio-Economic and Demographic Characteristics by Fertility Planning Status

Variables	Male domineering behaviour	
	No control n(%)	At least one control n(%)
***Age**	**χ^2=6.27**	**P value=0.044**
15-24	293 (34.0)	568 (66.0)
25-34	553 (35.6)	999 (64.4)
35-49	397 (39.3)	612 (60.7)
Educational attainment	**χ^2=0.967**	**P value=0.620**
no education	19 (35.7)	1297 (64.3)
Primary	196 (37.8)	323 (62.2)
Secondary/higher	327 (36.9)	560 (63.1)
****Wealth status**	**χ^2=14.42**	**P value=0.006**
Poorest	339 (32.5)	705(67.5)
Poorer	388 (37.6)	644 (62.4)
Middle	276 (35.8)	496 (64.2)
Richer	165 (42.0)	229 (58.0)
Richest	74 (41.0)	107 (59.0)
****Occupational status**	**χ^2=8.92**	**P value=0.003**
not working	466 (39.7)	708 (60.3)
Working	776 (34.5)	1472 (65.5)
****Religion**	**χ^2=6.83**	**P value=0.033**
Christianity	450 (39.0)	702 (61.0)
Islam	782 (34.8)	1466 (65.2)
traditionalist/others	10 (47.1)	12 (52.9)
****Region**	**χ^2=147.02**	**P value =0.0000**
North central	193 (33.9)	378 (66.1)
North East	157 (23.0)	527 (77.0)
North West	538 (38.5)	861 (61.5)

South East	89 (47.5)	98 (52.5)
South South	118 (33.4)	236 (66.6)
South West	147 (64.3)	81 (35.7)
Total children ever born	**χ^2=4.53**	**P value= 0.104**
1-2	351 (33.7)	690 (66.3)
3-4	336 (36.9)	574 (63.1)
5+	556 (37.7)	916 (62.3)
Husband age	**χ^2=5.67**	**P value= 0.129**
Below 35	354 (36.2)	623 (63.8)
35-49	599 (35.1)	1108 (64.9)
50+	251 (40.3)	373 (59.7)
Don't know	38 (33.4)	76 (66.6)
Husband education	**χ^2=5.61**	**P value = 0.132**
No education	556 (37.6)	921 (62.4)
Pry	178 (34.7)	336 (65.5)
Sec/higher	452 (36.4)	788 (63.6)
Don't know	56 (29.5)	134 (70.5)
****Household headship**	**χ^2=9.97**	**P value=0.002**
Male	1100 (35.5)	2002 (64.5)
Female	142 (44.4)	178 (55.6)
****Husband alcoholic intake**	***χ^2=14.98***	**P value=0.000**
No	1071 (37.74)	1767 (62.26)
Yes	171 (29.29)	413 (70.71)
Total	1242 (36.30)	2180 (63.70)

** p<0.01; * p<0.05

4.3 Relationship between male-specific domineering behaviour and fertility outcome

Table 4 shows the results of the association between male specific domineering behaviours and the number of domineering behaviours by fertility planning status, dichotomized as mistimed and unwanted. Mistimed / unwanted fertility was significantly higher for women whose husbands accused the wives of unfaithfulness compared with those whose husbands did not (χ^2=11.14, p<0.05). For example, 14% of women whose husbands accused them of unfaithfulness had mistimed / unwanted fertilities compared with 9% of women whose husbands did not. Similarly, women whose husbands did not permit them to visit their female friends were significantly more likely to have mistimed / unwanted births compared with their counterparts whose husbands allowed them to do so (12.0% vs 9.1%; p<0.05).

Although the percentage of women who experienced mistimed / unwanted births was higher for women whose husbands tried to limit their contacts with their family and among women whose husbands insisted on always knowing where the wife / partner was, the relationship was however not statistically significant. In all, women whose husbands exhibited three or more behaviours were significantly more likely to experience mistimed / unwanted births than their counterparts whose husbands displayed less than three domineering behaviours (12.4% vs 8.9%; p<0.05).

Table 4: Bivariate analysis of Male Domineering Behaviour by Fertility Outcome

Variables	Nigeria	
	Fertility outcome	
	Wanted	Mistimed/Unwanted
Specific domineering behaviour	χ^2=2.85	P value=0.091
Husband/partner jealous if respondent talks with other men		
Yes	1534 (91.5)	143 (8.5)
No	1560 (89.4)	186 (10.6)
***Husband/partner accuses respondent of unfaithfulness**	χ^2=10.00	P value=0.002
Yes	329 (86.0)	54 (14.0)
No	2765 (91.0)	275 (9.0)
***Husband/Partner does not permit respondent to meet with other female friends**	χ^2=4.44	P value=0.035
Yes	507 (88.0)	69 (12.0)
No	2585 (90.9)	259 (9.1)
Husband/partner tries to limit respondent's contact with family	χ^2=1.60	P value=0.206
Yes	369 (88.7)	47 (11.3)
No	2724 (90.6)	281 (9.4)
Husband/partner insist on knowing where the respondent is	χ^2=3.28	P value=0.070
Yes	1385 (89.4)	164 (10.6)
No	1709 (91.2)	164 (8.8)
***Number of domineering behaviour**	χ^2=7.52	P value=0.006
0-2	2515 (91.1)	247 (8.9)
3+	579 (87.6)	82 (12.4)

Source: computed from NDHS, 2018

Table 5 shows the results of the unadjusted and adjusted odds ratios, as well as the 95% confidence intervals from binary logistic regression analysis of the effects of male domineering behaviours on the birth outcomes of rural women. The results show that rural women whose husband exhibited three or more domineering behaviours were significantly more likely to have mistimed / unwanted births than those whose husbands demonstrated two or less domineering behaviours. Specifically, the unadjusted and adjusted odds of having mistimed / unwanted births are 1.44 among rural women whose husbands / partners exhibits three or more domineering behaviours compared with their counterparts whose husbands / partners shows less than three domineering behaviours. With the introduction of respondents' background characteristics, the adjusted odds of having mistimed / unwanted births increased from 1.44 to 1.46 for rural women whose husband demonstrated three or more domineering behaviours in contrast to our reference category (women whose husband displays two or less domineering behaviours).

Thus women whose husbands displayed three or more domineering behaviours were significantly more likely to have a mistimed / unwanted child during their last delivery than their counterparts whose husbands exhibited less than three domineering behaviours, even after controlling for background characteristics of the respondents [$F(15, 751)= 13.58$; $p<0.01$].

Table 5: Unadjusted and adjusted odds of having mistimed/unwanted fertility among married rural women – NDHS, 2018

Unadjusted Odds Ratio				
Variables	**Odds Ratio**	**T**	**P**	**95% CI**
Number of domineering behaviour				
0-2 controls	1.000			
3 +	1.444	2.33	0.023	1.059 – 1.968
Adjusted Odds Ratio				
Variables	**Odds Ratio**	**T**	**P**	**95% CI**
*** Number of domineering behaviour**				
0-2 controls	1.000			
3 +	1.466	2.48	0.013	1.084 -1.986
Age				
15-24	1.000			
25-34	0.807	-0.99	0.325	0.526 -1.237
35-49	0.710	-1.27	0.203	0.419 -1.204
****Educational attainment**				
no education	1.000			
Primary	2.128	3.79	0.000	1.439 – 3.146
Secondary/higher	2.250	3.45	0.001	1.418 – 3.570
Wealth status				
Poorest	1.000			
Poorer	0.741	-1.27	0.206	0.465 -1.180
Middle	1.114	0.48	0.635	0.711 – 1.748
Richer	0.949	-0.21	0.833	0.589 -1.531
Richest	1.359	0.96	0.339	0.724 -2.554
Occupational status				
not working	1.000			
Working	0.762	-1.63	0.104	0.549 -1.057

**Religion				
Christianity	1.000			
Islam	0.257	-6.38	0.000	0.169 – 0.390
traditionalist/others	0.155	-2.76	0.001	0.041 – 0.585
**Total Children ever born				
1-2	1.000			
3-4	1.232	1.14	0.254	0.860 – 1.766
5+	2.799	4.69	0.000	1.818 – 4.307
*Household headship				
Male	1.000			
Female	1.485	2.33	0.020	1.065 – 2.071

Source: N=3422 Design effect = 765, F(15, 751)= 13.58; p<0.000

Discussion

Our study is a further analysis of data from the 2018 NDHS survey and to the best of our knowledge about the first to link male domineering behaviour and birth outcome among rural women using nationally representative data. A study conducted in Oyo State among 300 rural women aged 15-49 by Balogun *et al.*, (2013) found prevalence of domineering behaviour to be 42%. The study however did not link domineering behaviour to birth outcomes. We found a much higher prevalence of male domineering behaviour (64%) among rural women as against 42% found in a non-representative sample in a similar study by Balogun *et al.*, (2013). More than 1 in 5 of the respondents reported that their husbands exhibited at least three domineering behaviours. We also found significant evidence that rural women whose husbands exhibit a domineering behaviour differ by background characteristics such as religion, region, occupation, number of children ever born, household headship and husband alcoholic intake from those whose husbands do not.

We found the prevalence of mistimed and unwanted fertility to be 12.4% among rural women whose husbands exhibit at least three domineering behaviours. Judging by this figure, the prevalence of mistimed and unwanted births among rural women whose husbands display at least three control behaviours is higher than the national prevalence of 10.5% reported in the 2018 NDHS (National Population Commission (NPC) [Nigeria] and ICF, 2019).

Results of the odds ratios from binary logistic regression analysis showed that rural women whose husbands exhibit three or more control or domineering behaviour of the dimensions of control were significantly more likely to have mistimed / unwanted births than those whose husbands demonstrate less than three domineering behaviours. These findings could be attributed to the patriarchal structure of the African society where males control resources and manpower, including childbearing (Aina, 1998, Igbelina-Igbokwe, 2013; Asad *et. al,* 2017; Banjo *et. al*, 2018).

Conclusion.

Our study provides empirical evidence of the association between male domineering behaviour and mistimed / unwanted fertility among rural women in Nigeria using nationally representative data. We conclude that male domineering behaviour has similar association with adverse birth outcomes among rural women the same way that gender-based violence associates with worse reproductive health outcomes in much of sub-Saharan Africa (Pallitto, Campbell & O'Campo, 2005; Odimegwu, Bamiwuye & Adedini, 2015). Rural women are an important segment of the population, mostly involved in agricultural activities, and as such the findings from this study have important implications for food security and national development. We therefore recommend that mistimed / unwanted fertility and the male domineering behaviour nexus warrant further study for a better

understanding of the contextual factors that make male domineering behaviour to be linked with adverse birth outcomes of rural women in Nigeria. We also recommend the use of qualitative methods with various segments of the population to understand the factors underlying the observed effects of male domineering behaviour on adverse birth outcomes among rural women.

There are two notable limitations arising from this study. First is the cross-sectional nature of the survey design and as such causal relationships cannot be inferred. The second limitation has to do with self-reporting of domineering behaviour of husbands and birth outcomes which may be subject to memory lapse. We have no control over the first limitation raised. For the second limitation, however, we limited our sample to rural women who have had at least a birth five years preceding survey to reduce the effect of bad memory recall. Despite these limitations, the findings in this study can provide useful insights for developing appropriate interventions to stem the tide of mistimed and unwanted births associated with male domineering behaviour over rural women who are more susceptible to maternal health issues such as unplanned birth complications, maternal mortality, and other health impairments.

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Conflict of Interest

The authors declare that there is no conflict of interest.

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