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Current Use of Modern Family Planning and Fertility Intention Among Women Farmers of Reproductive Age in Ido and Ona-ara Local Government Areas of Ibadan, Nigeria

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Abstract. Although poor use of contraceptives and high desire for children is characteristic of sub-Saharan Africa, this demographic challenge is more peculiar to more disadvantaged segments of the population like rural farmers. This study was designed to examine current use of modern family planning and fertility intention among women farmers of reproductive age in Ido and Ona-ara Local Government Areas of Ibadan, Nigeria. Using cross-sectional survey design, semi-structured questionnaire were administered via structured-interview to randomly and systematically selected 408 respondents. Chi-square was used to show significance of associations between pairs of variables. Contingency co-efficient was used to examine extent of significant associations. Results indicate that majority of respondents (77%) desired additional children, the mean number of children that respondents already have is 2.94 ± 1.35 while mean fertility intention is 1.85 ± 1.44 . The proportion of current users of modern family planning is 45.6%. The use of oral pills (30.6%) is most popular among respondents. There is no significant association between current use of modern family planning and fertility intention among married and divorced respondents, among respondents in all the age sub-groups, and among respondents with no formal education or secondary education ($p > 0.05$), but there is among respondents with primary and tertiary education ($p < 0.05$). The synergy between the use of modern family planning and fertility intention among women farmers in the study area is notable but requires significant progression. Having primary education and tertiary education is significantly associated respectively with lower and higher use of modern family planning in relation to fertility intention. Education is an important element of fertility dynamics among women farmers in the study area.

Keywords: Contraceptive use, fertility intention, women farmers, population growth, sub-Saharan Africa.

Introduction

Human fertility reduction is ideally a priority on the sustainable developmental agenda in developing countries. High population growth is characteristic of the forty-countries earmarked as least developed countries (United Nations, 2015), with only a few countries including Nigeria contributing significantly to world population growth. Projections indicate that between 2015-2050, only nine countries including Nigeria will contribute 50% of world population growth (United Nations, 2015). High population growth puts a lot of pressure on infrastructures.

Such growth makes it difficult for the government “to eradicate poverty and inequality, combat hunger and malnutrition, expand education enrolment and health systems, improve the provision of basic services and implement other elements of sustainable development agenda to ensure that no-one is left behind” (United Nations, 2015). Another challenge posed by increasing population growth is shortage of farmland (Headey & Jayne, 2014), which has negative consequences on food security and human survival. High population growth is also implicated in the degradation of environmental resources like forests,

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land, biodiversity, and water (Population Action International, 2010). Similarly, Yavinsky *et al.* (2015) asserted that population growth breeds poverty and unsustainable natural resource use particularly in rural communities. High household size has been found to be associated with the likelihood of being poor in rural Nigeria (Anyanwu, 2005).

Indeed, contraception and fertility related discourses deserve a central stage because of their centrality to population growth (Olatoregun *et al.* 2014; Muhammad & Maimuna, 2014). A simulation of situations in 172 countries indicated that family planning led to the prevention of 272,040 maternal deaths in 2008. This is a 44% drop in maternal deaths that would have been recorded without contraceptive use (Ahmed *et al.*, 2012). High-risk pregnancies including those occurring too early, too late, too closely spaced and too many underlie maternal morbidity or mortality. Contraceptive use reduces women's exposure to high-risk pregnancies and lowers the frequency of unplanned pregnancies and births (Stover & Ross, 2010; Cleland *et al.*, 2012). Yet, "unmet need for contraception is often highest among the most disadvantaged and vulnerable—adolescents, the poor, those living in rural areas and urban slums, people living with HIV, and internally displaced persons. These groups have the fewest resources and are the least able to deal with the demands of an unexpected pregnancy" (Starbird, Norton, & Marcus, 2016).

Apart from unmet need for contraception, fertility intention is another challenge of population growth. Singh, Bankole and Darroch (2017) estimated the effect of contraceptive use on fertility among sub-Saharan Africa women of childbearing reproductive age (15–49) between 2003 and 2014. They reported that high fertility still prevails in the region and this is attributable to high unmet need for contraception among women who want to space births or who desire no more children as well as high desired fertility or fertility intention. Fertility intention is crucial to population dynamics in the light that increasing population growth is mainly a manifestation of fertility. The report of Bankole and Singh (1998) who examined fertility related issues using DHS (Demographic and Health Survey) data of 18 developing countries indicated that fertility intention (defined as intention to have another child or otherwise) is strong predictor of contraceptive behaviour. Other scholars have similarly asserted the significance of fertility intention on real fertility (Testa & Toulemon, 2006; Islam & Bairagi, 2003; Schoen *et al.* 1999; Bankole, 1995; Miller & Pasta, 1995; Tan & Tey, 1994).

Further, more disadvantaged segments of the population have hardly come to terms with the need for reduced fertility for optimum individual and community outcomes. In *Rural Poverty Report 2011*

(International Fund for Agricultural Development, 2010), it was asserted that "poverty remains largely a rural problem ... in the rural areas four out of every five households farm to some degree". Farmers are typically poorer rural residents and women farmers bear poorer fertility outcomes. The 2008, 2013 and 2018 Nigerian Demographic and Health Surveys (NDHS) shows that 6.5%, 5.7% and 7.2% of married women in rural Nigeria use some modern method of contraceptive respectively. When their urban counterparts are considered, these percentages increased to 16.7, 16.9 and 18.2 (National Population Commission, 2009, 2014 and 2019). Incidentally, increased population is no longer advantageous to agricultural production. A study of farming households in Kenya revealed that sustainable agricultural intensification is only practicable with low population density. An increase in this density to over 600 persons per km² will result in reducing soil fertility (Willy, Muyanga, & Jayne, 2019). Other scholars have asserted the detrimental trend of increased human population on sustainable agricultural production (Binswanger & Pingali, 1998; Pingali, 2012; Douwe van der Ploeg, 2012). Hence, this study was designed to examine current use of modern family planning and fertility intention among women farmers of reproductive age in Ido and Ona-ara LGAs Ibadan, Nigeria.

Methods

The design of this study was a cross-sectional survey targeting women farmers of reproductive age in Ido and Ona-ara LGAs Ibadan, Nigeria. Issues of fertility and contraceptive use are more relevant to women of reproductive age. Ido and Ona-ara LGAs are among the six rural of the eleven LGAs of Ibadan. The six LGAs include Akinyele, Lagelu, Egbeda, Oluyole, Ido and Ona-ara. The people of these six LGAs constituted the study population. Ibadan is a very vast community and Oyo state capital in southwestern Nigeria. Ibadan is a town of the Yorùbá ethnic group in Nigeria but other ethnic nationalities reside in the town.

Sampling procedure was multi-staged, random and systematic. According to the 2006 population census, women of the six rural LGAs in Ibadan were 608, 247 (National Population Commission, 2007). Using this total population (N), the required sample size at 95% confidence level and confidence interval of 4.9 was 400. This was increased to 408. Two of the six LGA were randomly selected, including Ido and Ona-ara. These LGAs have a land mass of 800 km² and 290 km² and comprise ten and eleven political wards respectively. These wards comprise many towns and villages. The people practice agriculture extensively, growing food crops like maize, yams and potatoes. In

each LGA, four wards were randomly selected and two villages were randomly selected from each of them. The selected villages in Ido LGA were Akufo, Abegunrin, Elenusonso, Oganla, Ido, Onikede, Omi-Adio and Bakatari. On the other hand, Badeku, Jago, Ojoku, Adewumi, Gbedun, Araromi, Akanran and Ojebode villages were randomly selected in Ona-ara LGA. Using systematic sampling technique, twenty-six and twenty-five respondents were selected in each of the eight villages at Ido and Ona-ara LGAs.

Data collection was through the use of semi-structured questionnaire. These were administered via structured interview. The questionnaire was translated into Yorùbá language to enable communication with respondents who do not speak English language. The essence of the study was explained to each prospective respondent and their anonymity was guaranteed. Respondents were told that they were not obliged to answer to any question they do not want to, and they signified their informed consent by appending their signature. Data collection was between February and May, 2019. Response rate was 100%.

Definitions and Assessment of Variables

Fertility status was defined as the number of biological children that respondents currently have. Respondents were simply asked to state this number of children. Desire for additional children was respondent's wish concerning having another child or children. It was nominally assessed with a single item requiring respondents to be affirmative or otherwise. Fertility intention was the number of children that respondents who wanted additional children would like to have. Respondents were simply asked to state this number. Current use of modern family planning was defined as present use of modern contraceptive as a measure of birth control. This was also nominally assessed with a single item requiring respondents to be affirmative or otherwise. Information on marital status, age and education were collected nominally.

Study hypotheses

The general null hypotheses tested are as follows:

1. Ho: There is no significant association between fertility status and desire for additional children as well as fertility intention.
2. Ho: There is no significant association between current use of modern family planning and fertility intention.
3. Ho: There is no significant association between current use of modern family planning and fertility intention among respondents in different sub-groups of marital status, age and educational achievement.

Data Analyses

Frequency counts and percentages were used to examine distribution of data. Cross-tabulation

and chi-square were used to show distributions and significance of associations between pairs of variables respectively. Further, these distributions and associations were disaggregated by marital status, age and education; using cross-tabs. Where significant associations were recorded, contingency coefficient was used to examine extent of the association. Data analyses were conducted using Statistical Package for Social Sciences (version 21).

Results and Discussions

Socio-demographic Characteristics of Respondents

Most respondents were married (90.7%) while minorities (3.2% and 4.9%) were divorced and widowed respectively. Two respondents were single. The distribution of marital status is an indication of marriage stability among respondents in the study area. Almost one out of every two respondents (49%) was a secondary school certificate holder. More than a quarter (26.5%) held primary school certificates while up to one of every five (18.9%) had no formal education. Few respondents (3.6%) had tertiary education. The percentage of respondents who have never attended formal schooling is quite high. Most respondents (40.2%) were aged between 29 and 35 years. All age sub-groups were well represented in the study. Majority (53.7%) of respondents practice Christianity while Muslims were 41.1%. A small percentage (4.9) of respondents were traditional religion practitioners. This signifies some survival of traditional religion among women in the study area. In line with expectation, most respondents (81.4%) were Yorùbá. Other ethnic groups were also represented in the study. The distribution of socio-demographic characteristics of respondents is presented in Table 1.

Fertility Issues Among Respondents

Table 2 shows that the mean number of children that respondents have is 2.94 ± 1.35 . Most respondents (30.1%) have three children and 28.4% have two children while 16.9% have four children. No respondents have more than seven children. This distribution still very much resembles the high fertility character of sub-Saharan Africa. This is more so because respondents are still within their reproductive years and most of them (77%) are still expected to have more. Table 2 further shows that the majority of respondents (77%) gave affirmative response to the question probing their desire for additional children. Three respondents did not respond to this question while 22.3% do not desire to have children again. In addition, Table 2 indicates that the mean fertility intention was 1.85 ± 1.44 . About one-fifth of respondents do not want additional children. Most respondents wanted one additional child (23.0%) or two children (23.8%). Fertility status, desire for additional

Table 1

Socio-demographic characteristics of respondents (N = 408)

Socio-demographic characteristics	Sub-groups	Frequency	Percentage (%)
Marital status	Single	2	0.5
	Married	370	90.7
	Divorced	13	3.2
	Widowed	20	4.9
	No response	3	0.7
Education*	No formal education	77	18.9
	Primary school certificate	108	26.5
	Secondary school certificate	200	49.0
	NCE/OND/HSC/A LEVEL	14	3.4
	BSC/HND	1	0.2
	No response	8	2.0
Age**	15-21	14	3.4
	22-28	100	24.5
	29-35	164	40.2
	36-42	91	22.3
	43-49	39	9.6
Religion	Islam	169	41.1
	Christianity	219	53.7
	Traditional	20	4.9
Ethnicity	Yorùbá	332	81.4
	Igede	33	8.1
	Igbo	25	6.1
	Hausa	9	2.2
	Cotonou	5	1.2
	Isoko	2	0.5
	No response	2	0.5

*NCE= National Certificate in Education, OND = Ordinary National Diploma, HSC= Higher School Certificate, A LEVEL= Advanced Level Certificate, BSc= Bachelor of Science, HND= Higher National Diploma

**The mean age was 32.88 ±6.79, minimum= 20, maximum= 49

children and fertility intention among respondents showcases high demand for children, contrary to global fertility dynamics. However, lowered demand for children is beneficial for economic well-being and otherwise. For instance, Korotayev, Zinkina, Goldstone and Shulgin (2016) asserted that “almost all the countries of Asia are successfully completing their fertility transition or have already completed it, and their promptness in fertility decline seems to have played a great role in their economic achievements and in Asian development as a whole”. Respondents in this study (54.4%) were not utilizing family planning as at the time of the survey but 45.6% were using some. This proportion of modern contraceptive users is far greater than what is in larger Nigerian society. The Nigerian 2018 Demographic and Health Survey shows that 7.2% and 18.2% of married women in rural and urban Nigeria respectively use any modern

method of contraceptive (National Population Commission, 2019). Hence, contraceptive behaviour among women farmers in the study area is friendlier to fertility change when compared with this behavior in the larger Nigerian women populace.

Types of Family Planning Method Used Among Respondents

Table 3 shows that the use of oral pills (30.6%) is most popular among respondents. Female and male condom use were practiced by 3.9% and 8.1% of respondents respectively, thus indicating the greater popularity of male rather than female condom use among women farmers in the study area. Male condom use is next to the most popular, and this was followed by hormonal injection (7.4%). Implants (6.8%) and intra-uterine device (6.4%) are also used among respondents. This distribution generally contradicts the position of Darroch and Singh (2013)

who reported that injectables and implants, followed by the pill and condoms were the most popular modern contraceptive methods in sub-Saharan Africa. Similarly, current findings also contradict the result of 2018 NDHS which showed that the most popular methods were implants, injectables, and withdrawal (among currently married women). These were each used by 3% while male condoms were used by 2% of respondents. This presupposes that the target population is quite different from Nigerian women population.

Fertility Status and Desire for Additional Children

The crosstab on Table 4 shows that the desire to have children as well as additional children is overwhelmingly high among respondents who do not have children and those who already have 1 to 3 children. Among those who have four children, 61.8% still wanted additional children. The percentage of those desiring additional children only dropped sharply to 32% among those who have had five children. These data showcase high demand for

children and unpopularity of replacement fertility among women farmers in the study area. The chi-square value is 163.390 ($p < 0.05$). Hence, there is a significant association between fertility status and desire for additional children. The null hypothesis is rejected. This finding is intuitive. The contingency coefficient (0.536) indicates that the extent of this association is 53.6%.

Fertility Status and Fertility Intention Among Respondents

The cross-tab on Table 5 shows that the few respondents who have not had children want to have four children. Most (44.9%) of those who have one child desire to have additional three children while 28.6% desire additional four children. Only 18.2%, 35.3%, 68% and 94.7% of those who already have three, four, five and six children respectively do not desire to have children any more. Fertility intention responds to fertility status, and it also showcases high demand for children among women farmers in the study area. The chi-square value is 231.684

Table 2

Distribution of fertility issues among respondents (N = 408)

		Frequency	Percentage
Fertility status*	0	2	0.5
	1	49	12.0
	2	116	28.4
	3	123	30.1
	4	69	16.9
	5	25	6.1
	6	19	4.7
	7	5	1.2
Desire for additional children	NO	91	22.3
	YES	314	77.0
	No response	3	0.7
Fertility intention **	0	87	21.3
	1	94	23.0
	2	97	23.8
	3	61	15.0
	4	50	12.3
	5	13	3.2
	6	2	0.5
	No response	4	1.0
Current use of modern family planning	Yes (Users)	183	45.6
	No (Non-users)	220	54.4

*Mean fertility status = 2.94 ± 1.35

**Mean fertility intention = 1.85 ± 1.44

Table 3

Types of family planning method used among respondents

Type	Item	YES (%)	NO (%)	No response (%)
Traditional methods	Withdrawal method	6.9	91.9	1.2
	Safe period (rhythm)	4.2	94.9	0.9
	Folk method (charms, rings)	4.7	93.6	1.7
Modern methods	Oral pills	30.6	67.6	1.8
	Intrauterine device (IUD)	6.4	92.6	1.0
	Hormonal injection	7.4	91.9	0.7
	Implants	6.8	92.2	1.0
	Female condom	3.9	95.3	0.7
	Male condom	8.1	90.9	1.0

Table 4

Cross-tabulation of fertility status and desire for additional children

Fertility status	Desire for additional children	
	NO (%)	YES (%)
0	0	100
1	2	98
2	0	100
3	18.9	81.1
4	38.2	61.8
5	68.0	32.0
6	94.7	5.3
7	100	0

Chi-square = 163.390, $df = 7$, $p = 0.000$; Contingency co-efficient = 0.536, ($p = 0.000$)

($p < 0.05$), making it conclusive that there is significant association between fertility status and fertility intention. The null hypothesis is rejected. This finding is also intuitive. The contingency co-efficient (0.604) shows that the extent of this association is 60.4%.

Current Use of Modern Family Planning and Fertility Intention Among Respondents

The interplay between fertility intention and current use of modern family is represented on Table 6. The table shows that 0.5%, 3.2% and 14.3% of those who wanted additional six, five and four children respectively are non-users. Those who wanted no additional children (27.6%), one additional child (16.6) and two additional children (23%) were also not currently using modern family planning. One would expect those not desiring additional children to be users of modern family planning. Incidentally, this appears not to be largely so. Table 6 also shows that

14%, 30.8% and 25.3% of users desired no more, one and two additional children respectively. Considering distribution with fertility intention, 69.8% of those not desiring additional children were non-users. This is also similar to the distribution of those desiring four children, where 62% were non-users. The chi-square value is 18.250 ($p < 0.05$). Hence, there is a significant association between current use of modern family planning and fertility intention. The null hypothesis is rejected. The contingency coefficient (0.209) shows that the extent of this association is 20.9%. This is rather low and indicates poor, unideal synergy between the use of modern family planning and fertility intention among women farmers in the study area. Hence, this finding populates assertions implicating unmet need for family planning on high fertility in sub-Saharan Africa (Singh, Bankole & Darroch, 2017).

*Socio-demographic Breakdown of Current Use of
Modern Family Planning and Fertility Intention
Marital Status, Current Use of Modern Family
Planning and Fertility Intention*

Ho: There is no significant association between the current use of modern family planning and fertility intention among single, married, divorced and widowed respondents.

Table 7 is a breakdown of current use of modern family planning and fertility intention by marital status. Those who desired additional four children and were single were also non-users of modern family planning. Table 7 also shows that among married respondents desiring no additional children, 60.7% of them were non-users. This distribution is similar to those desiring additional four children, where 61.7% of married respondents were also non-users. This distribution is even higher than the one reported by Singh and Darroch (2012) who estimated that 30–37% of married women in West Africa have unmet need to use modern contraceptives. The chi-square of these distributions among married respondents alone was 9.457 ($p > 0.05$). Hence, there is no significant association between current use of modern family planning

and fertility intention among married respondents. Majority (66.7%) of divorced respondents desiring no additional children were non-users. This is very similar to findings among married respondents. However, there were generally more users among divorced respondents (61.5%) than among married respondents (47.8%). There was also no significant association between current use of modern family planning and fertility intention among divorced respondents ($p > 0.05$). The null hypothesis is accepted. All widowed respondents desired no additional children and were non-users. This is intuitive.

*Age, Current Use of Modern Family Planning and
Fertility Intention*

There is no significant association between current use of modern family planning and fertility intention among respondents aged between 15-21, 22-28, 29-35, 36-42 and 43-49.

Table 8 is a presentation of the breakdown of current use of modern family planning and fertility intention by age. Among those aged between 15-21, 22-28, 29-35, 36-42 and 43-49, users were 53.8%, 37.4%, 54.7%, 40.2% and 38.5% respectively. The 15-21 and 29-35 age sub-groups were those above total users which

Table 5

Cross-tabulation of fertility status and fertility intention among respondents

Fertility status	Desired number of children						
	0 (%)	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	6 (%)
0	0	0	0	0	100	0	0
1	0	4.1	18.4	44.9	28.6	4.1	0
2	0	31.9	26.7	19.0	16.4	5.2	0.9
3	18.2	30.6	28.9	7.4	10.7	4.1	0
4	35.3	20.6	27.9	8.8	5.9	0.0	1.5
5	68.0	12.0	12.0	8.0	0	0	0
6	94.7	5.3	0	0	0	0	0
7	100	0	0	0	0	0	0

Chi-square = 231.684, $df = 42$, $p = 0.000$; Contingency co-efficient = 0.604, ($p = 0.000$)

Table 6

**Cross-tabulation of current use of modern family planning and fertility intention
among respondents**

C-use	Count	Fertility intention (desired number of additional children, %)							
		0	1	2	3	4	5	6	Total
Non-users	% within c-use	27.6	16.6	23.0	14.7	14.3	3.2	0.5	100
	% within f- intention	69.8	39.1	52.1	53.3	62.0	53.8	50.0	54.4
Users	% within c-use	14.0	30.8	25.3	15.4	10.4	3.3	0.5	100
	% within f-intention	30.2	60.9	47.9	46.7	38.0	46.2	50.0	45.6
	Total	100	100	100	100	100	100	100	100

Chi-square = 18.250, $df = 6$, $p = 0.006$; Contingency co-efficient = 0.209, ($p = 0.006$)

Table 7

Current use of modern family planning and fertility intention disaggregated by marital status

Marital Status	Current use of FP status (C-Use)	Fertility intention (desired number of additional children, %)							Total
		0	1	2	3	4	5	6	
Single ^a	Non-users (%)	-	-	-	-	100	-	-	-
	Total	-	-	-	-	100	-	-	-
Married ^b	Non-users (%)	60.7	39.3	53.3	53.4	61.7	53.8	50.0	52.2
	Users (%)	39.3	60.7	46.7	46.6	38.3	46.2	50.0	47.8
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Divorced ^c	Non-users (%)	66.7	0.0	25.0	0.0	-	-	-	38.5
	Users (%)	33.3	100.0	75.0	100.0	-	-	-	61.5
	Total	100.0	100.0	100.0	100.0	-	-	-	100.0
Widowed ^d	Non-users (%)	100.0	-	-	-	-	-	-	-
	Total	100.0	-	-	-	-	-	-	-
Total ^e	Total non-users (%)	69.8	38.5	52.1	52.5	63.3	53.8	50.0	54.3
	Total users (%)	30.2	61.5	47.9	47.5	36.7	46.2	50.0	45.7
	Overall total	100.0	100.0	100.0	100.0	100.0	100.	100.0	100.0

^a Chi-square not computed because C-Use and fertility intention are constant

^b Chi-square = 9.457, df= 6, p =0.149; Contingency co-efficient = 0.160, (p =0.149)

^c Chi-square = 4.198, df= 3, p =0.241; Contingency co-efficient = 0.494, (p =0.241)

^d Chi-square not computed because C-Use and fertility intention are constant

^e Chi-square = 19.357, df= 6, p =0.004; Contingency co-efficient = 0.216, (p =0.004)

Table 8

Fertility intention and current use of modern family planning disaggregated by age

Age	Current use of FP status (C-Use)	Fertility intention (desired number of additional children, %)							Total
		0	1	2	3	4	5	6	
15-21 ^a	Non-users (%)	-	50.0	33.3	-	40.0	66.7	-	46.2
	Users (%)	-	50.0	66.7	-	60.0	33.3	-	53.8
	Total	-	100	100	-	100	100	-	100
22-28 ^b	Non-users (%)	83.3	45.5	70.8	52.2	67.9	66.7	0.0	62.6
	Users (%)	16.7	54.5	29.	47.8	32.1	33.3	100.0	37.4
	Total	100	100	100	100	100	100	100	100
29-35 ^c	Non-users (%)	50.0	36.0	44.7	51.6	64.3	25.0	100.0	45.3
	Users (%)	50.0	64.0	55.3	48.4	35.7	75.0	0.0	54.7
	Total	100	100	100	100	100	100	100	100
36-42 ^d	Non-users (%)	78.8	44.0	50.0	66.7	33.3	-	-	59.8
	Users (%)	21.2	56.0	50.0	33.3	66.7	-	-	40.2
	Total	100	100	100	100	100	-	-	100
43-49 ^e	Non-users (%)	66.7	25.0	50.0	-	-	-	-	61.5
	Users (%)	33.3	75.0	50.0	-	-	-	-	38.5
	Total	100	100	100	-	-	-	-	100
Total ^f	Total non-users (%)	69.8	39.1	52.1	53.3	62.0	53.8	50.0	54.4
	Total users (%)	30.2	60.9	47.9	46.	38.0	46.2	50.0	45.6
	Overall total (%)	100	100	100	100	100	100	100	100

^a Chi-square = .794, df= 3, p =0.851; Contingency co-efficient = 0.240, (p =0.851)

^b Chi-square = 6.294, df= 6, p =0.391; Contingency co-efficient = 0.244, (p =0.391)

^c Chi-square = 6.284, df= 6, p =0.392; Contingency co-efficient = 0.194, (p =0.392)

^d Chi-square = 9.334, df= 4, p =0.053; Contingency co-efficient = 0.311, (p =0.053)

^e Chi-square = 2.735, df= 2, p =0.255; Contingency co-efficient = 0.256, (p =0.255)

^f Chi-square = 18.250, df= 6, p =0.006; Contingency co-efficient = 0.209, (p =0.006)

Table 9

Fertility intention and current use of modern family planning disaggregated by education

Educational qualification	Current use of FP status (C-Use)	Fertility intention (desired number of additional children, %)							Total
		0	1	2	3	4	5	6	
No formal education ^a	Non-users (%)	70.6	33.3	75.0	84.6	78.9	83.3	50.0	75.0
	Users (%)	29.4	66.7	25.0	15.4	21.1	16.7	50.0	25.0
	Total	100	100	100	100	100	100	100	100
Pry school certificate ^b	Non-users (%)	85.7	47.8	57.7	55.6	72.7	50.0	-	66.0
	Users (%)	14.3	52.2	42.3	44.4	27.3	50.0	-	34.0
	Total	100	100	100	100	100	100	-	100
Secondary school ^c	Non-users (%)	56.3	33.3	44.9	37.1	35.3	0.0	-	40.2
	Users (%)	43.8	66.7	55.1	62.9	64.7	100.0	-	59.8
	Total	100	100	100	100	100	100	-	100
Tertiary ^d	Non-users (%)	0.0	57.1	0.0	100.0	-	-	-	42.9
	Users (%)	100.0	42.9	100.0	0.0%	-	-	-	57.1
	Total	100.0	100.0	100.0	100.	-	-	-	100.0
Total ^e	Total non-users (%)	69.8	38.5	52.1	52.5	61.7	50.0	50.0	54.0
	Total users (%)	30.2	61.5	47.9	47.5	38.3	50.0	50.0	46.0
	Overall total	100	100	100	100	100	100	100	100

^a Chi-square = 4.642, df= 6, $p=0.590$; Contingency co-efficient = 0.240, ($p=0.590$)

^b Chi-square = 11.140, df= 5, $p=0.049$; Contingency co-efficient = 0.308, ($p=0.049$)

^c Chi-square = 7.992, df= 5, $p=0.157$; Contingency co-efficient = 0.199, ($p=0.157$)

^d Chi-square = 7.000, df= 3, $p=0.042$; Contingency co-efficient = 0.577, ($p=0.042$)

^e Chi-square = 18.846, df= 6, $p=0.004$; Contingency co-efficient = 0.214, ($p=0.004$)

were 45.6%. The 2018 NDHS indicated that modern contraceptive use reached a peak of 23% among women age 35-39 (National Population Commission, 2019). In this study, current use of modern family planning reached a peak of 54.7% among women aged 29 to 35. This indicates that the peak use of modern contraceptives among women farmers in the study area occurs among relatively younger women when compared with the peak use in general Nigerian women population. Among those wanting no additional children, 83.3% of those aged 22-28 were non-users. This percentage was 78.8% among those aged between 36 to 42. There is no significant association between current use of modern family planning and fertility intention in all the age sub-groups ($p > 0.05$). Age is not a significant factor in current use of modern family planning and fertility intention.

Education, Current Use of Modern Family Planning and Fertility Intention

Ho: There is no significant association between current use of modern family planning and fertility intention among respondents with no formal education, primary education, secondary education and tertiary education.

Table 9 shows a breakdown of current use of modern family planning and fertility intention by education. Among those without formal education, total users were 25%. This percentage increased to 34% among those with primary school certificate and further increased to 59.8% among secondary school certificate holders. However, this percentage reduced slightly to 57.1% among those with tertiary education.

Among those without formal education, 70.6% of those not desiring additional children were non-users. This percentage increased to 85.7% among primary school certificate holders but reduced sharply to 56.3% among secondary school certificate holders. More interestingly, all respondents with tertiary education desiring no more children were users of modern contraceptive. There was no significant association between current use of modern family planning and fertility intention among those without formal education and those with secondary education ($p > 0.05$). However, there was significant association between current use of modern family planning and fertility intention among respondents with primary education and those with tertiary education. The null

hypotheses are rejected. Primary education and tertiary education are significantly associated with lower and higher use of modern family planning in relation to fertility intention respectively. This underscores the growing agreement that increasing education is important in determining contraceptive use in sub-Saharan Africa (Bongaarts and Hardee, 2018; Ajibola, Jacob and Omotosho, 2018; Alaba, Olubusoye and Olaomi, 2017 and Wusu and Isiugo-Abanihe, 2019). Contingency coefficients indicate that the extent of the association between current use of modern family planning and fertility intention among primary school certificate holders and tertiary education achievers is 30.8% and 57.7% respectively.

Conclusions

Current use of modern family planning, fertility intention, fertility status among majority of respondents still very much resembles the high fertility character of sub-Saharan Africa. These variables have underscored the 'African effect' as the main issue in high fertility of sub-Saharan Africa. The African effect is greater desire for children and poor use of contraceptives. The variables also showcase the unpopularity of replacement fertility among women farmers in the study area. Yet, fertility decline is prime in accelerating economic wherewithal at the household, community and national levels. However, the proportion of modern contraceptive users is far greater than what obtains in larger Nigerian society making contraceptive behaviour among women farmers in the study area to be friendlier to fertility change when compared with this behavior in the larger Nigerian women populace.

The significant association between current use of modern family planning and fertility intention is weak and therefore underscores the unideal synergy between the use of modern family planning and fertility intention among women farmers in the study area. Being married or divorced is insignificantly associated with current use of modern family planning and fertility intention. Age is not a significant factor in current use of modern family planning and fertility intention. Having no formal education or secondary education is also insignificantly associated with current use of modern family planning and fertility intention. However, having primary education and/or tertiary education is significantly associated respectively with lower and higher use of modern family planning in relation to fertility intention. This underscores the growing agreement that increasing education is important in determining contraceptive use in sub-Saharan Africa.

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