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Terminated Pregnancy and Maternal Mortality in North Central, Nigeria: Evidence from Demographic Health Survey 2018

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ABSTRACT

Issues of unwanted and unintended pregnancy compound high rate of terminated pregnancy and maternal mortality in Nigeria over the past years. This paper observes determining factors of terminated pregnancies and maternal mortality in North central, Nigeria using evidence from the Nigeria Demographic and Health Survey (NDHS 2018). The study uses count and percentage to ascertain the descriptive statistics and the binary logistic regression on the relationship between the socio-economic variables and ever had terminated pregnancy. Results revealed that 13% had a history of a terminated pregnancy and the odd of ever had a terminated pregnancy is higher with those in the rural areas, those within the ages of 35-39, and 40-44ages have the highest likelihood of terminated pregnancy. Also, those presently using any method of contraceptive has a 26% chance of ever had terminated the pregnancy. Women with higher education also have high odds ratio with ever had a history of a terminated pregnancy. The study concludes that unintended pregnancy must be controlled through community-based sensitization programs in rural areas to inform and educate women on reproductive health issues.

Keywords: *terminated pregnancy, maternal mortality, contraceptives, fertility rate.*

INTRODUCTION

The fertility rate remains high in Africa with a high level of unwanted and terminated pregnancies which has compounded high maternal mortality in the region. Unintended pregnancy can be defined as an unwanted pregnancy or poorly timed pregnancy [1]. Mothers' death associated with complications in pregnancy or during childbirth represents major public health issues challenging sub-Saharan Africa countries [2]. African women have a high rate of unintended pregnancy because African country's use of contraceptives is too low and modest to overcome the desire and preference for high fertility [3]. Africa has lower contraceptive use and a high fertility rate than other developing countries [4]. [5] affirms that many of the countries with high levels of unmet need for family planning are in sub-Saharan Africa and this often leads to the presence of unwanted pregnancies that are prone to termination at an early stage or later stage through legal or illegal abortion.

The end of a pregnancy before live birth could be attributed to miscarriage, induced abortion, or stillbirth which affects the reproductive system of the mother. Legal services on termination of pregnancy remain restricted in most African countries [2] and in Nigeria; abortion is only legally permitted to save the life of a woman. Issues of terminated pregnancy remain high in Nigeria [6], and with the widespread of induced abortions by abortion pills (Mifepristone and misoprostol) throughout the world, the usage of these pills have been reported to be widely used and found effective among Nigerian women [7]. Having terminated pregnancy or induced abortion is mostly determined by the economic status of the women with those from poor households seeking help and services from untrained health personnel with unsafe procedure, methods, and services which often leads to complications of the women reproductive system which may lead to death [8,9,]. A high proportion of poor women fail in their attempt to end an unwanted pregnancy and experience serious health complications. Complications arise after an unsafe abortion with women having severe bleeding and haemorrhage, abdominal pain, cramping and retained pregnancy tissue,

infection, and reactions to the drugs used to induce or stimulate abortion [10].

Notable research work on female reproductive health in Africa revealed that social, economic, and environmental factors contribute to the termination of pregnancy among married women. Predictors of terminated pregnancy were found at individual and community level factors among women between ages 15-24 in Nigeria [11]. Variations were found across the northern and southern regions of Nigeria [12]. [13] paper on the socio-economic determinants of abortion among women in Mozambique and Ghana with data from demographic and health survey found that the odds of pregnancy termination were high among women within older ages, those with primary education, Christians, and the employed women. [14] observe that Mozambique women with terminated pregnancy attribute it to limited availability of adequate health facilities, illegal abortion services, pressure on women, and poor patient-centeredness of health services.

Previous studies have also shown that low use of contraceptives in Nigeria compounds its high fertility rate and the presence of unwanted pregnancy which are closely associated with unplanned birth and high maternal death. Unplanned births can affect the mother's psychological well-being negatively [15] and in unmarried young women, it may lead to dropping out of school, rejection from family, and sometimes being forced to marry immediately to hide the shame. Influence of age, wealth status, fertility rate, and preference were found on mistimed pregnancies in Malawi [16].

Despite the wide clamour by international donor agencies on the promotion of family planning across the world, Nigeria use of contraceptive remains low with it relatively low prevalence rates of 12% and 20% unmet need for contraceptive in urban areas and 18% in rural areas as reported in NDHS 2018[17]. [18] attribute the resistance to the use of contraception in Nigeria to cultural and religious beliefs that support and encourage high fertility and the erroneously perceived belief of most Nigerian women on complicated long-term side effects of contraceptives. Among adolescents, non-usage of contraceptives results in unwanted pregnancies which they seek to abort through unqualified physicians which often have adverse effects.This paper considers issues of terminated pregnancies in the North central region of Nigeria which comprises the Federal Capital Territory (FCT) and six other states namely; Plateau, Niger, Nasarawa, Kwara, Benue, and Kogi. It observes the behaviours of women relative to sexual and childbearing in Nigeria and also examines the association existing between high fertility rate, and terminated pregnancies among women in Nigeria. The remainder of this paper is structured as follows, section two discusses the materials and method of study, section three describes the research result. Section four presents the discussion of findings while section five concludes the study.

MATERIALS AND METHOD

Materials

This paper considers findings from The 2018 Nigeria Demographic and Health Survey (NDHS) which provides data for monitoring the health situation of the population in Nigeria. The 2018 NDHS is the 6th Demographic and Health Survey conducted in the country [17]. The sample design for the 2018 NDHS provides estimates at the national level, for urban and rural areas, for 6 zones, and 36 states, the Federal Capital Territory (FCT), and also considered estimates at the six geopolitical zones with a focus on women within reproductive ages 15-49. From the Birth's Recode Data with 127,545 women as respondents, this paper limits responses to only 21,656 women from the North central region of Nigeria which comprises; Plateau, Niger, Nasarawa, Kwara, Benue, Kogi, and the Federal Capital Territory, Abuja. Restricting this study to this region is to ascertain the factors that promote terminated pregnancy in the region which comprises the Federal Capital Territory and has the lowest fertility rate across the Northern region.

Variables

Dependent variable: the dependent variable has terminated the pregnancy. The research question on whether "respondents ever had terminated pregnancy" is considered using the code "1" for Yes and "0" for No to identify women with a history of terminated pregnancies.

Independent Variables: the predicting variables are socio-demographic factors which influence women's health, living standard and ways of life. These include Age measure as those within ages(15-19,20-24,25-29,30-34,35-39,40-44,45-49), residence (Rural, Urban), educational attainment (no education, primary, secondary,

higher), literacy (Can read, Cannot read), Religion (Other church, Catholics, Islam, Traditionalist), wealth index(richest, richer, poorer, poorest), a total child born (0-4 children, more than four children), age at first birth (age lesser than 18, age above 18), and use of contraceptives (use any method, not using any method).

Econometric Methods

This study uses descriptive statistics using categorical counts and percentages on 21,656 women from the North central region with 2757 women with history of terminated pregnancy in the region. The Logistic regression generates the association existing with the explanatory variables and the dependent variable. The general model of the logistic regression equation used in the analysis is of the form:$\ln\left(\frac{P}{1-P}\right) = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 \ldots B_kX_k$

WhereX_1, X_2, X_3, X_4…,X_k are set of independent explanatory variables

B_0 is a constant and $B_1 - B_k$represent regression coefficients.

Result and Discussion of Findings

Descriptive Statistics

From the responses on the North central region of Nigeria, descriptive statistics as presented in table 1 revealed that out of the 21,656 women on birth history in the region; 2759(about 13%) had a history of ever terminated a pregnancy which is the dependent variable of interest. 69.74% reside in rural areas; an indication that the region is mostly dominated by rural communities. 42.75% had no form of education, only 25% had primary school education, 24% had secondary school education and only about 8% had higher education which is the highest form of education; this revealed the low educational attainment of women in the region. In terms of literacy measured by the ability to read; only 35.88% can read. 49% practices Islam while up to 50% are Christians represented by catholic and other churches. The wealth index classification revealed that 25% of women are classified as in the middle class, 24% are poorer, 13% poorest while only 13% are in the richest class. On reproductive issues, 76% had four or more children; an indication of high fertility rate in the region. 41% had their first child before age 18 while only 18% uses any method of contraceptive and up to 82% does not use any method of contraceptive; thus confirming the low use of contraceptives in Nigeria.

Table1. *Descriptive statistics of variables*

	operationalization of variables		
	Total women population	21656	
terminated pregnancy	women ever had terminated pregnancy	2759	12.74%
	women never had terminated pregnancy	18897	87.26%
Age	15-19	226	1.04%
	20-24	1438	6.64%
	25-29	3553	16.41%
	30-34	3862	17.83%
	35-39	4650	21.47%
	40-44	3793	17.51%
	45-49	4134	19.09%
Residence	urban	6554	30.26%
	rural	15102	69.74%
Educational Attainment	women with no education	9257	42.75%
	women with primary education	5480	25.30%
	women with secondary education	5228	24.14%
	women with higher education	1691	7.81%
Literacy	Women can read	7771	35.88%
	Women cannot read	13885	64.12%
Religion	other church	7789	35.97%
	Catholic	2939	13.57%
	Islam	10773	49.75%
	Traditionalist	152	0.70%
Wealth index	Richest	2914	13.46%
	Richer	4452	20.56%

	Middle Poorer	5590 5260	25.81% 24.89%
	Poorest	3440	15.89%
No of children born	women having children 0-3 women having children 4 and more	5175 16481	23.90% 76.10%
Age at 1st childbirth	women having 1st child at age < 18	8947	41.31%
	women having 1st child at age =/>18	12709	58.69%
Use of contraceptives	using any method	4095	18.91%
	not using any method	17561	81.09%

Source: *Authors computation based on data from NDHS, 2018*

The descriptive analysis of the socio-demographic characteristics of2759 women with history of terminated pregnancy in the North central region of Nigeria is reported in Table 2 where women within ages 35-39 and 45–49 years were the highest group with history of terminated pregnancy.66% lives in rural area and about 34% reside in urban centres; this result indicates that living in rural communities has association with terminated pregnancy. Out of the 2759 women, 34% had no form of education, 28% with primary education. 24% with secondary education and only about 8% have higher education. Up to 58% cannot read; this can be associated with the 34% and 28% with no form of education and with only primary education. 52% practices Islam and 75%gave birth to more than four children and 76% are not using any method of contraceptives.

Table2. *Descriptive analysis of women with history of terminated pregnancy*

	Total women population	2759	
Age	15-19 20-24 25-29 30-34 35-39 40-44 45-49	17 137 356 538 696 566 449	0.61% 2.26% 12.9% 19.5% 25.2% 20.5% 16.3%
Residence	urban	928	33.6%
	rural	1831	66.4%
Educational Attainment	women with no education	939	34.0%
	women with primary education	778	28.2%
	women with secondary education	753	27.3%
	women with higher education	289	10.5%
Literacy	Women can read Women cannot read	1161 1598	42.1% 57.9%
Religion	other church	976	35.4%
	catholic Islam	342 1429	12.4% 51.8%
	Traditionalist	12	0.4%
Wealth	Richest Richer Middle Poorer Poorest	570 559 589 649 392	20.6% 20.2% 21.3% 23.5% 14.2%
No of children born	0-4 children 4 + children	697 2062	25.3% 74.7%
Age of mother at first child	1st child at age 15-18 1st child at age 18+	1077 1682	39% 61%
Contraceptive use	Using any method	663	24%
	Not using any method	2096	76%

Source: *Authors computation*

Regression Analysis: Binary Logistic Regression Result

Table 3 presents the result of the association existing between the explanatory variables and the dependent variable classified as ever had

terminated pregnancy. The result indicates that in the North central Nigeria, older women and those using contraceptives have higher odd of ever had terminated a pregnancy in the past.

Table3.*Statistical Analysis and Discussion*

Logistic regression Number of observation = 21656

Terminated pregnancy	Odds Ratio	Std.Err.		P>z	[95%Con.	Interv.]
Age 15-19	0.438	0.117		0.002	0.260	0.739
Age20-24	0.607	0.071		0.000	0.482	0.764
Age24-29	0.717	0.060		0.000	0.609	0.844
Age30-34	1.128	0.080		0.090	0.981	1.296
Age35-39	1.314	0.087		0.000	1.154	1.495
Age40-44	1.378	0.094		0.000	1.205	1.576
Age45-49	1 (omitted)					
Rural	1.15	0.071		0.000	0.482	0.764
Urban	1 (ref)					
No education	0.69	0.07		0.00	0.56	0.85
Primary	1.07	0.10		0.46	0.89	1.29
Secondary	1.13	0.09		0.15	0.96	1.32
Higher	1 (ref)					
Literacy(can read)	0.98	0.06		0.71	0.86	1.10
Literacy (Cannot read)	1 (ref)					
Other church	1.25	0.38		0.46	0.69	2.28
Catholic	1.26	0.39		0.46	0.69	2.30
Islam	1.71	0.52		0.08	0.94	3.10
Richest	1.411	0.124		0.000	1.188	1.677
Richer	0.893	0.070		0.145	0.766	1.040
Middle	0.798	0.057		0.002	0.694	0.918
Poorer	1.017	0.071		0.803	0.888	1.166
Poorest	1 (ref)					
4+ total child born	0.70	0.04		0.00	0.62	0.79
0-3 total child born	1 (ref)					
Less than age18 at 1stbirth	1.03	0.07		0.72	0.89	1.18
More than age18 at 1stbirth	1 (ref)					
Use Contraceptive	1.26	0.07		0.00	1.14	1.40
No Contraceptive	1 (ref)					
_cons	0.11	0.039		0.000	0.062	0.226

Prob> chi2 = 0.0000 Pseudo R2 = 0.0224

Source: *Authors computation*

DISCUSSION OF FINDINGS

From the result presented in Table 3; we found that the age of women is closely related to ever having terminated pregnancy. Those in ages 15-29 have a lower odd of having terminated pregnancy than those within ages 45-49(reference age).Women between ages 30-34 have up to a 12% chance of having history of a terminated pregnancy than those within the age of 45-49(reference age) and those within ages 35-39 have more than a 30% chance higher than the reference age. This result indicates that as women ages within the reproductive years, they tend to possess other characteristics that may induce their tendency to terminate their pregnancy.

In terms of location; living in a rural area have a 1.15 odd ratio which means that women living in a rural area are 15% more likely to have terminated a pregnancy in the past than those in the urban area(reference). In terms of educational attainment; women with no form of education exhibit a statistically significant relationship with having terminated pregnancy with an odds ratio of 0.69 which indicates that they are 31% less likely to have terminated a pregnancy as compared to those with higher education (base group). On ability to read, we found that on literacy; women that can have 2% less likelihood of having terminated pregnancy than those that cannot read. This result is not statistically significant at 5% level with it passing through 0 lower boundary to 1 at the upper boundary of the 95% level of confidence

interval; thus signifying that the result is not valid.

No forms of religion exhibit a statistically significant relationship with having terminated pregnancy except Islam with the highest Odd ratio of 1.7 at a 10% level of significance. The wealth index level of women measured by their richness using the poorest group as the base revealed that only result of the richest and the middle-class group of wealth index is statistically significant at 5%; the richest group have high odd of 1.4 while those in the middle class have a lower odd ratio of 0.79; an indication that the women within the richest household have a higher chance of terminating pregnancy than the middle-class women in North central region of Nigeria. This result corresponds with the descriptive statistics presented in Table 2 which indicates that the richest class women had a significant association with having a history of terminated pregnancy and although in the descriptive statistics, the poorer group have the highest number with terminated pregnancy, the result of the logistics regression does not support this association statistically.

For women whose number of childbirth is more than 4, the result revealed that they are less likely to have terminated pregnancy than those with less childbirth who are still within the reproductive ages; this result can be attributed to the myths and perception of married women not to terminate any pregnancy or abort any to avoid complications at the later end of years. Birth entry age has no statistically significant relationship with having terminated pregnancy, although having first childbirth at age less than 18years has a slight positive odd ratio on terminated pregnancy yet this result is not significant. For those using any method of contraceptive at present, results indicated that they had 26% of having had a history of terminated pregnancy which might have led them to the use of contraceptives to avoid unwanted pregnancies.

CONCLUSION AND RECOMMENDATION

The prevalence of unintended pregnancy in Nigeria is high [19]. Unintended pregnancies often result in induced abortion which is unsafe in countries with highly restrictive abortion laws as it can damage the health of the woman and results in maternal mortality [20, 21]. The previous report indicates that abortion accounts for 20%-40% of maternal deaths in Nigeria [22, 23].

As with many African countries where abortion is highly restricted, access to safe medical services in Nigeria is often determined by individual capabilities and wealth status. Findings from this study found that educated Nigerian women with higher education are better able to access safe termination of pregnancy than their uneducated and poor counterparts; as seen in previous study on Nigeria [24]. Termination of pregnancy by highly educated pregnancy can be due to the quest to pursue education, search for highly paid job which pregnancy might interrupt. A high proportion of poor women fail in their attempt to end an unwanted pregnancy and experience serious health complications.

Findings from this study revealed factors that may encourage terminated pregnancies and raises the likelihood of maternal mortality in women. Responses based on NDHS 2018 data indicate that most women do not use contraceptives; from this study, about 18% uses any method based on the birth recode data. Low utilization of modern contraceptive methods can be associated with unintended pregnancy and this could be a prominent factor contributing to the level of terminated pregnancies and induced abortion with complications from such being a prominent factor of maternal mortality in Nigeria.

There is a need for awareness creation at all levels of government, regions, media houses, religious centres, hospitals, billboards, etc to sensitize married couples on the need for improved women health care practices. Higher emphasis must be placed on rural areas with high rate of unwanted and terminated pregnancies. Early and unintended pregnancy must be discouraged towards strengthening women empowerment through social mobilization, parenting workshop and training of young girls and teenagers in schools. To improve maternal health, unintended pregnancies which raise issues of termination of pregnancies must be avoided by women through adequate and appropriate family planning measures. The use of community –based sensitization schemes must be adopted to raise awareness on the magnitude of the challenge of unwanted pregnancy and terminated pregnancy. Couples are to be educated on the benefits of using family planning, childbirth spacing and

also eradicate the erroneous myths and perceptions of women on contraceptives uses.

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REFERENCE

[1] Sedgh G, Singh S and Hussain R. Intended and unintended pregnancies worldwide in 2012 and recent trends. Studies in Family Planning. 2014;45(3):301-14.

[2] Guttmacher Institute. Abortion in Africa 2018. Available at https://www.guttma cher.org/ sites/ default/ files/factsheet/ibaww-africa.pdf.

[3] Lesthaeghe R. The fertility transition in sub-Saharan Africa into the 21st century.University of Michigan. PSC Research Reports. 2014 no.14–823, July.

[4] Bongaarts J. Africa's unique fertility transition. Population and Development Review 43S1 Supplement: Fertility Transition in Sub-Saharan Africa. 2017:39–58.https://doi.org/10.1111/j.1728-4457.2016.00164.x

[5] United Nations, Department of Economic and Social Affairs, Population Division. WorldFamily Planning 2017 - Highlights (ST/ESA/SER.A/414).

[6] Bankole A, Adewole I, Hussain R, Awolude O, Singh S, Akinyemi J. The incidence of abortion in Nigeria. International Perspectives on Sexual and Reproductive Health.2015;41(4):170–181,doi:10.1363/4117 015.

[7] Okonofua FE, Shittu OA, Diop A, Shochet T, Winikoff B. Acceptability and feasibility of medical abortion with mifepristone and misoprostol in Nigeria. International Journal of Gynaecology and Obstetrics. 2014; 125: 49-52.

[8] Ganatra B, Gerdts C, Rossier C, Johnson BR, Tuncalp O, Assifi A, Sedgh G, Singh S, Bankole A, Popinchalk A, Bearak J, Kang Z, Alkema L. Global, regional, and sub-regional classification of abortions by safety: Estimates from a Bayesian hierarchical model. Lancet. 2017; 390 (10110):2372–2381.

[9] Kulczycki A. The imperative to expand provision, access and use of misoprostol for post-abortion care in sub-Saharan Africa. 2010-2014. Africa Journal of Reproductive Health 2016;20(3):25

[10] Hussain R et al., Reducing unintended pregnancy in Nigeria, Research in Brief, New York: AGI, 2005.

[11] Onukwugha, F.I., Magadi, M.A., Sarki, A.M. et al. Trends in and predictors of pregnancy termination among 15-24 year-old women in Nigeria: a multi-level analysis of demographic and health surveys 2003-2018. BMC Pregnancy Childbirth 20,550(2020). https://doi.org/10.1186/s12884-02003164-8

[12] Meh, C., Thind, A., Ryan, B., and Terry, A. Levels and determinants of maternal mortality in northern and southern Nigeria. BMC Pregnancy Childbirth 2019;19, 417. https://doi.org/10.1186/s12884-019-2471-8

[13] Dickson, K.S., Adde, K.S. &Ahinkorah, B.O. Socio – economic determinants of abortion among women in Mozambique and Ghana: evidence from demographic and health survey. Arch Public Health 2018. 76,37. https://doi.org/10.1186/s13690-018-0286-0

[14] Frederico, M. Michielsen, k., Arnaldo, C. and Decat, P. Factors Influencing Abortion Decision-Making Processes among Young Women. Int. J Environ Res Public Health.2018; 15(2): 329.

[15] Hardee, Karen, Elizabeth Eggleston, Emelita L. Wong, Irwanto, Terrence H. Hull. Unintended pregnancy and women's psychological well-being in Indonesia. Journal of Biosocial Science2004; 36(5): 617–626.

[16] Palamuleni, Martin E.1, Adebowale, Ayo, S. Prevalence and Determinants of Unintended Pregnancies in Malawi. African Population Studies. 2014; 28 (1)

[17] National Population Commission (NPC) [Nigeria] and ICF. Nigeria Demographic Health Survey Key Findings.2018. Abuja, Nigeria and Rockville, Maryland, USA: NPC and ICF.

[18] Okonofua F. Is abortion incidence rising in Nigeria? African Journal of Reproductive Health 2015; 19(4): 9

[19] Lamina. MA. Prevalence and determinants of unintended pregnancy among women in south-western, Nigeria. Ghana Medical Journal. 2015; 49(3): 187-194.

[20] Grimes, David A., Janie Benson, Susheela Singh, et al. Unsafe abortion: The preventable pandemic. Lancet 2006; 368(9,550): 1,908–1,919.

[21] Gipson, Jessica D., Michael A. Koenig, and Michelle J. Hindin. The effects of unintended pregnancy on infant, child, and parental health: A review of the literature. 2008; *Studies in Family Planning* 39(1): 18–38.

[22] Oye-Adeniran BA, Adewole IF, Umoh AV, et al. Community-based survey of unwanted pregnancy in southwestern Nigeria. Afr J Reprod Health. 2004; 8(3):103-115. 3.

[23] Oriji VK, Jeremiah I, Kasso T. Induced abortion amongst undergraduate students of University of Port Harcourt. Nig J Med. 2009;18(2): 199-202.

[24] Oye-Adeniran BA, Adewole IF, Odeyemi KA, Ekanem EE, Umoh AV. Contraceptive prevalence among young women in Nigeria. J.Obstet Gynaecol. 2005;25: 182-185.

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