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Does Female Autonomy Affect Contraceptive Use among Women in Northern Nigeria?

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Abstract

Literature identified female empowerment as a predictor of positive health behaviour. However, in the context of conservative and traditional society, this is yet to be explored. This paper explores the role of female autonomy in contraceptive use among currently married women in northern Nigeria. Nationally representative Nigeria Demographic and Health Survey (NDHS, 2013) data for 18,534 currently married women in northern Nigeria was analysed. Complimentary log-logistic regression (cloglog) was used to analyse the data. Current use of modern contraceptive was 6.6% among currently married women in northern Nigeria. Results show that female autonomy was significantly associated with modern contraceptive use. Respondents' education, wealth status and desire for no more children were associated with higher contraceptive use. Despite the conservative and religious context of northern Nigeria, female autonomy significantly predicts modern contraceptive use. Thus, empowering women in northern Nigeria, especially by education, will enable them to participate in healthy contraceptive decision making. *(Afr J Reprod Health 2019; 23[2]:92-100).*

Keywords: Female autonomy; Contraceptive; Reproductive health; northern Nigeria; Sustainable Development Goal

Résumé

La documentation a identifié l'autonomisation des femmes comme un indice d'un comportement de la santé positif. Cependant, dans le contexte de la société conservatrice et traditionnelle, cela reste à explorer. Cet article explore le rôle de l'autonomie des femmes dans l'utilisation de la contraception chez les femmes actuellement mariées dans le nord du Nigéria. Des données représentatives de l'enquête sur la démographie et la santé au Nigéria (EDSN, 2013) pour 18 534 femmes actuellement mariées dans le nord du Nigéria ont été analysées. Une régression log-logistique complémentaire (cloglog) a été utilisée pour analyser les données. L'utilisation actuelle de la contraception moderne était de 6,6% chez les femmes actuellement mariées dans le nord du Nigéria. Les résultats montrent que l'autonomie de la femme était associée de manière significative à l'utilisation de la contraception moderne. L'éducation des interviewées, leur situation financière et leur désir de ne plus avoir d'enfants étaient associés à une utilisation accrue de la contraception. Malgré le contexte conservateur et religieux du nord du Nigéria, l'autonomie des femmes prédit de manière significative l'utilisation de la contraception moderne. Ainsi, l'autonomisation des femmes dans le nord du Nigéria, notamment par l'éducation, leur permettra de participer à la prise de décisions en matière de contraception en bonne santé. *(Afr J Reprod Health 2019; 23[2]: 92-100).*

Mots-clés: Autonomie féminine; Contraceptif; La santé reproductive; le nord du Nigeria; Objectif de développement durable

Introduction

Fertility reduction using modern contraceptive for limiting and spacing births in developing countries remains an area of focus for both National and International government. For instance, International government through donor programmes such as United States Agency for International Development (USAID) is concerned with increasing access to voluntary family planning information and services especially in developing countries. Despite the efforts, the unmet need for modern contraceptive use remains high in sub-Saharan African countries[1].

Nigeria is one of the USAID's family planning priority countries. The 2013 modern contraceptive prevalence rate (CPR) of 16% in Nigeria attests to the fact that more is needed to be done to achieve the 36% CPR goal by 2018[2]. Contraceptive prevalence rate varies across regions in Nigeria. For instance, prevalence of use of any contraceptive method was as low as 3.2% in North East and as high as 38% in South West[3].

Over the decades, several studies have identified the determinants of contraceptive use. In the 1990s, socio-demographic and economic factors were highlighted as determinants of contraceptive use[4]. Further, personal and emotional factors – general discomfort, feelings and experience with specific methods among others, were identified as factors influencing contraceptive use among women in United States[5]. In the Millennium, factors such as women's education, husband's approval of contraceptive method, age, wealth index and religion were identified as drivers of contraceptive use among women in Tanzania and Nigeria[2,6].

Female autonomy as used in this paper connotes female's capacity to manipulate her personal environment and take decisions about her concerns. In this context, health, reproductive health, movement, and household decision-making. The role of women's autonomy as determinants of contraceptive use was first measured in the early 2000s. It was reported that female autonomy is important in improved women reproductive health generally[7]. Further, female autonomy was identified as important determinant of contraceptive use among Pakistani women[8]. Among Indian women, women's autonomy significantly predicts contraceptive use[9]. Recently, female autonomy in terms of joint reproductive health decision making and higher women earning power was identified as significant determinant of contraceptive use among Nigerian couples[10]. In a qualitative study to determine the role of men in adopting family planning in two selected States of Oyo and Kaduna in Nigeria, authors found some level of lack of female's autonomy as a factor preventing uptake of family planning in Nigeria[11]. Further, lack of women's autonomy in predicting low use of contraception among women in Bauchi, north east Nigeria was implied in a study using mix methods[12].

We explored female autonomy in relation to use of modern contraception method among currently married women in northern Nigeria. This is very important because northern Nigeria remains strictly a conservative traditional society with profound male domination. The evident gender segregation in northern Nigeria has been adequately documented in the literature[13,14]. Cultural and religious dictates have strengthened gender separation for years and thus, enshrined male domination into the societal organisation. This is clearly evident at levels of relationships from household to larger society[14].

The practice of purdah system also lent credence to gender separation in northern Nigeria. Married women are restricted in terms of movement and thus usually confined to the house. This has deepened and strongly influenced the low girl-child school enrolment and completion rate. Permission has to be obtained from husband or identified authority within the household before a woman can go out. Even at that, women have to go with veils covering their face. This and other cultural practices have contributed in no small measures to the underdevelopment of women. These have generally hindered women's advancement in terms of education, occupation and even political participation. The highest point of the comparative inferiority of women to men is pronounced in the high rate of girl-child under age marriages in the region[15,16].

Modern contraceptive use is not prevalent in northern Nigeria because of the traditional sociocultural and religious belief which favours high fertility. For instance, despite average increase in knowledge of modern contraceptive among women and men in northern Nigeria from 69.5% and 86% respectively in 2003 to 75.5% and 93.3% in 2013, reported current use of modern contraceptive among women only increased averagely from 5.5% in 2003 to 6.2% in 2013[3,17]. Islamic religion-mostly practiced in the region- is pronatalist. The religion encourages plural marriages which have implication for high fertility and thus, has little or no support for use of contraceptive for limiting birth. Apart from the poor contraceptive utilization rate among women

of child bearing age in northern Nigeria, women from the region have also been documented to have low utilization of all forms of maternal and child health services[18,19].

Studies on women autonomy and contraceptive use in Nigeria have treated Nigerian women as similar[20,21]. The few studies that have taken into consideration the regional differences in women's characteristics have limited scope. For instance, Aransiola *et al*[11] only looked at one location each from southern and northern Nigeria to demonstrate the effect of lack of female autonomy in family planning adoption decision-making and thus, not representative. In a similar study on sexual autonomy and contraceptive use among Nigeria women, limitation of not taking the different cultural background of women into account in the study, was acknowledged[22]. In the same vein, Austin[1] failed to consider the difference in cultural background of Nigerian women. This limitation especially considering the poor indicators of contraceptive use and the general repressive cultural practices which sees and treats women as inferior to men in northern Nigeria informed this paper. In this paper, we argue that despite the conservative social structure of northern Nigeria, female autonomy is likely to be significantly associated with modern contraceptive use. Thus, we hypothesised that women in northern Nigeria who are autonomous in various indicators of decision-making are likely to be modern contraceptive users.

Methods

Study area and data source

Northern Nigeria- consisting of 19 States out of the 36 States in Nigeria- is noted for low reproductive health services uptake and contraceptive use in particular[22]. Also, there are evidences of strong socio-cultural and religious predictors of either use or non-use of contraceptive. There is a clear indication of male dominance in the form of gender separation which pervades almost all facet of daily living. Women are generally relegated to the background and are hardly heard. The dominant religion practiced also give some support to the gender separation in the region. The region is predominantly occupied by the Hausa and Fulani ethnic groups who are mostly agrarian and pastoralists[23].

The study utilized 2013 Nigerian Demographic and Health Survey (NDHS). We restricted the analysis to data of 18,534 married women aged 15-49 in the three geo-political zones of northern Nigeria. The 2013 NDHS selected women aged 15-49 across the 36 States and the Federal Capital Territory (FCT) in Nigeria using three staged stratified cluster sampling technique[3]. At the first stage, the country was stratified into rural and urban locations and 893 localities were selected. At the second stage, 904 primary sampling units referred to as clusters or enumeration areas were selected and household listing was also done at this stage. The third stage, a total of 45 household each was selected from each rural and urban cluster. Samples were weighted to address non-proportionality in selection and different response rate by States. Detail of the sampling procedure used in the 2013 NDHS has been documented in the final report[3].

Variables and variables measurement

Variables used in this paper were selected based on empirical and theoretical evidence from similar studies of association between the dependent and explanatory variables[6, 20, and 24]. Current use of modern contraceptive method is the dependent variable. It was derived by recoding the variable on current use of contraceptive by method (v313) into a binary variable with '0' as 'not currently using modern contraceptive method' and '1' as 'currently using modern contraceptive method'.

The explanatory variable is female autonomy which was measured in three dimensions: health autonomy [question on decision maker for using contraception (v632) and person who usually decides on respondents' health care (v743a)), movement autonomy (question on person who usually decides on visits to family or relatives (v743d)] and; economic autonomy [question on person who usually decides on large household purchases (v743b)]. Each measure of female autonomy was recoded into binary variable: '0' as 'not autonomous' and '1' as 'autonomous' depending on the level of female autonomy measures (i.e. health, movement and economic). The three measures were later merged to generate

a single female autonomy variable used at the multivariate level of the analysis. Females who reported autonomy in each measure was coded as '1' and females who reported non-autonomy were coded as '0'. This was resorted to because of the evidence from various statistic tests conducted (but not reported here) which showed that female economic autonomy may be the driver of the other female autonomy measures.

We controlled for selected demographic and socio-economic variables such as age of respondents, education, residence, religion, occupation type, household wealth status, frequency of exposure to media (magazine, radio and television), political region, and desire for more children in the final model. Test of multicollinearity was conducted for the model and variables found to be highly correlated were dropped in the final model (Table 3).

Analysis

Descriptive analysis of the weighted variables was done using percentages of the selected variables. At bivariate analysis, chi square test of association between measures of female autonomy and contraceptive use was done to identify the dimension of female autonomy that mostly predicts modern contraceptive use. Complimentary log-logistic regression (cloglog) was used for multivariate analysis to address the main objective of the paper. This regression method is used when the outcome variable is dichotomous and rear - the percentage who had or experienced the outcome of interest (contraceptive use) is less than 10%. This is considered the most applicable method because the proportion of northern Nigerian women who reported current use of modern method of contraception is less than 10% of the total number of women interviewed. We controlled for the effect of the explanatory variables at the multivariate level of the analysis (Model 1, Table 3). The analysis was restricted to currently married women only because they are the group whose use or non-use of contraceptive may be mostly dependent on the level of autonomy they enjoyed.

Models were fitted for the association between contraceptive use and female autonomy measures using two stage procedures. At stage one, a univariate model was fitted for each of the variable and those with p-values of less than 0.1 were identified. At stage two, model was fitted with female autonomy variable and explanatory variables with p-value of less than 0.1 selected from stage one. We explained the result of the model using exponentiated coefficient which measures the likelihood of the dependent variable as a factor of the independent variable. The analysis was done at the regional level only (northern region) as the sample size per geo-political region was too small for any robust zone-wise analysis.

Results

Table 1 shows the result from the descriptive analysis of the respondents. Highest proportion of the women was in 25-29 years age group. More than half of the women were from North West geo-political zone. More than half of them were from monogamous family. Six in ten of the women were from the poor households. Highest proportion (68%) of the women had no education. Majority (78.8%) of the women wanted to have more children. In terms of female autonomy measures, 24.2%, 31.7% and 27.4% were autonomous in terms of health, movement and economic decisions respectively. Less than 10% of the married women were currently using modern method of contraception.

Table 2 presents the bivariate analysis result of the association between the outcome variable (current use of modern contraceptive method) and the measures of female autonomy (health, movement and economic). Majority (86%) of females who reported autonomy in making health decisions were not currently using modern contraceptives. Furthermore, less than 20% of the females who had movement and economic autonomy reported current use of modern method of contraception (12.3% and 15.2% respectively).

Table 3 shows the complimentary logistic regression result of the association between female autonomy and contraceptive use controlling for other explanatory variables (Model 1). Female autonomy was significantly associated with current use of modern contraceptive among northern Nigerian women (though with a reduced

Table 1: Distribution of currently married women in northern Nigeria by selected characteristics, NDHS 2013

Background characteristics	Frequency	Percentage
Age group		
15-19 years	2,062	11.1
20-24 years	3,291	17.8
25-29 years	3,930	21.2
30-34 years	2,957	16.0
35-39 years	2,564	13.8
40-44 years	1,901	10.3
45-49 years	1,828	9.9
Level of Education		
No education	12,610	68.0
Primary	2,797	15.1
Secondary	2,491	13.4
Higher	635	3.4
Family Type		
Monogamous	11,041	59.8
Polygamous	7,416	40.2
Residence		
Urban	4,332	23.4
Rural	14,201	76.6
Geo-political zone		
North Central	3,869	20.9
North East	4,663	25.1
North West	10,002	54.0
Religion		
Christianity	3,137	17.2
Islam	15,109	82.8
Occupation		
Not working	6,708	36.3
Professional/clerical	7,821	42.4
Agriculture	1,696	9.2
Manual	2,242	12.1
Wealth Status		
Poor	11,368	61.3
Middle	3,349	18.1
Rich	3,816	20.6
Frequency of reading magazine		
Not at all	17,064	92.1
Less than once a week	813	4.4
At least once a week	656	3.5
Frequency of listening to radio		
Not at all	8,694	46.9
Less than once a week	4,294	23.2
At least once a week	5,546	29.9
Frequency of watching television		
Not at all	12,651	68.3
Less than once a week	2,434	13.1
At least once a week	3,449	18.6
Desire for more children		
Wants more	13,967	78.8
Wants no more	2,162	12.2
Undecided	1,587	9.0
Health Autonomy		
Not autonomous	13,368	75.8
Autonomous	4,272	24.2
Movement Autonomy		
Not autonomous	12,043	68.3
Autonomous	5,592	31.7
Economic Autonomy		
Not autonomous	7,499	72.6
Autonomous	2,829	27.4
Current contraceptive use		
Not currently using modern method	9,643	93.4
Currently using modern method	686	6.6

Exp (B) = 2.02, CI: 1.65 – 2.47; p-value<0.001). The likelihood of current use of modern contraceptive was 7 times significantly higher among women aged 30-34 years compared to women aged 15-19 years. The likelihood of current use of modern contraceptive method was significantly higher among women with secondary education (Exp (B) = 4.78, CI: 3.41 – 6.69; p-value<0.001) compared to women with no education. In the same vein, the likelihood of current use of modern contraceptive method was 2 times significantly higher among females from rich households compared to females from poor households. Among women who do not want more children, the likelihood of current use of modern method of contraception was significantly higher compared to women who wanted to have more children.

Model 2 tested association between female autonomy and contraceptive use. Females who were autonomous are four times significantly more likely (Exp (B) = 4.99, CI: 4.14- 6.01; p-value < 0.001) to use modern method of contraception compared to females who were not. The model statistics shows that the overall model was statistically significant in explaining predictors of contraceptive use among married women in northern Nigeria.

Discussion

This paper sets out to examine the role of female autonomy in contraceptive use among married women in northern Nigeria. This became necessary as northern Nigeria is a region where female autonomy is not culturally and religiously guaranteed and coupled with consistently low contraceptive use in the region. Other studies[25,26]

Table 2: Association between contraceptive use and female autonomy type, NDHS 2013

	Current contraceptive use			
Autonomy measures	**Not using**	**Using**	$\chi 2$	**p-value**
Health Autonomy				
Not autonomous	6,399 (96.1)	261 (3.9)		
Autonomous	2,680 (85.8)	443 (14.2)	335.52	0.000
Movement Autonomy				
Not autonomous	5,656 (96.2)	224 (3.8)		
Autonomous	3,423 (87.7)	480 (12.3)	253.12	0.000
Economic Autonomy				
Not autonomous	6,559 (96.3)	251(3.7)		
Autonomous	2,520 (84.8)	453 (15.2)	413.50	0.000

Table 3: Complimentary Logistic model explaining relationship between modern contraceptive use and female autonomy, NDHS 2013

Characteristics	**Model 1**		**Model 2**	
Female Autonomy	Exp (B)	95% CI	Exp (B)	95% CI
Not autonomous	1	[1,1]	1	[1, 1]
Autonomous	2.02**	[1.65, 2.47]	4.99**	[4.14, 6.01]
Age group				
15-19 years	1	[1,1]		
20-24 years	4.05*	[1.38, 11.87]		
25-29 years	5.25*	[1.83, 15.05]		
30-34 years	7.49**	[2.62, 21.44]		
35-39 years	6.53**	[2.27, 18.77]		
40-44 years	5.82*	[2.00, 16.95]		
45-49 years	3.28*	[1.09, 9.79]		
Level of Education				
No education	1	[1,1]		
Primary	3.12**	[2.28, 4.27]		
Secondary	4.78**	[3.41, 6.69]		
Higher	3.98**	[2.70, 5.85]		
Occupation				
Not working	1	[1, 1]		
Professional/clerical	1.06	[0.79, 1.42]		
Agriculture	0.56**	[0.42, 0.75]		
Manual				
Wealth Status				
Poor	1	[1, 1]		
Middle	1.93**	[1.41, 2.65]		
Rich	2.664**	[1.93, 3.63]		
Frequency of watching television				
Not at all	1	[1, 1]		
Less than once a week	1.73**	[1.31, 2.28]		
At least once a week	1.19	[0.90, 1.56]		
Desire for more children				
Wants more	1	[1, 1]		
Wants no more	3.18**	[2.53, 3.99]		
Undecided	1.20	[0.82, 1.75]		

have documented the significance of female autonomy in modern contraceptive use however, this is yet to be explored in a conservative and highly traditional society like northern Nigeria. We found that female autonomy matters in determining modern contraceptive use among married northern Nigeria women. This was also confirmed by other studies elsewhere on role of women autonomy in reproductive health uptake[25,27]. Furthermore, women's household decision-making autonomy is an important determinant of current and future use of modern

contraception among Banglandeshi women[26]. In Nigeria and Namibia, higher likelihood of contraceptive use among women with greater autonomy and from rich households compared to their counterparts with lower autonomy and from poor households were found[28].

Model 1 (Table 3) shows that women who were autonomous were 2 times more likely to use modern contraceptive compared with women who were not autonomous. The level of significant was stronger when the association was explored between modern contraceptive use and female autonomy only. This may be due to the reason that women who are autonomous may be able to negotiate the use of contraceptive such as condom, emergency pills etc. with their husbands for birth limiting and spacing. Also, such women might be able to negotiate safer sex with their husbands/partners and may afford the cost of such contraceptive. This drives home the evidence that female autonomy is an important factor in modern contraceptive use in northern Nigeria. With or without other variables, female autonomy remains a significant predictor of modern contraceptive use.

Results also showed that education, wealth status, desire for no more children and frequency of watching television also determines contraceptive use among the women. This finding is in line with similar studies[8, 25, 29, 30]. Higher husband-wife educational level led to improved women reproductive autonomy which in turn led to increased use of contraception among Pakistani women[31]. Further, it was shown that the tendency to use any contraceptive method peaked among women aged 30-34 years. This pattern could be explained by the fact that most women within that age group in the study area must have been nearing their completed fertility and thus may not desire more children. Studies have found that childbearing among women in the study area usually start earlier- with its attendant consequences- than among their counterparts in the southern part of the country[32-34]. By the time a woman gets to age 30-34 years, they might have achieved their desired family size and want no more children. Thereby uptake family planning services than their counterparts in lower age groups.

The observed higher likelihood of contraceptive use among women with secondary educational level is expected and could partly be explained by the fact that educated women would be able to explore more options of contraceptive methods and decide on the most appropriate method to be used. Further, it is easier for the family planning provider to engage and relate with an educated woman on procedures and likely side effect of chosen contraceptive method than with an un-educated woman. Generally, higher level of education among women has been documented to be associated with improved reproductive health behaviour[25,35].

Since Nigeria did not achieve much in terms of contraceptive prevalence during the implementation of the Millennium Development Goals (MDGs) agenda, with an average increase of only two percent from the 2003 figure in 2013[3], the new 2030 Sustainable Development Goals (SDGs) provides another opportunity to ensure that the goal is met. One of the targets of SDG 3 is to prevent unintended pregnancy through universal access to reproductive health care and this is more apt in regions like northern Nigeria where prevalence of modern method of contraceptive use remains very low despite knowledge and availability of family planning services. Women empowerment and improved general status is a way to ensure this goal is achieved in Nigeria especially in northern Nigeria. Culturally sensitive family planning messages targeted at correcting myths (such as condom use is synonymous to promiscuity) about contraceptive methods need to be aired through the mass media as frequency of exposure to watching television is one of the determinants of modern contraceptive use in the study area. The role of higher educational attainment among women in improving prevalence of contraceptive use cannot be over-emphasized.

Interventions targeted at improving girl-child school enrollment, retention, and completion rate such as the Bill and Melinda Gates Foundation funded Girls for Health (G4H) programme currently operational in four northwestern States of Kebbi, Sokoto, Kaduna and Jigawa, need to be scaled-up to other northern States. The programme also aimed at improving the

reproductive health of girls in the states also require State government by-in right from the beginning to ensure sustainability of the programme. This will prevent the experience of "end-of project means end of intervention" syndrome which has characterized similar donor funded projects in the region in the past. The saying "educate a woman, and you educate the nation" is more apt in the situation of northern Nigeria. Once girl-child education rate improves in the region, it will have a multiple effect on other aspects of human and capital development in the region and Nigeria as a whole.

Conclusion

Examining the role of female's autonomy in contraceptive use among currently married women in northern Nigeria showed that female's autonomy is an important factor in contraceptive use. General improvement in terms of women's education, wealth status and access to media are also key to ensuring contraceptive usage among currently married women in the region. Therefore, ensuring women are autonomous and are better empowered (through education) will help improve on the low prevalence of contraceptive use in northern Nigeria. Intervention to ensure this needs to be pursued with renewed vigor and commitment if the country is to achieve the universal access to reproductive health care by year 2030.

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Authors' Contributions

OA wrote the first draft. COO conceived the idea of the manuscript, read the draft and make input. NDW also read the draft and provided intellectual input. JOA, OA conducted data analysis. OA incorporated all the input from COO, NDW and JOA into the final draft. All authors contributed to revising the manuscript and approved the final version.

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