Full Length Research Paper

Correlates of use of modern family planning methods among women in Nigeria: A secondary analysis of NDHS 2013

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Modern family planning methods have been shown to be a potent tool in lowering maternal mortality resulting from unwanted pregnancies and subsequent abortion, from which several women die each year. This study sought to determine various factors that influenced modern family planning use in Nigeria. The study used data obtained from Nigeria Demographic and Health Survey (NDHS) 2013. Factors considered were drawn from the dataset. Analysis was carried out using Stata version 12.1. Multivariate logistic regression analysis was used to determine relationship between various factors and use of modern family planning methods. Level of significance was set at 0.05. The total number of participants in the study was 31,482. The mean age of respondents was 29.5 ± 7.0 years. Only 9.7% of the participants were currently using modern family planning methods. The highest proportion of use was 23.47% in South-western Nigeria, while the lowest was 2.38% in North-west. Identified predictors of modern family planning use were: having at least secondary education (OR=2.9, 95% CI: 2.7-3.2), being from the South (OR=2.1, 95% CI: 1.9-2.3), being 25 years old or more (OR=1.5, 95% CI: 1.3-1.6) and being of urban residence (OR=1.6, 95% CI: 1.5-1.8). All factors were statistically significant (P<0.001). The highest predictor of modern family planning uptake was education. Measures should be taken to increase female literacy especially in the Northern part of Nigeria, as this will most likely lead to improved uptake of modern family planning among the respondents.

Keywords: Correlates, Modern family planning, Nigeria.

INTRODUCTION

According to the World Health Organisation (WHO), family planning allows people to attain their desired number of children and determine the spacing of pregnancies; It is achieved through use of contraceptive methods and the treatment of infertility (World Health Organisation). According to WHO the advantages of family planning include (but not limited to): preventing pregnancy-related health risks in women, reducing infant

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mortality, helping to prevent HIV/AIDS, empowering people and enhancing education, reducing adolescent pregnancies, slowing population growth, etc (World Health Organisation).

The Demographic and Health survey classified methods of family planning into modern methods, traditional methods and folkloric methods (Demographic and Health Surveys, 2006). Modern methods include: female sterilization (tubal ligation, laparectomy, voluntary surgical contraception for women), male sterilization (vasectomy, voluntary surgical contraception for men), the contraceptive pill (oral contraceptives), intra-uterine contraceptive device (IUD), injectables (Depo-Provera), implants (Norplant), female condom, male condom (prophylactic, rubber), diaphragm, contraceptive foam and contraceptive jelly, lactational amenorrhea method (LAM), emergency contraception (double dose of contraceptive pill twice in 24 hours for two days and specific dosage "emergency pills," does NOT include abortion, menstrual regulation), country-specific modern methods and other modern contraceptive methods respondent mentioned (including cervical cap, contraceptive sponge, and others). Traditional methods include: periodic abstinence (rhythm, calendar method), withdrawal (coitus interruptus) and country-specific traditional methods of proven effectiveness. Folkloric methods include: locally described methods and spiritual methods of unproven effectiveness, such as herbs, amulets, gris-gris, etc (Demographic and Health Surveys, 2006).

It is important to identify factors that affect use of modern family planning methods. This is because modern family planning methods are methods of family planning that have been scientifically proven to be effective. Knowledge of the factors affecting the use of modern family planning methods will help channel interventions in a direction that will yield results. This study analysed data obtained by the 2013 Nigeria Demographic and Health Survey to determine correlates of use of modern family planning methods.

METHODOLOGY

The Demographic and Health Surveys (DHSs) are nationally-representative household surveys that provide data for a wide range of monitoring and impact evaluation indicators in the areas of population, health, and nutrition for low and middle income countries (MEASURE DHS, 2009).

This study used Nigeria Demographic and Health Survey 2013 dataset that comprises of 31,482 females between the ages of 15 and 49 years. Data was analysed using Stata data analysis software Version 12.1. Some basic characteristics of the women were explored including: the region of the country they belong to, the age of the women, the highest educational level they attained, their place of residence (urban/rural), current method of family planning, current marital status; and frequencies and percentages displayed in tables. Binomial logistic regression was used to determine the correlates of use of modern family planning among the women. The dependent variable was the current family method of the women. This variable was originally grouped into four possible outcomes: No family planning method, traditional method, folkloric method and modern method. But for the purpose of this study, this variable was re-coded into only two possible outcomes: Modern family planning method and others. The independent variables were: educational level, region of the country the women belong to, age of the women, place of residence (urban/rural) and marital status of the women. Some of the independent variables which had more than two categories were re-coded into only two categories. The educational level was re-coded into two categories: minimum of secondary school and primary school or less. Region was re-coded into two categories: northern region and southern region. Age was re-coded into two categories: 25 years or more and 24 years or less. Marital status was re-coded into two categories: currently married and others. The p-value was set at 0.05.

RESULTS

Thirty one thousand, four hundred and eighty two women participated in the study. The women were from all the six geo-political zones of the country. The North-west geopolitical zone had the highest proportion of participants (31.47%).

Table 1 shows that the women were distributed across the 6 geo-political zones of Nigeria thus: North-west (31.47%), North-east (20.70%), North-central (14.66), South-west (12.33%), South-south (11.90%) and South-east (8.94%).

Table 2 shows the age distribution of the respondents. The commonest age group was the 25 to 29 years age group which make up 27.83% of all the respondents, while the least represented age group was the 45-49 years age group (2.87%). The remaining age groups

Table 1. Distribution of respondents according to regions of the country

Region	Frequency	Percentage
North Central	4,614	14.66
North East	6,517	20.70
North west	9,906	31.47
South east	2,816	8.94
South south	3,747	11.90
South west	3,882	12.33
Total	31,482	100.0

Table 2. Respondents' age distribution (years)

Age group (years)	Frequency	Percentage
15-19	1,531	4.86
20-24	6,083	19.32
25-29	8,762	27.83
30-34	6,936	22.03
35-39	4,923	15.64
40-44	2,344	7.45
45-49	903	2.87
Average Age	29.5±7.0	
Total	31,482	100.0

Table 3. Respondents' educational level

Educational level	Frequency	Percentage
No education	14,762	46.89
Primary	6,432	20.43
Secondary	8,365	26.57
Higher	1,923	6.11
Total	31,482	100.0

Table 4. Respondents' Place of residence

Place of Residence	Frequency	Percentage
Urban	10,351	32.88
Rural	21,131	67.12
Total	31,482	100.0

were: 15-19 years (4.86%), 20-24 years (19.32%), 30-34 years (22.03%), 35-39 years (15.64%) and 40-44 years (7.45%).

Table 3 shows the respondents' highest level of education. Only 6.11% of the respondents had tertiary education. Those that had no education made up 46.89% of the respondents. Among the respondents 20.43% had primary education while 26.575 had secondary education.

Table 4 showed the respondents' place of residence. Sixty seven point twelve percent lived in the rural areas while 32.88% lived in the urban area.

Table 5 showed the current method of family planning the respondents were using. Majority (85.12%) of the

Table 5. Current method of family planning among the Respondents

Method	Frequency	Percentage
No Method	26,798	85.12
Folkloric Method	201	0.64
Traditional Method	1,437	4.56
Modern Method	3,046	9.68
Total	31,482	100.0

Table 6. Respondents' Current Marital Status

Marital Status	Frequency	Percentage
Never in union	604	1.92
Married	29,116	92.48
Living with a partner	874	2.78
Widowed	367	1.17
Divorced	286	0.91
No longer living together/separated	235	0.75
Total	31,482	100.0

Table 7. Respondents use of Modern family planning method by region

Region	Family planning Method Frequency (%)		
	Modern Method	Others	Total
North Central	674 (14.61)	3,940 (85.39)	4,614 (100.0)
North east	211 (3.24)	6,306 (96.76)	6,517 (100.0)
North west	236 (2.38)	9,670 (97.62)	9,906 (100.0)
South east	354 (12.57)	2,462 (87.43)	2,816 (100.0)
South south	660 (17.61)	3,087 (82.39)	3,747 (100.0)
South west	911 (23.47)	2,971 (76.53)	3,882 (100.0)
Total	3,046 (9.68)	28,436 (90.32)	31,482 (100.0)

respondents had no family planning method. Modern method was being used by 9.68% of the respondents, while 4.56% of the respondents were using traditional method. The least used method was the folkloric method (0.64%).

Table 6 shows the marital status of the women. Majority of the women were married (92.48%), 2.78% were living with a partner, 1.92% were never in a union, 1.17% were widowed, 0.91% were divorced and 0.75% were no longer living together (separated).

Table 7 shows the proportion of the women from each of the geo-political zones who use modern family planning methods. The South west region had the highest proportion of women using modern family planning methods (23.47%), followed by the South south (17.61%), North central (14.61%), South east (12.57%), North east (3.24%) and North west (2.38%).

Table 8 shows the odds ratios for the predictors of use of modern family planning methods. The women who had at least secondary education were 2.9 times more likely than those who had less than secondary education to use modern family planning methods. Women who were 25 years or more were 1.5 times more likely than those who were less than 25 years to use modern family planning methods. The women from the southern part of the country were twice more likely than those from the northern part of the country to use modern family planning methods. Women who lived in urban areas were 1.6 times more likely to use modern family planning methods than those who lived in the rural areas. All the

Table 8. Odds Ratio for Correlates of use of Modern Family planning Methods

Variable	Odds Ratio	95% Confidence interval	p-value
		Use of Modern method	
Education			
>=Secondary Education	2.922	2.6679-3.200044	<0.001
<=Primary education	1.000		
Age (Years)			
≥25	1.485	1.337851-1.648671	<0.001
≤24	1.000		
Region			
South	2.070	1.892355-2.264785	<0.001
North	1.000		
Residence			
Urban	1.648	1.515477-1.79152	<0.001
Rural	1.000		
Marital status			
Married	0.927	0.8144064-1.055869	0.255
Others	1.000		

above were statistically significant. Married women were 0.9 times less likely to use modern family planning than other women, but this was not statistically significant.

DISCUSSION

The commonest age group was the 25-29 years age group which made up 27.83% of all the respondents, while the least represented age group was the 45-49 years age group (2.87%). The remaining age groups were: 15-19 years (4.86%), 20-24 years (19.32%), 30-34 years (22.03%), 35-39 years (15.64%) and 40-44 years (7.45%). Similarly a study in Egypt reported that the commonest age group was the 20-29 years age group who made up 36.4% of the women studied (Awadalla, 2012). Also a study done in Jimma Ethiopia reported that the commonest age group among the women studied was the 25-30 years which made up 35.4% of the women (Beekle and McCabe, 2006). A study based on secondary analysis of the Tanzania Demographic and Health Survey 2010 also reported that the 25-29 years age group was the commonest age group (20.9%) (Kidayi et al., 2015). The mean age of the women in the present study was 29.5±7.0 years, which was slightly lower than the mean age of the Tanzanian women (31.8±8.5 years) (Beekle and McCabe, 2006).

Almost half (46.89) of the 31,482 women who participated in the present study had no education. Only 6.11% had higher education, while 26.57% had secondary education and 20.43% had primary education. In Enugu, Southeast Nigeria 74.3% of the women studied had at least secondary education and only 2.4% of the women had no formal education (Onwuzurike and Uzochukwu, 2001). Also in Nnewi, Anambra State, Southeast, Nigeria none of the women studied had no formal education and 61.3% of the women had secondary education (Igwegbe et al., 2009). The difference in the educational level of the women in the present study and that of the sited Nigerian studies may be because of the differences in female education between the different geopolitical zones of the country.

Majority of the women (92.48%) were married, 2.78% were living with a partner, 1.17% were widowed, 1.92% were never in a union, 0.91% were divorced. In Nnewi, Southeast Nigeria majority (93.6%) of the women were also married (Igwegbe et al., 2009). Similarly in Tanzania majority (92.2%) of the women were married. Similarly in India 95.7% of the women were married (Prachi et al., 2008). Majority of the women being married in the present study is expected because the average age of the women is 29.5±7.0 years. In Nigeria most women of 29 years are married.

Only 9.68% of the women were currently using modern family planning methods. Interestingly, majority (85.12%) of the women were not using any method of family planning. Traditional method was being practised by 4.56% while 0.64% were practising folkloric method. This is lower than the prevalence of modern family planning methods reported in Enugu, Southeast Nigeria, where 20% of the women were using modern family planning methods (Onwuzurike and Uzochukwu, 2001). It is understandable that the prevalence reported in Enugu study was higher than the national prevalence in our study, because Enugu is in the South-eastern region which had a higher average than the national average. A study reported a prevalence of 12.9% in Ife Local Government Area (LGA), Southwest, Nigeria and 10.4%

in Jos Local Government Area (LGA), Northcentral Nigeria (Okonofua et al., 1999). These are both higher than the national prevalence reported in the present study and this can be explained because Ife is in the Southwest which has the highest prevalence and Jos is in Northcentral which has a higher prevalence than the national prevalence. Similarly, a study in Ile-Ife town, Southwest, Nigeria reported a prevalence of 18.8% which is close to the 23.47% reported for Southwest in our study.[11] In contrast, a very high prevalence of use of modern family planning was reported in Egypt (Awadalla, 2012).

In the present study the women who had minimum of secondary education were almost 3 times (2.9 times) more likely than those with primary education or less to use modern family planning methods. This agrees with many studies which have demonstrated that education increases the likelihood of using modern family planning methods. A study in the Northwest and Northeast Nigeria reported a statistically significant association between education and use of modern family planning methods (Unumeri et al., 2015). In Bangladesh it was also reported that education increases the use of modern family planning methods (Karmal and Islam, 2010). Similarly in Nepal, the practice of modern family planning methods was higher among the educated (Tuladhar and Marahatta, 2008). In Namibia the educated women studied were 3 times more likely to use modern family planning methods than those who had no formal education (Indongo, 2005). Ainsworth M et al demonstrated that schooling has a positive relationship with use of modern family planning in 14 Sub-Saharan countries using Demographic and Health Survey data, even after controlling for many other variables.[16] An educated woman is more likely to be aware of the availability of contraceptives. She is also more likely to understand how contraceptives work, hence believe in their efficacy, hence more likely to use modern contraceptives.

In the present study, the older women (≥25 years) were 1.5 times more likely than the younger women (≤24 years) to use modern family planning methods. This may be because the older women are more likely to be independent minded and financially capable hence more able to procure modern contraceptives. In Bangladesh, age was also a determinant of use of modern family planning methods (Karmal and Islam, 2010). Similarly, Awadalla HI demonstrated that the older women in Egypt used modern family planning more than the younger women (Awadalla, 2012). In the present study, the women from the Southern part of the country were twice more likely than those from the Northern part of the country to use modern family planning methods. This may be because the women in the Southern regions of the country have higher educational level than their counterparts from the Northern regions as reported by the 2013 Nigeria Demographic and Health Survey

(National Population Commission of Nigeria and ICF International, 2014). In the present study, the urban women were 1.6 times more likely than the rural women to use modern family planning methods. This is similar to the finding of a study in Egypt which reported that urban women used modern family planning methods more than the rural women (Awadalla, 2012). Similarly, in Northeast and Northwest Nigeria it was demonstrated that the urban women used modern family planning methods more than the rural women and the difference was statistically significant (Unumeri et al., 2015). This is may be because women in the urban areas are more educated than their counterparts in the rural areas. It could also be because there are more health facilities in the urban areas, hence more access to modern family planning methods.

In conclusion, the present study has demonstrated that the likelihood of using modern family planning among Nigerian women is increased by the following variables: having at least secondary education; being from the South; being 25 years old or more and urban residence. We therefore recommend the consideration of the factors in the planning of interventions to increase uptake of modern family methods in Nigeria. Measures should be taken to increase female literacy especially in the Northern part of Nigeria, as this will most likely lead to improved uptake of family planning among the respondents.

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