PSYCHOSOCIAL CORRELATES OF UTILIZATION OF MODERN FAMILY PLANNING AMONG WOMEN FARMERS OF REPRODUCTIVE AGE IN SELECTED PERI-URBAN COMMUNITIES OF IBADAN, NIGERIA

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ABSTRACT

The use of modern family planning produces tremendous benefits for individual and communal well-being but its utilization is notably poorer among rural residents whose occupation is typically farming. Moreover, psychosocial factors are implicated in contraceptive use but this is yet to be optimally studied. Hence, this work was designed to examine psychosocial correlates of utilization of modern family planning among women farmers of reproductive age in selected peri-urban communities of Ibadan, Nigeria.

The study design was a cross-sectional survey. A structured, closed-ended questionnaire was administered via structured interview to 408 randomly selected respondents in Ido and Ona-ara local government areas of Ibadan, Nigeria. Multi-item measures were used to assess variables while stepwise, multiple linear regression was used to assess combined and solo explanatory power of the predictors of utilization of modern family planning.

Results indicate that the mean score of utilization of modern family planning was 1.89±1.86 (min.= 0, max.= 4). The descriptive norm of contraceptive use, marital communication, food insecurity, perceived stress and household size are significant predictors of utilization of modern family planning (multiple $R = 0.638$, adjusted $R^2 = 0.398$; $p < 0.001$). Meanwhile, descriptive norm of contraceptive use is the best predictor of utilization of modern family planning (standardized $\beta = .397$, R^2 change = .234; $r = .484$, partial $r = .436$, $p<0.001$).

Psychosocial factors are significant determinants in the predisposition to utilize family planning and the descriptive norm of contraceptive use is the most important of these determinants. This validates axioms that implicate social circumstances in life outcomes.

***Keywords**: Psychosocial factors, family planning, women farmers, descriptive norm, marital communication, food insecurity, perceived stress and extended family.*

INTRODUCTION

Women's utilization of modern family planning (UMFP) is one of the few social phenomena that holds great promises for achieving several of the sustainable development goals (SDGs) in Sub-Saharan Africa (SSA). Population growth has decreased tremendously in all regions of the world except in SSA where total fertility rate (TFR) is highest (United Nations, 2017). The world's TFR reduced from 5.0 children per woman in 1960 to 2.5 children per woman in 2013 (De Silva and Tenreyro, 2017). However, this dramatically contrasts with the TFR of most SSA states. For instance, Nigerian TFR only reduced from 5.7 in 2008 to 5.5 in 2013 and to 5.3 in 2018 (National Population Commission, 2009, 2014 and 2019). This implies that even in 2018 the average Nigerian woman is expected to have 5.3 children in the course of her reproductive life. This high fertility scenario has stirred concerted interest in population dynamics. Bongaarts (2017: 51) speaks of an "Africa effect", which Mbacké (2017) has described as "a higher demand for children and lower use of modern contraception" (page 331).

Widespread utilization of modern family planning is linked with several indices of development which are also interlinked with several SDGs like ending poverty, zero hunger as well as good health and well-being. Widespread utilization of modern family planning is central to reducing population. Singh, Bankole and Darroch (2017) report that the use of contraception influences fertility rates by preventing unwanted pregnancies and unplanned childbirths. Reduced fertility rate is a developmental achievement. Dyson (2010) has asserted that falling birth and death rates are "arguably the most important part of whatever is meant by the term 'development'" (p.

5). Falling birthrate reduces the dependency ratio, enabling resources to be focused on greater investments. Reducing the birth rate also increases the working population. When this happens, economic growth will be triggered given that there are investments in health, education, and other infrastructures (Young, 2019). This is the essence of the demographic dividend. In addition, family planning is also important for child survival. Adedini *et al*. (2015) argue that there is an increased chance of recording under-five mortality among children whose mothers could not meet their need for child spacing and limiting childbirth. The use of modern family planning is also significant in the prevention of maternal and child mortality (Chola *et al*., 2015). Indeed, women's utilization of family planning deserves all the attention it can get from varying quarters.

The utilization of family planning is even more important among women farmers. There is a seeming dearth of data specifically relevant to the population of the current study in the extant literature. As a segment of the population, farmers are typically poorer rural residents and lower developmental indices are associated with higher fertility rates. "The poor world is largely a rural world, and in terms of livelihoods, this rural world is an agricultural one where farming predominates" (Rigg, 2006: p.180). According to the FAO, "most small family farmers are poor and food-insecure" (2015: p. 31). Nigeria's TFR was 5.7 in 2008, 5.5 in 2013 and to 5.3 in 2018 (National Population Commission, 2009, 2014 and 2019). Rural/urban disaggregated data indicates that TFR for rural Nigeria was 6.3 in 2008, 6.2 in 2013 and 5.9 in 2018 (Ibid). Rural TFRs are typically higher than the overall TFRs with rural women having 1.6, 1.5 and 1.4 children more than urban women in 2008, 2013 and 2018 respectively, while under-five mortality in rural areas is twice of that in urban areas (Akinyemi, Chisumpa and Odimegwu, 2016). Indeed, there is a need to focus attention on fertility dynamics among rural women who are also typically farmers.

The decision to utilize family planning is a psychosocial phenomenon. Individual and community characteristics are implicated in the dynamics of contraceptive use. The world development report of 2015 acknowledged the import of psychosocial influences on "decision making and human behavior" (World Bank, 2015), which have significant implications on development. In fact, the title of this report, *Mind, Society and Behaviour*, is a strong indication that development professionals are convinced of the import of socio-psychological and cultural factors in life outcomes. In this light, understanding psychosocial factors in the utilization of family planning is essential. Family planning programs are important in the widespread utilization of family planning (Bongaarts and Hardee, 2018), unfortunately these programs are inadequate in SSA (Mbacke, 1994; Singh, Bankole and Darroch, 2017) and this is mainly responsible for poor fertility decline in the region (De Silva and Tenreyro, 2017). However, data specifying potential routes to improved family planning uptake are also poor. In this light, examining psychosocial predictors for the utilization of family planning among women farmers is in order.

Conceptual framework

The conceptual framework of this study is presented diagrammatically in figure 1 below. The conceptual framework is a representation of the independent, psychosocial, interval-level variables of the study and their presumed interrelationships. These variables include household size, perceived stress, food insecurity, marital communication and descriptive norm of contraceptive use. These variables have been employed for the following reasons: Household size is expected to positively influence utilization of modern family planning. Babalola, Babalola and Oladimeji (2012) reported that larger household sizes predisposed families to poverty when compared with smaller household sizes. The largeness of a woman's immediate family is likely to have implications on her experiences of stress. Stress has increasingly been seen as socially relevant and inherently connected to "work and labour activities" (Herrero *et al*., 2012: 365). Although there has been an increasing change in gender roles across virtually all societies, housework is still largely undertaken by women, with allocation of household tasks still

resembling traditional patterns (Crompton, Brockmann and Lyonette, 2005). It is therefore justifiable to expect that the larger a woman's immediate family is, the greater her perceived stress and the more she is motivated to utilize modern family planning so as to cease extending her household size.

The largeness of family will also have implications on the woman's food insecurity status. For instance, Omotesho *et al*. (2006) reported negative relationship between household size and food security in rural farming households in Kwara state, Nigeria. So, the larger the family is, the greater the woman's food insecurity and the more she is motivated to utilize modern family planning. Household size will also have implications for marital communication, i.e. communication between a woman and her husband. Oyediran and Isiugo-Abanihe (2002) conducted a household-based survey among 788 wives and their husbands (749 husbands) in Yorùbá towns in Southwestern Nigeria. Among other things, they found that zero fertility intention or not wanting more children was significantly associated with extent of communication between couples on family planning issues. The larger the household size, the lower the extent of marital communication and the utilization of modern family planning. Descriptive norm of contraceptive use is the perceived prevalence of contraceptive use. "The descriptive norm describes what is typical or *normal.* It is what most people do, and it motivates by providing evidence as to what will likely be effective and adaptive action" (Cialdini, Reno and Kallgren, 1990: 1015, italics in original). It is a variable in the theory of normative social behavior (Rimal and Real, 2005). Descriptive norm was one of the significant factors motivating willingness to engage in gardening (Ibrahim, 2013). It is logical to anticipate that women will be more motivated to utilize modern family planning as their descriptive norm expands. This is because as social beings, people are inclined to engage in what others do. On the whole, household size, perceived stress, food insecurity, marital communication and descriptive norm of contraceptive use were expected to be significant predictors of utilization of modern family planning. Hence, this conceptual framework consists of five independent predictors of the utilization of modern family planning. The major aim of this study was to examine how these five constructs predict the outcome variable - the utilization of modern family planning. Otherwise stated, these null hypotheses were tested: there is no significant prediction of the utilization of modern family planning by household size, perceived stress, food insecurity, marital communication and the descriptive norm of contraceptive use. In addition, univariate analysis of utilization of modern family planning including items in its index was conducted. The null hypotheses of no significant difference in mean score of utilization of modern family planning across sub-groups of religion, marital status, age and education were also tested.

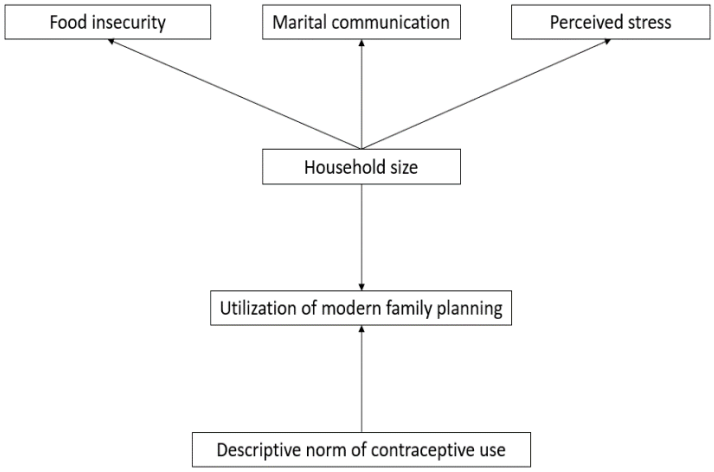

Figure 1: Conceptual framework of study showing variables of study and their interrelationship

METHODS

Research design

This study is a cross-sectional survey that targeted women farmers of reproductive age in selected peri-urban communities of Ibadan, Nigeria.

Study/target population

The study population comprised of the people of the six peri-urban local government areas of Ibadan. These local government areas (LGAs) include Ido, Akinyele, Lagelu, Egbeda, Ona-Ara and Oluyole. Ibadan is the capital city of Oyo state in Nigeria and it is a Yorùbá state, with inhabitants predominantly speaking Yorùbá. Women farmers of reproductive age were targeted in this population. However, specific data on the number of women of reproductive age in the study area is unavailable. According to the National Population Commission (2007), the total number of women in these LGAs was 608,247. This is taken as the N figure for this study. Taking the total number of women in these LGAs as the N therefore means the study had increased sample size than would otherwise be.

Sample selection

The selection of samples in the study was multi-staged, random and systematic. A sample size calculator was used to determine the required sample size at 95% confidence level and confidence interval of 4.9. This was 400, but it was increased to 408. From the six peri-urban local government areas of Ibadan, two were randomly selected: Ido and Ona-ara. Each has a land area of 800 km^2 and 290 km^2 respectively. Ido and Ona-ara LGAs comprises of ten and eleven wards respectively, as well as many towns and villages. The basic occupation of the people is farming. Four wards were randomly selected from each LGA and two communities were randomly selected from each selected ward. In Ido LGA, Akufo, Abegunrin, Elenusonso, Oganla, Ido, Onikede, Omi-Adio, and Bakatari were selected. In Ona-ara LGA, Badeku, Jago, Ojoku, Adewumi, Gbedun, Araromi, Akanran, and Ojebode communities were randomly selected. Using the registered farmers association record, simple random sampling was used to select twenty-six and twenty-five respondents in each of the eight communities at Ido and Ona-ara LGAs respectively.

Study Instrument

A structured, closed-ended questionnaire was the instrument of data collection. The study questionnaire was translated into Yorùbá language and administered via structured interview. The goal of the study was explained to each potential respondent and they were informed that their anonymity was guaranteed. Respondents were told that participating in the study involved no anticipated risks, and that they could choose to decline to responding to any question. Participants were asked to add their signature using their initials and surname, as an indication of their informed consent to take part in the study. Data collection occurred between February and May, 2019. Response rate was 100%.

Operational definitions and measurement of variables

Utilization of modern family planning

The utilization of modern family planning was defined as the use of modern family planning as a measure of birth control among respondents. Respondents were presented with information to clarify that modern family planning includes oral pills, intrauterine device (IUD), hormonal injection, implants, condom (male and female), etc. These modern methods are in contrast with the traditional such as withdrawal method, safe period (rhythm) and folk medicine (charms, rings). It was assessed with a 4-item author-devised index (see table 2 for items in this index). The Cronbach's alpha (0.954) show that these items were internally consistent. Items were scored 0-1, and greater score meant greater utilization of modern family planning. Possible score ranged from 0 to 4.

Household size

Household size was defined as the extent of a respondent's family including children and other adults. It was assessed with a 28-item author-devised index assessing if respondents reside with one, two, three or > three children under the age of five. The index also assessed if respondents reside with one, two, three or > three children between the age of six and eighteen; one, two, three or > three co-wives; one, two, three or > three dependent relative(s) from respondent's family; one, two, three or > three dependent relative(s) from respondent husband's family; one, two, three or > three dependent relative(s) from respondent co-wife's family; and one, two, three or > three dependent non-relative(s). The Cronbach's alpha score was "fair" at 0.514. Items were scored 0-1, and greater score implied higher extendedness of family. Possible score ranged from 0 to 28.

Perceived stress

Perceived stress was defined as respondents' feelings or thoughts about the pressures they are under within the last month before the survey. It was measured with the 14-item perceived stress scale (Cohen *et al*., 1983, 1988). An example of item in the scale is 'in the last month, how often have you found that you could not cope with all the things that you had to do?'. Responses included 'never, almost never, sometimes, fairly often and very often'. Items were scored 0-4 with greater score implying greater perceived stress. The Cronbach's alpha score for this data was "excellent" was 0.893. Possible score ranged from 0 to 56.

Food insecurity

Limited financial resources were important in the operational definition of food insecurity defined as insufficiency of nutritional foods. It was assessed with author-adapted version of the 4 item women's hunger sub-scale (Radimer et al., 1990). A single item that yielded poor item-total

correlation was expunged from the original scale. This removal accelerated the Cronbach's alpha value from an "unacceptable" 0.320 to "excellent" at 0.854. An item in the scale is 'how often are you hungry, but you don't eat because you can't afford enough food?'. Responses included 'never, sometimes and always' and were scored 0-2. Respondents' total score could range from 0 to 6.

Marital communication

Marital communication was defined as the extent to which respondents share their concerns with their partners or spouses. It was measured with the three-item open communication sub-scale of the Dutch marital satisfaction and communication questionnaire (Troost *et al*., 2005). The scale assessed the extent to which respondents talk to their partners about 'personal problems'; 'things in which they are both interested'; and 'the nice things that happen in a day'. Responses included 'never, almost never, sometimes, fairly often, and very often'. These were scored 0-4, respondents could score 0 to 12. The Cronbach's alpha score was "excellent" at 0.917.

Descriptive norm of contraceptive use

The descriptive norm of contraceptive use was defined as respondents' evaluation of the commonplaceness of contraceptive use. It was assessed with a 3-item author-devised scale assessing the perceived correctness of three submissions. One of this was 'I know lots of women that use family planning'. Responses included 'absolutely correct'; 'fairly correct' and 'not correct at all'. The Cronbach's alpha score was found to be "fairly good" at 0.608. Items were scored 0-2, such that greater scores implied greater evaluation of others' use of family planning. Total score could range from 0 to 6.

Data analyses

Frequency counts and percentages were used to show data distributions. One sample Kolmogorov Smirnov test (for normalcy) was used to assess the normalcy of distribution of interval-level data, as a prerequisite of using parametric tests such as linear regression. This indicated that all interval-level data did not deviate significantly from normal distributions (p>0.05). Homogeneity of variance across sub-groups of religion, marital status, age and education were assessed with Levene's test because this homogeneity is necessary for result of ANOVA to be admissible as valid. One-way ANOVA was used to assess the significance of the differences in means across sub-groups of religion, marital status, age and education. A test for linearity was conducted to examine appropriateness of using Eta and Eta^2, which were used as measures of effect size when result of ANOVA was significant. In addition, post hoc test (LSD) was used to identify homogenous sub-groups when result of ANOVA was significant. Stepwise, multiple linear regression (using Multiple R and adjusted R^2) was used to assess combined explanatory power of the predictors of utilization of modern family planning. R^2 change, standardized β, partial correlation coefficient and zero-order correlation was used to assess the contribution of each variable that predicted utilization of modern family planning. All data were analyzed using Statistical Package for Social Sciences (version 21).

RESULTS AND DISCUSSIONS

Profile of respondents

An overwhelming majority of respondents were married (90.7%) while just two respondents were single. A fringe of respondents (3.2% and 4.9%) was divorced and widowed respectively. Three respondents did not disclose their marital status. This distribution speaks well of marriage

stability among respondents in the study area. Almost half of respondents (49%) were secondary school certificate holders. Over a quarter (26.5%) were primary school certificate holders while almost a fifth (18.9%) had no formal education. Respondents with tertiary education were rather few (3.6%). The percentage of those without formal education is quite high. Besides this, the formal basic educational profile of respondents is impressive. The majority of respondents were aged between 29 and 35 years (40.2%). The 22-28 age sub-group constituted 24.5% of respondents, this was closely followed by the 36-42 age sub-group, which comprised 22.3% of respondents. The lowest and the highest age sub-groups were fairly represented in the study. Majority (53.7%) of respondents were Christians while 41.1% were Muslims, while 4.9% were traditional worshippers. A noticeable percentage (4.9) of respondents were practitioners of traditional religion. This is an indication of some level of cultural survival among women in the study area. As expected, most respondents (81.4%) were of the Yorùbá ethnic group. Other ethnic groups, especially Igede and Igbo, were also represented in the study. Just two respondents did not disclose their ethnicity. The socio-demographic profile of respondents is presented in table 1.

Table 1: Socio-demographic profile of respondents (N = 408)

	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
	Tertiary education	15	3.6
	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

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

Utilization of modern family planning among respondents

The mean score of utilization of modern family planning is 1.89±1.86 (min.= 0, max.= 4). This is quite low considering that it is less than the mid score when scores are arranged from the

minimum to the maximum score. However, the standard deviation (1.86) shows that respondents' score was very diverse. Analysis of items in the index of utilization of modern family planning shows that 54.7% of respondents have at some time used modern family planning but 44.9% are current users. There is approximately 10% of women farmers of reproductive age in the study area who have ceased the use of modern family planning. Their justifications are a necessary focus for further study. These women appear to be good targets for future family planning programmes. 53.7% of respondents gave an affirmative response to the question probing if family planning played a role in the number of children respondents currently have. However, this percentage reduced to 42.2 when respondents were asked if they would consider themselves as "good" users of modern family planning. These data suggest about one out of two women farmers in the study area are carrying on their reproductive life without recourse to family planning whatsoever. Up to 3 out of every 5 could not describe themselves as "good" users of modern family planning. On the whole however, the analysis of items in the index of utilization of modern family planning indicates that family planning dynamics among women farmers in the study area is more reflective of the ideal when compared with family planning dynamics in Nigerian as a whole. The Nigerian Demographic and Health Survey of 2008 showed that 5.7% of married women in rural Nigeria use any form of modern method of contraception, in the following survey of 2013 this figure stood at 7.2%. When their urban counterparts are considered, this percentages increased to 16.9 (2008) and 18.2 (2013) (National Population Commission, 2014 and 2019). The rates of contraceptive use in Nigeria is pitifully low but current findings have yield more optimistic rates. The item analyses are presented on table 2.

Table 2: Percentile analysis of items in the index of utilization of modern family planning*

s/no	Items	YES (%)	NO (%)	No response (%)
1	Have you ever used a modern method of family planning?	54.7	44.6	0.7
2	Are you currently using any modern family planning?	44.9	53.9	1.2
3	Did family planning play a role in the number of children you currently have?	53.7	45.3	1.0
4	Will you consider yourself a good user of modern family planning?	42.2	56.9	0.9

*The mean score 1.89 ±1.86, minimum= 0, maximum= 4

Hypotheses testing of the effects of religion, marital status, age and education on utilization of modern family planning

Hypothesis (H_O): There is no significant difference in mean score of utilization of modern family planning among sub-groups of religion, marital status, age and education.

Table 3 shows that practitioners of traditional religion (mean= 2.35±1.84) were the best utilizers of modern family planning. Christians were a little better (1.97±1.84) than Muslims (1.73±1.88) in their contraceptive utilization. However, results of one-way ANOVA show that there is no significant difference in mean scores of utilization of modern family planning across sub-groups of religion ($p > 0.05$). Therefore, the hypothesis H_O is accepted: religion had no significant effect on utilization of modern family planning.

Table 3 further shows that utilization of modern family planning was greatest among divorced respondents (2.23±1.73). This utilization was great among married respondents (1.96±1.88) but negligible among the widowed (0.65±0.93) while it was nil among the two respondents that were single (0.0±0.0). Divorced respondents were perhaps, more sexually active than married respondents. The result of ANOVA shows that these differences in means were significant ($p<$

0.05) but the result of Levene's test threatens the validity of this significant difference because it did not indicate sub-group homogeneity of variance ($p< 0.05$). Hence, H_O is accepted. It cannot be concluded that marital status has main effect on the utilization of modern family planning.

The 29-35 age sub-group has the greatest utilization of modern family planning (2.23±1.86) while the age sub-group with the least utilization was 22-28 (1.58±1.82). These differences were significant ($p < 0.05$) and the result of Levene's test indicates the validity of this significant difference ($p > 0.05$). Hence, hypothesis H_O is rejected. Age has a main effect on utilization of modern family planning. Result of post-hoc test indicates that the 29-35 age sub-group is significantly different from all other age sub-groups ($p < 0.05$). Hence, the 29-35 age sub-group is significantly associated with greater utilization of modern family planning. Eta was 0.154, Eta^2 was 0.024. Just 2.4% of the variation in the utilization of modern family planning is explained by age.

Respondents with secondary education were the greatest utilizers of modern family planning (2.43±1.79). This was closely followed by respondents with tertiary education (2.33±1.79). Those without formal education were the lowest utilizers (1.04±1.59). This finding corroborates the findings of Bongaarts and Hardee (2018) who reported that educational attainment is one of the most important determinants of contraceptive use in sub-Saharan Africa. Other scholars including Ajibola, Jacob and Omotosho (2018), Alaba, Olubusoye and Olaomi (2017) and Wusu and Isiugo-Abanihe (2019) have underscored the role of secondary education among women as a prerequisite of wanting fewer children or achieving lower fertility levels. Result of ANOVA indicates that these mean scores across sub-groups of education were significantly different ($p < 0.05$) but the result of Levene's test threatens the validity of this significant difference ($p < 0.05$) because it did not indicate sub-group homogeneity. Therefore, it cannot be concluded that education has main effect on utilization of modern family planning. Hence, hypothesis H_O is accepted. The summary of results obtained in the analysis of the effects of religion, marital status, age and education on utilization of modern family planning among respondents is presented in table 3.

Table 3: Effect of religion, marital status, age and education on utilization of modern family planning among respondents

Socio-demographic variable	Sub-groups	Mean	Levene's test for homogeneity of variances		ANOVA		Test for linearity		Eta	Eta^2
			Levene's statistic	*p* value	F statistic	*p* value	F statistic	*p* value		
Religion	Christianity	1.97±1.84	.691	.502	1.41	.244	-	-	-	-
	Islam	1.73±1.88								
	Traditional religion	2.35±1.84								
Marital status	Single	0.0±0.0	44.7	.000	4.07	.007	-	-		
	Married	1.96±1.88								
	Divorced	2.23±1.73								
	Widowed	0.65±0.93								
Age (in years)	15-21	1.92±2.01	.671	.612	2.41	.048	.018	.894	.154	.024
	22-28	1.58±1.82								
	29-35	2.23±1.86								
	36-42	1.72±1.85								
	43-49	1.64±1.81								
Education	No formal education	1.04±1.59	6.80	.000	13.66	.000	-	-	-	-
	Primary	1.51±1.86								
	Secondary	2.43±1.79								

Tertiary	2.33±1.79

Hypotheses testing of psychosocial correlates of utilization of modern family planning
Descriptive norm of contraceptive use

Hypothesis (H_O): There is no significant prediction of utilization of modern family planning by descriptive norm of contraceptive use.

Table 4 shows that descriptive norm of contraceptive use significantly predicts utilization of modern family planning (standardized β = .397, p < 0.001). Hence, H_O is rejected. For every .397 increase in descriptive norm of contraceptive use, there is 1 unit increase in utilization of modern family planning. Table 4 also shows that descriptive norm of contraceptive use yielded R^2 change of .234 (p<0.001) for utilization of modern family planning. This implies that 23.4% of the variance in utilization of modern family planning is accounted by descriptive norm of contraceptive use. Thus, descriptive norm of contraceptive use gives the best account of utilization of modern family planning. Table 4 also shows that there is a significant and positive relationship (r = .484, p<0.001) between descriptive norm of contraceptive use and utilization of modern family planning. This relationship is still significant and positive when other variables are controlled for (partial r = .436, p<0.001). This is consonant with the findings of Stephenson *et al*. (2007), who examined Demographic and Housing Survey (DHS) of six Sub-Saharan Africa countries (excluding Nigeria) to understudy contextual influences on modern contraceptive use. They found that in four of these six countries, the proportion of women who approved contraceptive use was positively associated with women's use of same. Indeed, the notion that people are motivated by their social circumstances is substantiated by this finding.

Marital communication

Hypothesis (H_O): There is no significant prediction of utilization of modern family planning by marital communication.

Table 4 shows that marital communication significantly predicts utilization of modern family planning (standardized β = .290, p < 0.001). Hence, H_O is rejected. For every .290 increase in marital communication, there is 1 unit increase in utilization of modern family planning. Table 4 also shows that marital communication yielded R^2 change of .119 (p<0.001) for utilization of modern family planning. This implies that 11.9% of the variance in utilization of modern family planning is accounted by marital communication. Marital communication gives a good account of utilization of modern family planning. Table 4 also shows that there is a significant and positive relationship (r = .369, p<0.001) between marital communication and utilization of modern family planning. This relationship is still significant and positive when other variables are controlled for (partial r = .340, p<0.001). This finding is consistent with extant findings: using the 2013 NDHS data sets, Olawole-Isaac *et al*. (2017) found a significant relationship between spousal communication and contraceptive use in Nigeria. Similarly, Asa, Nkan and Okoro (2018) reported a significant relationship between spousal communication about family planning and contraceptive use among married couples in rural areas of Akwa Ibom state, Nigeria.

Food insecurity

Hypothesis (H_O): There is no significant prediction of utilization of modern family planning by food insecurity.

Table 4 shows that food insecurity significantly predicts utilization of modern family planning (standardized β = -.162, p < 0.001). Hence, H_O is rejected. For every .162 decrease in food insecurity, there is 1 unit increase in utilization of modern family planning. Table 4 also shows that food insecurity yielded R^2 change of .039 (p<0.001) for utilization of modern family planning. This implies that 3.9% of the variance in utilization of modern family planning is accounted by food insecurity. Food insecurity gives significant but little account of utilization of modern family planning. Table 4 also shows that there is a significant and inverse relationship (r = -.344, p<0.001) between food insecurity and utilization of modern family planning. This relation reduced sharply, but it is still significant and inverse when other variables are controlled for (partial r = -.175, p<0.001).

This finding is consonant with expectations. The link between population matters and food insecurity has a long origin dating back to the Malthusian concern over population growth. Onwuka (2006) aptly asserted that considering Nigeria's "poor economy, rapid population growth inevitably reduces agricultural output per capita, leading to food insecurity and high fertility causes overall income per head to decline" (page 11). It must be noted however, that food insecurity is inversely related to utilization of modern family planning in the current study. The implication is that increased food security predisposes greater utilization of modern family planning. By implication, those suffering more from food insecurity are less predisposed to utilizing modern family planning. This resembles the age-long inverse relationship between population and development, and showcases the need to focus on improving women farmers' food security to engender uptake of family planning among them.

Perceived stress

Hypothesis (H_O): There is no significant prediction of utilization of modern family planning by perceived stress.

Table 4 also shows that perceived stress significantly predicts utilization of modern family planning (standardized β = -.119, p < 0.001). Hence, H_O is rejected. For every .119 decrease in perceived stress, there is 1 unit increase in utilization of modern family planning. Table 4 also shows that perceived stress yielded R^2 change of .007 (p<0.001) for utilization of modern family planning. This implies that 0.7% of the variance in utilization of modern family planning is accounted by perceived stress. Perceived stress gives a significant but minute account of utilization of modern family planning. Table 4 also shows that there is a significant and inverse relationship (r = -.401, p<0.001) between perceived stress and utilization of modern family planning. This relationship reduced sharply, but it is still significant and inverse when other variables are controlled for (partial r = -.121, p<0.001).

Household size

Hypothesis (H_O): There is no significant prediction of utilization of modern family planning by household size.

Table 4 shows that household size significantly predicts utilization of modern family planning (standardized β = .087, p < 0.05). Hence, H_O is rejected. For every .087 increase in household size, there is 1 unit increase in utilization of modern family planning. Table 4 also shows that household size yielded R^2 change of .007 (p<0.05) for utilization of modern family planning. This

implies that 0.7% of the variance in utilization of modern family planning is accounted for by household size. Household size thus has a significant but admittedly somewhat minute influence on the of utilization of modern family planning.

The poor correlation between household size and the utilization of modern family planning is probably due to the fast-eroding culture of residing among extended family members, or having many extended family members reside within same households. It is likely that this limited the variability of household size in this study. The index used in the assessment of household size in this study contained 28 items that presupposes the presence of up to 28 people in respondents' households. However, findings indicated that mean household size was =2.69±1.98 (minimum = 0, maximum = 18, mode = 2). In consonance with this lowered family extension, Wusu and Isiugo-Abanihe (2006) reported that "there is a gradual weakening of the cord binding the extended family systems, and an increasing shift to the nuclear family, comprising a man, his wife and their children, even in rural settings" (page 144). This is also probably why insignificant relationship (r = .046, p>0.05) was found between household size and utilization of modern family planning in this study. The summary of results obtained in the hypotheses testing of psychosocial correlates of utilization of modern family planning is presented in table 4.

The multivariate analysis of utilization of modern family planning on one hand and descriptive norm of contraceptive use; marital communication; food insecurity; perceived stress and household size on the other yielded a multiple R of 0.638 (p<0.001) and an adjusted R^2 of 0.398 (p<0.001). This shows that about 40.6% of the variation in utilization of modern family planning is accounted for by this model. Indeed, this model has given a good account of utilization of modern family planning, but descriptive norm of contraceptive use is the variable that accounts for the greatest influence. The 40.6% variation explained in this study is far lower than that reported by Ejembi, Dahiru and Aliyu (2015) who reported that 82% of variation in modern contraceptive use in Nigeria is explained by individual and community factors. These factors included extent of female autonomy, female education, proximity to health facilities, polygynous marriages, etc. A juxtaposition of these variables and the variables of the current study shows that Ejembi, Dahiru and Aliyu (2015) paid attention to traditionally associated factors affecting contraceptive use. The current study better captures the psychosocial factors affecting utilization of modern family planning. The model's summary is also shown on table 4.

Table 4: Result of step-wise multiple regression analysis showing a model of significant predictors of utilization of modern family planning

Model summary			Change statistics						
Multiple R	Adjusted R^2	Predictors	R^2 Change	Standardized β	F statistic	*p* value (F change)	Partial correlation	Zero-order correlation	*p* value (Zero-order correlation)
.638	.398	Descriptive norm of contraceptive use	.234	.397	108.159	.000	.436	.484	.000
		Marital communication	.119	.290	65.113	.000	.340	.369	.000
		Food insecurity	.039	-.162	22.436	.000	-.175	-.344	.000
		Perceived stress	.007	-.119	4.099	.044	-.121	-.401	.000

Household size	.007	.087	4.332	.038	.111	.046	.195

* Dependent variable: Utilization of modern family planning

Conclusions

Utilization of modern family planning in sub-Saharan Africa is generally quite low and largely reflects the pro-fertility character of fertility dynamics in sub-Saharan Africa. Analysis of items in the index of utilization of modern family planning shows that 1 in 10 women farmers of reproductive age in the study area have ceased the use of modern family planning. About one out of two women farmers in the study area are carrying on their reproductive life without recourse to family planning whatsoever. Up to 3 out of every 5 could not describe themselves as "good" users of modern family planning. These are bases of showcasing the "African effect" and its implications for high fertility. However, these findings reflect that family planning dynamics among women farmers in the study area is more of a reflection of the ideal when compared with family planning dynamics in Nigerian as a whole. The rates of contraceptive use in Nigeria is desperately low but current findings have yielded more optimistic rates.

Religion, marital status and education have no effect on utilization of modern family planning but age does. Religion is becoming a sterile, insignificant factor in family planning utilization and its utilization is little relationship to marital status either. The significance of educational achievement for family planning utilization is not substantiated in this study. The 29-35 age sub-group is significantly associated with greater utilization of modern family planning.

Descriptive norm of contraceptive use, marital communication, food insecurity, perceived stress and household size are significant predictors of utilization of modern family planning. Moreover, all these variables except household size are also significantly related to this utilization. Meanwhile, the descriptive norm of contraceptive is the best predictor of utilization of modern family planning. As contraceptive use becomes more prevalent among women, as women communicate more with their partners, as experiences of food insecurity and stress are reduced among women, and as women's household sizes become smaller, the greater the utilization of modern family planning among women farmers in the study area. Psychosocial factors are significant in utilization of family planning and the descriptive norm of contraceptive use is of the greatest significance. This validates axioms that implicate social circumstances in life outcomes.

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