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The Effects of Early Marriage on the Utilization of Maternal Health Services in Nigeria

Muhammad Murtala Ibrahim[1*], Tinuola Femi Rufus[2]
[1]*Department of Public Health, Texila American University, Guyana and Society for Family Health, Kaduna, Nigeria*
[2]*School of Public Health Programs, Texila American University, Guyana*

Abstract

Antenatal and delivery care are essential maternal health services (MHS) for survival and wellbeing. Nigeria has the highest global burden of maternal mortality with low utilization antenatal and delivery services. Though early marriage is a strong predictor of early pregnancy and childbirth, it is not clear if it is associated with low use of MHS. This study assessed early marriage as a determinant of poor MHS utilization in Nigeria. This study used data from the 2018 Nigeria Demographic and Health Survey (NDHS) which is based on descriptive cross-sectional survey design. The data was limited to ever married women aged 15-24 years. Data was analyzed using SPSS version 20. This study indicates lower likelihood of women who marry early to use antenatal care (OR=0.25, 95%CI=0.21-0.31), receive minimum 4 ANC (OR=0.22, 95% CI=0.18-0.26), receive iron supplementation (OR=0.38, 95%CI=0.33-0.45) and IPTp for malaria prevention (OR=0.57, 95%CI=0.50-0.66). Conversely, Early marriage was found to be associated with higher likelihood of facility delivery (OR=4.6, 95%CI=4.02-5.26) and lower likelihood of delivery by unskilled attendant (OR=0.31, 95%CI=0.26-0.31). These associations disappear in the adjusted model. Nevertheless, the nuanced analysis showed association in the adjusted odd ratio for use of antenatal care (AOR=0.44, 95%CI=0.20-0.99) and number of antenatal care visits (AOR=0.37, 95%CI=0.14-0.95) among women who married at less than fourteen years. Early marriage below age 14 years negatively affect utilization of MHS. There is the need to strengthen legislation against early marriage below 14 years and address socioeconomic challenges that exacerbate vulnerability.

Keywords: *Antenatal care, Child marriage, Delivery, Early marriage, Maternal health services, Nigeria.*

Introduction

Nigeria accounts for about 20% of the global burden of maternal mortality with a maternal mortality ratio (MMR) of 512 deaths per 100,000 live birth and 556 pregnancy related deaths per 100,000 live births indicating a huge gap between the current situation and the Sustainable Development Goal (SDG) target of less than 70 deaths per 100,000 live births by 2030 [1, 2]. Women in Nigeria are faced with enormous challenges that predispose them to increasing negative maternal health consequences including poor health infrastructure, limited skilled providers, lack of money for treatment, distance to health facility intertwined with the three factors in the WHO delay model: delay in decision to seek healthcare, delay in reaching health care points and delay in receiving adequate healthcare [1, 2]. Providing healthcare for women during antenatal, intrapartum, and postpartum period addresses the third delay and is critical for the health and wellbeing of mothers and newborn.

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****Corresponding Author: murtala2021@gmail.com***

Awareness of antenatal care among pregnant women is generally high and so is the possibility of at least one visit to health facility for antenatal services in Nigeria [3, 4]. Specifically, most women are aware of the benefits and where they can get maternal health services with majority receiving information about available services from health workers and friends [5]. However, attaining four or more antenatal care visits has only been possible for fewer pregnant women particularly among adolescent women aged 15-19 years who are more likely to have comparatively lower access [3-5]. Nonetheless, uptake of both prenatal and intrapartum care has improved over the years, but progress has been slow and often constrained by many socio-economic factors such poverty, low educational status, geopolitical zone of residence, living in rural area [3, 6, 7].

Utilization of antenatal care, facility delivery and delivery by skilled provider in sub-Saharan Africa are faced by numerous barriers which are categorized as demand side and supply side factors [8]. This categorization and the specific considerations are based on the commonalities that exist among sub-Saharan African countries that are basically determined by generally poor access to resources which underlines the overall health system including utilization of maternal health services [8].

Fagbamigbe and Idemudia [9] identified demand related factors to account for over 66% of the issues responsible for non-utilization of ANC services by pregnant women in Nigeria and found that the most important barriers to utilizing ANC are “Getting money to go”, “Distance from health facility” and “Availability of transport to the facilities. In addition, being poor, uneducated, below 20 years, of ethnic Hausa Fulani, a Muslim and living in rural areas and northern Nigeria equally limits the utilization of maternal health services [2, 9]. Normative values also play a role in the choice of place for delivery especially among women in northern Nigeria who consider home delivery a prestige and hospital delivery a sign of weakness [10].

Early marriage can be considered a demand related factor associated with the use of maternal health services. Early marriage is often linked to poor reproductive health outcome for girls which is further exacerbated by the inadequacies in the health systems of developing nations where adolescent mothers have limited preconception, antenatal, intrapartum and postnatal care [11, 12]. The poor use of these services by younger women less than 20 years despite their greater risk of pregnancy related consequences may be attributable to restricted access to health facility influenced by their young age, low education attainment and poverty [13].

Remarkably, socioeconomic factors such as poverty, low education attainment and rural residence which are associated with the prevalence of Early marriage are similarly implicated in limiting utilization of maternal health services in Nigeria [3, 6, 7, 14]. In Northwest Nigeria where early marriage is most prevalent and women utilize maternal health services the least [2], age of marriage is viewed along with other social economic factors such as low education status, lack of autonomy in decision making, distance from health facility, poverty as the major constraints to utilizing maternal health services [15]. Besides, it may be that early marriage independently constraints the utilization of maternal health services and may account for the disparity in access to MHS between women who married early and those that marry as adult which this study investigates.

The complex mix of high prevalence of early marriage and poor utilization of maternal health services in Nigeria require a deeper understanding of the effect of early marriage to better appreciate the factors that affect maternal health in the country. Available studies in Nigeria on the factors responsible for poor utilization of maternal health services have focused mainly on social vulnerability such as

poverty, lack of education, religion, ethnicity, place of residence; access to facility including distance, means of transportation; or demographic factors like maternal age. These studies have in most cases ignored early marriage as a variable in determining the barriers to utilization of maternal health services. Oluwasola Eniola Banke-Thomas [16] echoed this view in a multi-country review of the factors influencing utilisation of maternal health services by adolescent mothers, where they observed that there was a dearth of published studies on this subject in Low-and middle-income countries such as Nigeria.

However, given the significant relationship between age and marital status with the use of maternal health services in Nigeria it may not be surprising that early marriage similarly plays a significant role. Nonetheless, the current research analysed the effects of early marriage and determined its association with use of antenatal care and skilled birth delivery and determined the effects of age nuances on the use of these services among women who married before 18 years in Nigeria.

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.

Research Design

Study Area

The NDHS collected data from the 36 states plus the Federal Capital Territory (FCT). Nigeria has a projected population of 206,140,000 people [17] occupying a land mass of about 923,768km2 and situated between latitudes 4016' and 13053' to the north of the equator and longitudes 2040' and 14041' to the east of the Greenwich Meridian [18]. Administratively, Nigeria has 36 States pus the Federal Capital Territory and 774 Local Government Areas. The states and the local government areas are distributed within six geopolitical zones – North Central, North-East, Northwest, Southeast, South-South and Southwest – for the purpose of national program planning and implementation [18]. There are significant social and economic disparities across the geopolitical zones with impact on the health and livelihood of the people [19].

Sampling Technique

Study Population

The study sample include ever-married women aged 15-24 years with at least one childbirth who were successfully interviewed during the survey.

Sampling Technique

The sampling frame for the NDHS was based on the 2006 national population census. For the purpose of convenience, the census sub-divided the lowest administrative unit into enumeration areas (EAs) which represent the sampling unit. The NDHS used a two-stage stratified cluster sampling technique for selection of respondents.

Data Collection

The study participants were interviewed using a structured questionnaire adapted from the DHS Program's standard Demographic and Health Survey (DHS-7) questionnaire. The woman's questionnaire was used to collect information from all female respondents aged 15-49 years, but the sample analysed for this study is based on respondents aged 15-24 years.

Data Analysis

Data analysis for this study was based on the quantitative technique and it covered three levels of analysis. First, Univariate analysis was used to describe and summarize the data and present the respondents background information as percentage distribution. Secondly, Bivariate analysis using cross-tabulation and chi square to test association between categorical variables, and thirdly,

multivariate analysis to test the strength of association between the exposure variable and the outcome variables. All data analysis across the three levels; univariate, bivariate and multivariate analysis was performed using Statistical Package for Social Sciences (SPSS) version 20.

Results

We analysed data of married women aged 15-24 years and compared the utilization of maternal health services between those who married early and those that married as adult.

Table 1 shows the socio demographic characteristics of women who married early and those who married as adult. Comparatively, women who married early have poorer social equity indicators than women who married as adults.

The sample size for this study is 6381 with 72.7% married before 18 years old while 27.3% married as adult. Majority of the women who married early compared to those who married as adult have no formal education (63.1% vs 20.6%), among the poorest wealth quintile (34.6% vs 12.9%), not currently working (53.6% vs 41.8%) and with spouses without formal education (51.9% vs 14.8%). More so, early marriage compared to adult marriage is most prevalent in rural areas (80.9% vs 60.5%), Northwest Zone (45.6% vs 19%), among Muslims (81.7% vs 47.3%). Higher proportion of women who married early compared to those who married as adult view distance to health facility and getting permission to go to health facility as big problem (36% vs 25.6%) and (14.9% vs 10.6%) respectively.

Our study found that sociodemographic factors including age, education status, place of residence, Zone of residence, religion, wealth quintile, ethnicity, employment status, and husband educational status are significantly associated with age of marriage at p-value of 0.001. Although the proportion of women who married that received prenatal care is higher than those who married as adult (34.3% vs 11.7%) but the frequency and variety of care received is higher among adult brides. 70.9% of adult brides received 4 or more prenatal care compared to 43.9% among early married women. Equally 60% of adult brides received ANC in the facility while only 24.6% early married brides received care in facility. Similarly, more adult brides compared to early married brides received iron and folic acid (69.4% vs 56.6%) and IPTp (70.6% vs 61.6%) as part of essential health services during prenatal visits. Likewise, women who married before their 18th birthday have higher proportion of home delivery (45.5%) and assistance by unskilled birth attendants (39.3%) as against 15.3% and 16.6% respectively for women who married at 18 years or older.

The multivariate regression analysis showed a significant association between the exposure and the outcome variables in the crude odd ratio, but the association disappeared in the adjusted model as shown in Table 3. Early marriage was associated with low uptake of ANC service including attending ANC clinic (OR=0.25, 95%CI=0.21-0.31), receiving 4 or more ANC (OR=0.22, 95% CI=0.18-0.26), essential services such as iron supplementation (OR=0.38, 95%CI=0.33-0.45) and IPTp for malaria prevention (OR=0.57, 95%CI=0.50-0.66). However, Early marriage was found to be associated with higher likelihood of facility delivery (OR=4.6, 95%CI=4.02-5.26) and lower likelihood of delivery by unskilled assistant (OR=0.31, 95%CI=0.26-0.31). This associations also disappear in the adjusted model. Nevertheless, the nuanced analysis shown in Table 4 shows that beyond the association in the crude odd ratio, it also showed association in the adjusted odd ration for use of antenatal care (AOR=0.44, 95%CI=0.20-0.99) and frequency of antenatal care received (AOR=0.37, 95%CI=0.14-0.95) among women who married at less than fourteen years.

Table 1. Comparison of Socioeconomic Characteristics of Respondents who Married Early with those who Married as Adult

Variable	Early Marriage		Adult Marriage		Total		X^2(df)	*P-value*
	n	Weighted %	n	Weighted %	n	Weighted %		
Current Age								
15-17 years	742	16.0	0	0	742	11.6	548.18(2)	<0.001
18-19 years	981	21.1	143	8.2	1124	17.6		
20-24 years	2917	62.9	1598	91.8	4515	70.8		
Highest Educational Level								
None	2930	63.1	359	20.6	3289	51.5	1241.66(3)	<0.001
Primary	652	14.0	206	11.8	858	13.4		
Secondary	1021	22.0	1035	59.4	2056	32.2		
Higher	37	0.8	141	8.1	178	2.8		
Place of Residence								
Urban	888	19.1	688	39.5	1576	24.7	282.71(1)	<0.001
Rural	3752	80.9	1053	60.5	4805	75.3		
Zone of Residence								
North central	677	14.6	428	24.6	1105	17.3	1035.35(5)	<0.001
North East	1364	29.4	277	15.9	1641	25.7		
North West	2116	45.6	330	19.0	2446	38.3		
South East	134	2.9	213	12.2	347	5.4		
South South	198	4.3	210	12.1	408	6.4		
South West	151	3.3	283	16.3	434	6.8		
Religion								
Christianity	822	17.7	906	52.0	1728	27.1	774.34(3)	<0.001
Islam	3792	81.7	823	47.3	4615	72.3		
Traditional	17	0.4	0	0.0	17	0.3		
Others	9	0.2	12	0.7	21	0.3		
Wealth Index								
Poorest	1604	34.6	225	12.9	1829	28.7	881.93(4)	<0.001
Poorer	1476	31.8	311	17.9	1787	28		
Middle	904	19.5	421	24.2	1325	20.8		
Richer	496	10.7	486	27.9	982	15.4		
Richest	160	3.4	298	17.1	458	7.2		
Ethnicity								
Hausa	2242	48.3	366	21.1	2608	40.9	1064.10(1)	<0.001
Fulani	768	16.6	81	4.7	849	13.3		
Kanuri/Beriberi	149	3.2	46	2.6	195	3.1		
Yoruba	126	2.7	275	15.8	401	6.3		
Igbo	146	3.1	248	14.3	394	6.2		
Others	1208	26.0	721	41.5	1929	30.3		
Currently Working								
No	2486	53.6	728	41.8	3214	50.4	70.07(1)	<0.001
Yes	2154	46.4	1013	58.2	3167	49.6		

Husband/Partner's Educational Level								
None	2270	51.9	246	14.8	2516	41.7	845.73(3)	<0.001
Primary	574	13.1	178	10.7	752	12.5		
Secondary	1219	27.9	874	52.7	2093	34.7		
Tertiary	311	7.1	360	21.7	671	11.1		
Distance to Health Facility								
Big Problem	1672	36.0	445	25.6	2117	33.2	62.65(1)	<0.001
Not a Big Problem	2968	64.0	1296	74.4	4264	66.8		
Getting Permission to go to the Health Facility								
Big Problem	691	14.9	184	10.6	875	13.7	20.00(1)	<0.001
Not a big problem	3949	85.1	1557	89.4	5506	86.3		

Table 2. Chi Square Analysis showing Significant Relationship between Utilization of Maternal Health Services and Age of Marriage at P-value=0.0001

Variable	**Early Marriage (Weighted %)**	**Adult Marriage (Weighted %)**	**X^2(df)**	***P-value***
Attended Prenatal Care				
Yes	2459(65.7)	1129(88.3)	238.79(1)	0.000
No	1286(34.3)	150(11.7)		
Number of ANC Visits				
None	1286(34.6)	150(12.0)	7.52(2)	0
<4	803(21.6)	214(17.1)		
>4	1633(43.9)	886(70.9)		
Place of ANC				
Healthcare facility	920(24.6)	767(60.0)	535.76(1)	0
Home	2825(75.4)	512(40.0)		
Assistance during Child Delivery				
Unskilled	1322(39.3)	208(16.6)	212.82(1)	0
Skilled	2039(60.7)	1045(83.4)		
Place of Delivery				
Hospital	920(54.5)	2825(84.7)	535.76(1)	0
Home	767(45.5)	512(15.3)		
Received IPTp for Malaria during Pregnancy				
No	1620(43.5)	386(30.6)	159.21(1)	0
Yes	2107(56.6)	877(69.4)		
Took Iron during Pregnancy				
No	1435(38.4)	245(29.4)	159.21(1)	0
Yes	2305(61.6)	102(70.6)		

Table 3. Multivariate Regression Analysis showing Association between Age of Marriage and Utilization of Maternal Health Services

Variable	**O.R**	***P-Value***	**A.O.R.**	***P-Value***
Attended Prenatal Care	0.25 (0.21-0.31)	0	1.003 (0.89-1.19)	0.719
18+ Years	Ref		Ref	
Number of ANC Visits				
4+ Antenatal Visit	0.22(0.18-0.26)	0	0.69(0.39-1.22)	0.198
18+ Years	Ref		Ref	
Assistance during Delivery (Unskilled)	0.31(0.26-0.36)	0	1.11(0.95-1.29)	0.205
18+ Years	Ref		Ref	
Place of Delivery (Hospital)	4.60 (4.02-5.26)	0	0.92(0.78-1.09)	0.318
18+ Years	Ref		Ref	
Took SP/Fansidar During Pregnancy (Yes)	0.57(0.50-0.66)	0	0.96(0.84-1.10)	0.578
18+ Years	Ref		Ref	
Took Iron during Pregnancy (Yes)	0.38 (0.33-0.45)	0	1.01(0.88-1.16)	0.913
18+ Years	Ref		Ref	

Table 4. Nuanced Analysis using Multivariate Regression Analysis Comparing Utilization of Maternal Health Services among Women who Married at Different Ages before 18 Years

Variable	**O. R**	***P-Value***	**A.O.R.**	***P-Value***
Attended Prenatal Care (Yes)				
<14 Years	0.17(0.13-0.21)	0	0.44(0.20-0.99)	0.046
14-15 Years	0.23(0.19-0.27)	0	0.86(0.42-1.77)	0.684
16-17 Years	0.38(0.31-0.46)	0	0.96(0.46-2.00)	0.914
18+ Years	Ref	Ref	Ref	Ref
Number of Antenatal Care Visits				
<4 Antenatal Visit				
<14 Years	0.29(0.21-0.39)	0	0.37(0.14-0.95)	0.04
14-15 Years	0.41(0.32-0.53)	0	0.64(0.28-1.46)	0.289
16-17 Years	0.60(0.47-0.78)	0	0.79(0.34-1.82)	0.572
18+ Years	Ref	-	Ref	-
4+ Antenatal Visit				
<14 Years	0.14(0.11-0.18)	0	0.51(0.21-1.24)	0.137
14-15 Years	0.19(0.15-0.23)	0	1.10(0.50-2.41)	0.821
16-17 Years	0.33(0.26-0.40)	0	1.15(0.52-2.56)	0.725
18+ Years	Ref	-	Ref	-
Assistance during Delivery (Unskilled)				
<14 Years	0.32(0.26-0.40)	0	1.11(0.48-2.60)	0.808
14-15 Years	0.27(0.22-0.32)	0	0.531(0.26-1.09)	0.085
16-17 Years	0.35(0.29-0.43)	0	0.72(0.35-1.49)	0.376
18+ Years	Ref	-	Ref	-
Place of Delivery (Hospital)				
<14 Years	6.19(4.95-7.75)	0	1.01(0.45-2.27)	0.99
14-15 Years	5.87(4.99-6.91)	0	1.34(0.68-2.64)	0.4

16-17 Years	3.15(2.69-3.69)	0	0.96(0.49-1.86)	0.9
18+ Years	Ref	Ref	Ref	Ref
Took SP/Fansidar During Pregnancy (Yes)				
<14 Years	0.43(0.35-0.52)	0	0.57(0.28-1.14)	0.11
14-15 Years	0.52(0.45-0.61)	0	0.82(0.45-1.49)	0.511
16-17 Years	0.75(0.63-0.88)	0	0.89(0.49-1.64)	0.717
18+ Years	Ref	-	Ref	-
Took Iron during Pregnancy (Yes)				
<14 Years	0.27(0.22-0.33)	0	0.73(0.35-1.53)	0.403
14-15 Years	0.35(0.30-0.42)	0	11.29(0.68-2.46)	0.437
16-17 Years	0.51(0.42-0.61)	0	1.33(0.69-2.56)	0.39
18+ Years	Ref	-	Ref	-

Discussion

This study sought to determine the association between early marriage and the utilization of maternal health services among women in Nigeria. Our results indicate that women who married early are less likely to receive quality antenatal care but have higher likelihood of skilled birth compared to women who married as adult.

The univariate and bivariate comparison of early and adult marriages in their utilization of prenatal care showed significantly less proportion of women who married early to ever received prenatal care and attended minimum of 4 antenatal clinic, use of iron supplementation and received malaria preventive therapy. The regression analysis showed less likelihood of women who married early to receive antenatal care, four or more prenatal visits, iron supplementation and malaria preventive therapy during pregnancy but the adjusted odd ratio showed no significant association in both the frequency and quality of prenatal care received. The findings on poor prenatal care among early marriage generally agree with previous studies [7, 20]. However, whereas many of the studies found significant association in the adjusted model between early marriage and low utilization of antenatal care, this study observed no difference. Although socioeconomic factors have greater negative impact on early marriage as this study shows but the challenge of poor health infrastructure, poor education attainment, poverty which are major constraints to use of prenatal care generally affect most women in Nigeria irrespective of their age of marriage [9, 11, 12] which may have limited the disparity between the two groups.

Conversely, univariate, and bivariate analysis showed that girls who married early compared to those who married as adult had higher proportion of those who delivered in health facility and delivered by skilled birth attendant. The crude regression analysis indicates that early marriage had higher odds of delivering in health facility and receiving assistance from skilled birth attendants, but no significant association was observed in the adjusted model. This finding is a departure from many previous studies that reported lower facility delivery and higher delivery by unskilled attendants for early marriage [16, 21, 22]. Many factors that previous studies found to predict hospital delivery and assisted delivery by skilled providers such as education status [5, 23, 24]; women requiring spousal permission [25], employment status and lower parity [26] substantially favour women who marry as adult. Nevertheless, it may be possible that women who married early took advantage of government policy on free maternal and child health care available in many states of Nigeria which helped them to increase use of maternal and child health services [27]. Similarly, the policy on one model primary healthcare per ward is reducing the distance and cost of

transportation to facility thereby increasing access and use of delivery services in rural areas where early marriage is most prevalent [28]. These policies would have eliminated or at least reduced the challenge of fewer facilities, distance and cost that often limit utilization of maternal health services among married women [3, 29, 30]. Moreso, there has been heightened awareness and fear of fistular among married adolescents and their parents thereby making them prioritize hospital delivery to reduce their exposure. Perhaps women who marry as adult are more influenced by societal norm regarding home delivery and perception that facility delivery was not necessary and a sign of weakness [10, 29]. This is more so that factors such as employment and parity previously observed to predict use of MHS do not necessarily confer any more advantage to women who married as adult in Nigeria [31].

Furthermore, the study observed the influence of age nuance on use of maternal health services with younger age of marriage having higher odd of lower use of prenatal and delivery services. Both the crude and adjusted model showed that girls who married before age 14 years are least likely to ever receive prenatal care. No difference in utilization of maternal health services was observed between women who married before age 18 years and those who married after. The finding to some degree is consistent with the observation made by Pintu Paul and Pradip Chouhan (2019) that, women who married at age 14 and below has the least likelihood of using MHS in India [32]. The absence of association between marriage at age 16 plus and utilization of MHS observed in this study is similar to the findings of the multi-country study in West Africa by Chuhui Li et. al. (2020) which revealed no significant difference between the age 16 and older age of marriage in the utilization of maternal health services [33].

Consequently, priority should be paid to eliminating marriages below 14 years which has greater consequences on the utilization of maternal health services. Many states in Northern Nigeria with the most prevalence of early marriage resisted the domestication of the Child Right Act mainly due to the age of marriage [34, 35]. Some have gone ahead to insert 16 years or lower age or no age at all as minimum legal age of marriage to possibly align with their cultural and religious beliefs [36, 37]. What is obvious from the position of these states is that a law prohibiting marriage below 16 is enforceable and therefore can benefit utilization of maternal health services among married women. A phased approach to implementation of the law may serve the health need of married adolescents rather than insistence on 18 years as the minimum age of marriage which could further delay the domestication of the CRA in the remaining states, prolong delay in implementation in the states that have already domesticated it and thereby precipitating continuity in marriage of all ages and poor use of maternal health services as currently being experienced. Furthermore, the absence of any significant difference between marriage at 15 plus and adult marriage in the utilization of maternal health services implies that just focusing on early marriage to address the gap in uptake of MHS in Nigeria may not achieve the desired result. This can be appreciated from the fact that despite the reduction in the prevalence of early marriage from 55.1% in 2003 to 43% in 2018, utilization of antenatal care and facility delivery have only increased slightly by 9% and 6% point respectively during the same period [2, 38]. Consequently, eliminating early marriage without improving the socioeconomic constraints and the supply side factors may not necessarily substantially increase use of maternal health services among married women. Therefore, emphasis should focus on the broader contextual factors limiting use of maternal health services such as poverty, illiteracy, poor health infrastructure, cost which

affect all women and exacerbate the vulnerability of women who marry early.

The study focused on utilization of prenatal and delivery services but did not analyse the circumstance under which it was sought. It may be that women who married early delivered in facility and received skilled assistant due to complication arising from pregnancy and labour because of early marriage. Further study is necessary in this area to guide appropriate intervention. It is also pertinent to study how social norms influence early and adult marriages differently with respect to the use of maternal health services.

Conclusion

Early marriage below fourteen years indicates a significant difference between early and adult marriage in the utilization of maternal health services and independently limit utilization of prenatal care among married women in Nigeria. However, since the utilization of MHS increases with increase in age of marriage it may be necessary to delay marriage to increase the chance of more usage and the health benefits that come with it.

1. Utilization of maternal health services can benefit from enforceable legislation on age of marriage and childbirth. Therefore, restricting marriage below fifteen years and codifying it as advocated by some states in line with their culture and religion can be the starting point and an opportunity to enhance utilization of MHS.
2. Government should facilitate effective implementation of the universal basic education policy in Nigeria to allow more girls to complete basic education with greater prospect of delayed marriage until the appropriate age.
3. Girls require economic and social empowerment to increase their agency and enhance their chances of visiting facilities for maternal health services.
4. The government should strengthen the policies on free maternal services and model PHC per ward to make services more accessible and affordable to adolescent girls especially those who married early.

Ethical Considerations

This is a study involving human subject and requires ethical approval. 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. The researchers obtained permission from ICF to use the NDHS data for this study.

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Conflict of Interest

We have no conflicts of interest to disclose.

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