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Impacts of Early Marriage on Fertility Outcomes in Nigeria

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Abstract

Nigeria is the most populous country in Africa and projected to be the 3rd in the World by 2050. Despite measures to control the country's population over the years, the total fertility rate has remained high. Fertility rate is associated with various factors but there is limited evidence on the role of early marriage as a predictor or barrier to fertility outcome. This study determined the association between early marriage and fertility outcome in Nigeria. This study is based on secondary data analysis of the 2018 Nigeria Demographic and Health Survey (NDHS). It is a descriptive cross-sectional study with sample that comprised of married women aged 20-24 years old. Data was analyzed using SPSS version 20. The multivariate regression analysis revealed higher likely of women in early marriage to have childbirth in the first year of marriage (OR=2.26, 95%CI=1.96-2.61); and number of children ever born (OR=4.24, 95% CI=3.40-5.27) but lower odd of repeated childbirth in less than twenty-four months (OR=0.66, 95%CI=0.52-0.83) and ever use of contraceptive (OR=0.52, 95%CI=0.45-0.61). However, the adjusted odd ratio only showed significant association between early marriage and number of children ever born (AOR=10.28, 95%CI=2.57-41.13). The nuanced analysis indicates that marriage at any age below 18 had higher effect on fertility than marriage at 18 and above. Early marriage predisposes married women to higher fertility and women with lower age of marriage have likelihood of higher fertility. Improving access of girls to education and contraceptives will delay the timing of pregnancy and childbirth.

Keywords: *Child marriage, Childbirth, Contraceptive, Early marriage, Fertility, Nigeria.*

Introduction

Nigeria is the 7th most populous country in the world and projected to be 3rd by 2050 when it is expected to attain a total population of 377,459,883 [1]. Despite measures to control the country's population over the years, the total fertility rate has remained high declining just by about 0.9 points in about three decades [2, 3]. With a total fertility rate of 5.4 births per woman, the country ranks 6th among countries with highest total fertility rate in the World [2]. Nigeria suffers immediate and long-term consequences on account of its high fertility. High fertility is a documented cause of maternal mortality, and the burden of maternal mortality is most prominent in Nigeria with about 67,000 maternal deaths in 2017 being the highest worldwide and accounting for 23% of the global estimate [4].

Multiple factors are responsible for early pregnancy that may occur both in marriage and outside of marriage - behavioural, familial, and social factors [5]. In Africa, poor Social economic situation has been a major driver of poor fertility rate in the region with the rich investing in contraception and increasing age of marriage resulting in increased inequality in total fertility rate between the rich and the poor in many Sun-Saharan African countries [6]

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Early marriage defined as formal or informal marriage before the age of 18 is a common practice in many low- and middle-income countries [7] and often presented as an important driver of early pregnancy [5] and high fertility rate [8]. Fertility rate is associated with various factors that include childbirth in first year of marriage and rapid repeat births [9], number of children ever born [10], interpregnancy interval [11], abortion and contraception [12].

Childbirth in the first year of marriage is an aspect of early childbirth for both child brides and adult brides. Early childbirth in Central and West Africa is often associated with lower educational status and poverty with the effects extending beyond adolescence into in adulthood [13]. These factors along with being Muslim and living in North-eastern region increases the chances of a woman experiencing early childbirth [14]. Most national and regional studies on fertility involving child brides looked at the relationship between early marriage and age of mother at first birth [15,16,17] rather than birth in first year of marriage which is the focus of this study. Where childbirth in first year of marriage is considered, it is often not comparing early and adult marriages in their impact on fertility outcome [18] in contrast to the output of this study. Despite the advancement in technology and availability of contraceptives and awareness of the impact of early childbirth, not significant progress has been made in Nigeria regarding timing of first birth [19] and it is not known if early marriage is a contributing factor.

Early marriage affects fertility behaviour of women in Nigeria [20], by increasing the period of reproduction and consequently number of children ever born [10]. Higher number Children ever born is associated with low contraceptive use among women which in turn is enabled by cohabitation with a spouse, being a Muslim, early age of first birth [10,21]. Conversely, Sociodemographic factors such as older age, adult age of marriage [22], higher education, employment and knowledge of contraception are found to predict lower number of children ever born [22,23]. Childbirth among adolescents most of whom likely married early is characterized by high number of children ever born which is often associated with maternal mortality [24,25] and ending adolescent childbirth is projected to have positive effect in the reduction of total fertility between 0.24 to 1.06 children per woman [26].

Interpregnancy interval especially, short birth interval (SBI) is a strong factor that contributes to high fertility rate. The World Health Organization recommends a minimum of 24 months interval between a live birth and the start of the next pregnancy [11,27]. Nevertheless, most Low- and Middle-Income Countries (LMICs) have high incidences of SBI resulting from shorter breastfeeding duration and previous female child [28,29] and not using modern contraceptives before last birth, breast feed for less than 24 months [29,30]. In Nigeria, SBI is influenced by shorter duration of breastfeeding [31]; younger maternal age [27, 31] with those between 20-24 more likely to experience SBI than those within the adolescent age [32]; number of children ever born, fewer antenatal visit, lower maternal education status, and rural residence [27,30]. SBI affects both maternal and child health outcome such as preeclampsia, caesarean delivery [33] maternal anaemia [33,34], low birth weight, infant and under-5 mortality [35].

Induced abortion is common in Nigeria with a prevalence ranging from 11% to 15% [9,20,36,37] with an estimated 1.25 million incidences occurring annually [38]. Unintended pregnancy is a major reason for induced abortion among married women particularly those above forty years and with high parity [9,36,37]. Poverty, short birth interval, extramarital pregnancy [37]; higher educational status [9,36]; intimate partner violence [9,20]; living in community with high contraceptive prevalence and early initiation of sex [12] are

some of the factors in addition to unintended pregnancy that influence the incidences of induced abortion. An age disaggregated analysis of young women indicates that some categories are more at risk of pregnancy termination than others. Surprisingly, pregnancy termination occurs more frequently among older young women aged 20-24 than those age 15-19 [12]. Abortion causes morbidity and mortality among both young and older women with adolescent girls accounting for most of the hospitalization from abortion [39].

Despite the high prevalence of unplanned pregnancies, induced abortion and high fertility rate in Nigeria, contraceptive prevalence rate (CPR) for married women remains low [40] Women are influenced by multiple factors in their choice to use or not to use contraceptives to delay or prevent the occurrence of pregnancy or to space between births or manage family size. Some factors constitute as enablers such as the woman's desire to delay or not to have more children [41,42]; possibility that they have met their desired total number of children [9]; increased awareness of family planning [23,43] and increase in education and wealth [40]. Other factors may act as barriers to use of contraceptive and these may include desire for more children [44,45]; religious and cultural norms, polygamous marriage, preference for male children, perceive social disapproval [41,44,46] early marriage [47-48] Although there has been marginal increase in contraceptive use among general population in Nigeria over the years but there are reported decline in contraceptive use among sub-population such as women aged 15-24 years [12]. Studies that investigate the relationship between age of marriage and contraceptive use in Nigeria which often conclude lower contraceptive use among early married women, besides being limited in scope also lack rigorous analysis [49]. More so, studies that have demonstrated significant effect of age of marriage and maternal health outcome have mostly categorized ages 18 and 19 along with lower ages with the conclusion that childbirth below age 20 years is a predictor of morbidity among mothers [50].

The drive to meet the 2030 target require better understanding of the enabling factors for high fertility with specific focus on the impact of early marriage. The current study provides evidence on the role of early marriage in driving fertility outcome in Nigeria. Specifically, it increases our understanding of the association between early marriage and early start and continuous childbirth, inter pregnancy interval, use of contraceptive and abortion among married women with implication for maternal health, total fertility, and overall national population. And for the first time in Nigeria, the study went beyond analyzing data of child brides as a single cohort to examining the effect of age nuances on the fertility outcomes.

Materials and Methods

This study is based on secondary data analysis of the 2018 Nigeria Demographic and Health Survey (NDHS), which is the most recent DHS survey in Nigeria.

Data Source

This study used secondary data drawn from the 2018 Nigeria demographic and Health survey (NDHS). The 2018 NDHS is the most current and it was conducted by the National Population Commission with support of ICF and other partners. The sampling frame for the NDHS was based on enumeration areas (EAs) of the 2006 national population census. The survey used a two-stage stratified cluster sampling technique for selection of household and respondents. The sample size calculation for the NDHS was based on data obtained from the 2013 NDHS, which reported 1.007 and 1.056 women aged 15-49 per household in urban and rural areas respectively as well as 0.953 and 0.942 men aged 15-64 per household in urban and rural areas respectively. A total of

4515 eligible women aged 20-24 years were harvested from the database for this study. The survey administered four questionnaires per household but only data from the woman's questionnaire was used for this study. The woman's questionnaire collected information from all female respondents aged 15-49 years on marriage and sexual activity, fertility, contraception, infant and child mortality, maternal health care, child health, nutrition, malaria, HIV and AIDS, adult and maternal mortality, women empowerment, domestic violence, disability, and female genital cutting [4].

Study Variables

Exposure variable: The exposure variable for this study is early marriage defined as any marriage or union that one or both partners are below the age of 18 years.

Outcome Variable: The study assessed the impact of early marriage on the following health issues related to fertility; childbirth in first year of marriage, number of children ever born, repeat childbirth in less than 24 months, unwanted pregnancy, pregnancy termination and use of contraceptive.

Covariates: The covariates used for this study are derived from literatures and they include Participant age, level of education, Zone of residence, location, wealth index, ethnicity, marriage duration, husband education status, husband's desire for more children, son preference, religious belief

Data Analysis

The descriptive data analysis was conducted using frequency distribution table to present number and weighted percentages of the sociodemographic factors of the study subjects. The bivariate analysis used chi square test to determine the candidate covariate at p-value of 0.05. The study used multivariate logistics regression to determine the measures of association between early marriage and fertility outcome using adjusted odd ratio at 95% confidence interval. The data analysis was carried out using statistical package for social sciences (SPSS) version 20.

Results

The sample size for this study is 4515 consisting of 2917 women who married as children and 1598 women who married as adult. The social demographic characteristics of the study participants (table 1) indicates a disparity in level of education between early and adult marriage, with more than half (59.4%) of child brides not receiving any form of formal education compared to 20.3% among adult brides. Geographically, the northern part of Nigeria accounts for 88.4% of early marriage as against 11.6% in the Southern part. Similarly, of the two predominant religions in Nigeria, majority (75.8%) of Muslim girls marry early compared to about 40.5% among Christian girls. In terms of economic status of the respondents, about two-third (63.5%) of child brides compared to less than one-third (29.8%) of adult brides are in the poorest to poorer wealth quintile. Regarding fertility preferences, Child brides who prefer five or more children as ideal number of children is much higher than for adult brides (88.7% versus 57.5%). Child brides also had higher proportion of those who preferred to wait for less than twenty-four months between births even though the gap is small (72.2% versus 66.2%). Furthermore, Child brides compared to adult brides are more likely to be married to spouses with no formal education (48.7% versus 14.4%) and who desire more children (65.7% versus 45.5%).

Table 1. Comparison of Sociodemographic Characteristics of Respondents who Married below Age 18 and at a 18+

Variable	<18 Years		18+ Years		Total		X^2(df)	*P-value*
	n	Weighted %	n	Weighted %	n	Weighted %		
Current Age								
20 years	991	34.0	329	20.6	1320	29.2	141.26(4)	0
21 years	413	14.2	201	12.6	614	13.6		
22 years	628	21.5	356	22.3	984	21.8		
23 years	503	17.2	334	20.9	837	18.5		
24 years	382	13.1	378	23.7	760	16.8		
Total	2917	100.0	1598	100.0	4515	100.0		
Duration of Marriage								
<5	677	56.9	1467	94.0	2144	78.0	538.96(1)	0
5+	512	43.1	94	6.0	606	22.0		
Total	1189	100.0	1561	100.0	2750	100.0		
Ideal Number of children								
None	67	2.3	20	1.3	87	1.9	424.60(3)	0
<3	22	0.8	30	1.9	52	1.2		
3-4	387	13.3	629	39.4	1016	22.5		
5+	2441	83.7	919	57.5	3360	74.4		
Total	2917	100.0	1598	100.0	4515	100.0		
Preferred waiting time								
<24 months	1855	72.2	884	66.2	2739	70.1	15.16(1)	0
25+ months	715	27.8	452	33.8	1167	29.9		
Total	2570	100.0	1336	100.0	3906	100.0		
Highest Educational Level								
None	1734	59.4	324	20.3	2058	45.6	872.55(3)	0
Primary	447	15.3	179	11.2	626	13.9		
Secondary	702	24.1	956	59.8	1658	36.7		
Tertiary	34	1.2	139	8.7	173	3.8		
Total	2917	100.0	1598	100.0	4515	100.0		
Location								
Urban	619	21.2	647	40.5	1266	28.0	189.95(1)	0
Rural	2298	78.8	951	59.5	3249	72.0		
Total	2917	100.0	1598	100.0	4515	100.0		
Zone								
North central	457	15.7	393	24.6	850	18.8	755)	0
North East	861	29.5	248	15.5	1109	24.6		
North West	1260	43.2	288	18.0	1548	34.3		
South East	80	2.7	201	12.6	281	6.2		
South South	144	4.9	194	12.1	338	7.5		
South West	115	3.9	274	17.1	389	8.6		
Total	2917	100.0	1598	100.0	4515	100.0		
Religion								

Christianity	577	19.8	847	53.0	1424	31.5	540.52(3)	0
Islam	2319	79.5	740	46.3	3059	67.8		
Traditional	13	0.4	0	-	13	0.3		
Others	8	0.3	11	0.7	19	0.4		
Total	2917	100.0	1598	100.0	4515	100.0		
Wealth Index								
Poorest	971	33.3	204	12.8	1175	26.0	635.49(4)	0
Poorer	882	30.2	271	17.0	1153	25.5		
Middle	607	20.8	382	23.9	989	21.9		
Richer	343	11.8	452	28.3	795	17.6		
Richest	114	3.9	289	18.1	403	8.9		
Total	2917	100.0	1598	100.0	4515	100.0		
Ethnicity								
Hausa	1331	45.6	328	20.6	1659	36.8	762.37(5)	0
Fulani	468	16.0	71	4.5	539	12.0		
Kanuri/Beriberi	99	3.4	38	2.4	137	3.0		
Yoruba	99	3.4	263	16.5	362	8.0		
Igbo	90	3.1	235	14.7	325	7.2		
Others	829	28.4	659	41.3	1488	33.0		
Total	2916	100.0	1594	100.0	4510	100.0		
Currently Working								
No	1398	47.9	634	39.7	2032	45.0	28.40(1)	0
Yes	1519	52.1	964	60.3	2483	55.0		
Total	2917	100.0	1598	100.0	4515	100.0		
Husband/Partner's Educational Level								
None	1336	48.7	218	14.4	1554	36.5	607.60(3)	0
Primary	370	13.5	162	10.7	532	12.5		
Secondary	819	29.8	801	52.8	1620	38.0		
Tertiary	220	8.0	337	22.2	557	13.1		
Total	2745	100.0	1518	100.0	4263	100.0		
Husband desires to have more children								
No	853	34.3	714	54.5	1567	41.3	144.81(1)	0
Yes	1633	65.7	595	45.5	2228	58.7		
Total	2486	100.0	1309	100.0	3795	100.0		

In the bivariate analysis using chi square (table 2), four of the five outcome variables showed significant association with age of marriage. Childbirth in the first year of marriage, number of children ever born, repeat birth less than 24 months and ever use of contraceptives to prevent pregnancy are significantly associated with age of marriage while ever terminated pregnancy is not significantly associated with age of marriage. However, comparing the effect of early marriage and adult marriage on the variables showed that three-quarter of women who married early are likely to give birth in the first year of marriage compared to about 57% of adult brides. In the number of children ever born, far higher proportion (34.2%) of child brides compared to 4.6% among adult brides have three or more children. Notwithstanding that child brides are less likely than adult brides

to repeat birth in less than 24 months (25.3% versus 34.1%), they are also less likely to ever use contraceptives to prevent pregnancy (16.1% versus 26.8%). Even though occurrence of abortion is insignificantly associated with age of marriage but more child brides (11.8%) experiences pregnancy termination as against women who married as adult (9.9%).

Table 2. Bivariate Analysis of the Outcome Variables Using Chi-square to Compare Early and Adult Marriages

Variable	**Age of Marriage**				**X^2(df)**	***P-value***
	<18	**-**	**18+**	**-**		
Child Birth in First Year of Marriage						
No	693	24.8	534	42.7	131.33(1)	0.000
Yes	2102	75.2	716	57.3		
Age at first birth						
15-	622	22.3	36	2.9	1124.55(2)	0.000
16-17	1140	40.8	42	3.4		
18+	1033	37	1172	93.8		
Children ever born						
None	122	4.2	348	21.8	740.69(3)	0.000
<3	1742	59.7	1173	73.4		
3_4	997	34.2	74	4.6		
>4	56	1.9	3	0.2		
Repeat childbirth in <24 months						
No	1626	74.7	263	65.9	13.17(1)	0.000
Yes	552	25.3	136	34.1		
Ever Terminated Pregnancy						
No	2574	88.2	1440	90.1	3.67(1)	0.056
Yes	343	11.8	158	9.9		
Ever Use Contraceptives						
No	2447	83.9	1169	73.2	74.59(1)	0
Yes	470	16.1	429	26.8		

The multivariate regression analysis (table 3) revealed that childbirth in the first year of marriage among women who married early is about twice more likely compared to those who married as adult. Equally, the odd of having up to two children by the age of 24 is more than four times higher among early brides whereas having up to four children is about thirty-eight times higher. However, the likelihood of repeated childbirth in less than twenty-four months is 34% less common among women who married early compared to those who married as adults. Similarly, the odd of ever using any contraceptive to prevent pregnancy is 48% less likely among early brides than among adult brides. In addition, the likelihood of ever having a terminated pregnancy is higher with about 21% in early marriage than in adult marriage. Nevertheless, the adjusted odd ratio only showed significant association between early marriage and number of children ever born. The study observed a ten times higher likelihood of having up to two children ever born in early marriage compared to adult marriage.

Table 3. Multivariate Regression Analysis showing Association between Age of Marriage and Fertility Outcomes

Variable	OR	P-Value	AOR	P-Value
Child Birth in Frist Year of Marriage	2.26(1.96-2.61)	0	2.05(0.70-6.03)	0.191
18+ Years	Ref	-	Ref	-
Children Ever Born:<=2	4.24(3.40-5.27)	0	10.28(2.57-41.13)	0.001
18+ Years	Ref	-	Ref	-
Children Ever Born: 3-4	38.43(28.09-52.58)	0	2.83(0.18-43.43)	0.456
18+ Years	Ref	-	Ref	-
Repeated Childbirth in <24 Months	0.66(0.52-0.83)	0	0.76(0.12-4.71)	0.771
18+ Years	Ref	-	Ref	-
Ever had a Terminated Pregnancy	1.21(1.00-1.48)	0.056	0.56(0.11-3.07)	0.516
18+ Years	Ref	-	Ref	-
Ever Used anything to Stop Pregnancy	0.52(0.45-0.61)	0	1.42 (0.69-2.93)	0.344
18+ Years	Ref	-	Ref	-

The nuanced analysis on the effects of specific age of first marriage on fertility outcomes (table 4) showed that being married at a lower age had a greater impact on fertility outcomes with women who married before age fourteen showing the highest crude odd of childbirth in the first year of marriage, the number of children ever born and occurrence of pregnancy termination. Only women who married before age fourteen had a significant odd of experiencing a terminated pregnancy compared to women who married as adult. However, older age of marriage was observed to be associated with repeated childbirth in less than 24 months and ever use of contraceptive to prevent pregnancy. Overall, early marriage was only significantly associated with number of children ever born in the adjusted odd ration across the ages analysed.

Table 4. Nuanced Analysis on the Effect of Specific Age of Marriage on the Fertility Outcomes

Variable	O.R	*P-Value*	A.O.R.	*P-Value*
Childbirth in Frist Year of Marriage				
<14 Years	3.79(2.90-4.95)	0	1.15(0.50-2.60)	0.747
14-15 Years	2.47(2.08-2.94)	0	0.96(0.22-4.20)	0.953
16-17 years	1.73(1.46-2.05)	0	2.22(0.74-6.64)	0.154
18+ years	Ref		Ref	-
Upto 2 Children Ever Born				
<14 Years	4.50(2.42-8.39)	0	27.46(4.01-8.61)	0.017
14-15 Years	4.33(3.17-5.92)	0	19.71(2.73-142.21)	0.003
16-17 years	4.12(3.10-5.47)	0	5.89(1.69-20.55)	0.005
18+ years	Ref		Ref	-
Upto 3-4 Children Ever Born				
<14 Years	118.00(61.43-226.65)	0	0.24(0.01-6.38)	0.397
14-15 Years	46.07(31.30-67.80)	0	39.81(0.79-2000.70)	0.065
16-17 years	18.28(12.65-26.61)	0	0.96(0.03-30.11)	0.982
18+ years	Ref		Ref	-
Repeated Childbirth in <24 Months				
<14 Years	0.60(0.44-0.81)	0.001	0.34(0.09-1.29)	0.111

14-15 Years	0.66(0.51-0.84)	0.001	24.08(0.70-826.17)	0.078
16-17 years	0.70(0.53-0.91)	0.007	1.31(0.18-9.53)	0.79
18+ years	Ref		Ref	
Ever had a Terminated Pregnancy				
<14 Years	1.41(1.04-1.92)	0.029	3.38(0.56-20.50)	0.185
14-15 Years	1.21(0.96-1.54)	0.113	0.22(0.02-2.77)	0.239
16-17 years	1.14(0.89-1.46)	0.301	0.58(0.12-2.90)	0.504
18+ years	Ref		Ref	
Ever Used anything to Stop Pregnancy				
<14 Years	0.49(0.37-0.65)	0	1.52(0.53-4.34)	0.433
14-15 Years	0.42(0.34-0.51)	0	1.68(0.73-3.84)	0.22
16-17 years	0.64(0.53-0.77)	0	1.17(0.50-2.75)	0.724
18+ years	Ref		Ref	

Discussion

This study analysed the effects of early marriage on fertility outcome among married women and the findings indicate that women who married early as against those who married as adult have more children ever born which suggests that women in early marriage have higher total fertility. The higher number of children ever born among women of early marriage may have resulted partly from early childbirth and low use of contraceptives to prevent pregnancy. It may also be due to their low social economic status and the desire for more children by both the girls and their spouses. Our observation on the higher fertility rate in early marriage compared to adult marriage corroborate other studies such as the multicountry studies by Yaya, S., Odusina, E.K. & Bishwajit, G. (2019) and Onagoruwa, A., & Wodon, Q. (2018) [9, 26] and a review by Fan, S., Koski, A. (2022), who observed significant association between early marriage and total fertility rate [51].

The higher occurrence of childbirth in first year of marriage among women in early marriage mean that sexual relationship may be taking place immediately after marriage with expectation of childbirth. Many young girls who married early may not have fully developed physically and emotionally to support childbirth [52]. With no consideration for the physical development and rushing the girls into childbirth may result in medical complication that threaten the health and life of the girl [50,52]. Furthermore, early start of childbirth means that women who married early will experience a long period of reproduction and consequently higher fertility rate with likely consequence of higher morbidity and mortality over the course of their life [10]. However, our finding in this study differs from the observation by Yaya, S., Odusina, E.K. & Bishwajit, G. (2019) that women of adult marriage are more likely to give birth in first year of marriage [9].

The higher prevalence of short birth interval among adult married women as found in the study may be due to social pressure to have more children to offset supposed time loss in delay to get married. This finding is similar to the observation by Ahinkorah, B.O., Aboagye, R.G., Okyere, J. et al. (2023), that older girls are more likely to experience shorter birth intervals than adolescent girls [32]. It also agrees with Yaya, S., Odusina, E.K. & Bishwajit, G. (2019) that women who married early are less likely to give birth less than 24 months between birth [9]. Nonetheless, the finding is inconsistent with the observation that women in early marriage are less likely to use contraceptive which predicts shorter interbirth duration [53]. It may be that these women more consistently breastfeed their babies given their higher facility birth [54] that may give them better engagement with health workers and

information about breastfeeding which reduces the incidence of short birth interval [28,29,31], It may also result from likely delay in resumption of sexual relation with spouse after birth due to likely birth effects that need long period of care. Further study is required to understand factors responsible for longer interbirth duration in early marriage despite low use of contraceptives

Low use of contraceptives by women in early marriage in this study mean that they are prone to too early, too frequent, and too many births that are considered as risk factors in maternal mortality [33]. This finding agrees with the observation reported by M. A. Mowafy, N. M. Kamal Elden (2020) in a study in Egypt [55] and D. J. P. K Hedo, and N. Simarmata (2022) in Indonesia [47] and Audu Alayande et al. (2019) in Nigeria [48]. Besides, higher number Children ever born is related to low contraceptive use among women [21]. However, our result is at variance with the report by Yaya, S., Odusina, E.K. & Bishwajit, G. (2019) [9] that contraceptive use among child bride is higher. This variation may be due to the low agency of child brides who often require spousal permission to visit facilities for services [54, 56] and their low social economic status that limits access to contraceptive information and products [57]. The low use of contraceptives in early marriage may have been responsible for the low contraceptive prevalence rate among married women in Nigeria and may limit the ability of Nigeria to attain the target of Sustainable Development Goal of universal access to family planning by 2030. In our nuanced analysis of the effect of specific age of marriage on the fertility outcome, we observed significant differences in number of children ever born between all the ages at early marriage analysed against the reference adult age of marriage. This implies that marriage at any age below 18 years have risk of higher parity and total fertility. Early marriage remains prevalent in Nigeria and may be contributing to the persistently high total fertility rate in the country. Therefore, interventions to lower total fertility must address all childbirths below the age of 18.

Conclusion

Early marriage predisposes married women to higher fertility and the lower the age of marriage the higher the effect on number of children a woman would have. It is therefore imperative to develop innovative approaches to reach married adolescents with contraceptive services that enable them to delay pregnancy and childbirth. Government empowerment programmes should prioritize married adolescent girls to reduce inequality and increase their agency for informed decision about fertility. And government and relevant non state actors should promote enrolment and retention of girls in schools to reduce early marriage and childbirth.

Ethical Considerations

The study protocol for the 2018 NDHS was approved by the National Health Research Ethics Committee of Nigeria (NRHEC) and the ICF Institutional Review Board. Meanwhile, the researcher used the NDHS data following permission granted by ICF.

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Conflict of Interest

We have no conflicts of interest to disclose.

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