

FAMILY PLANNING PRODUCTS' USAGE INHIBITORS: EVIDENCE FROM RURAL RESIDENTS IN A TYPICAL DEVELOPING COUNTRY

Edwin Chukwuemeka Idoko,

*Department of Marketing
University of Nigeria, Enugu Campus
Enugu, Nigeria
Corresponding Author: edwin.idoko@unn.edu.ng*

&

Precious Chikezie Ezeh

*Department of Business Administration
Federal University Gasau
Zamfara State
Ezeh.pc@fugsau.edu.ng*

Abstract

Family planning (FP) is embedded in Sustainable Development Goals (SDGs) as a critical mechanism for the attainment of SDGs 3.7 and 5.6 that focus on curtailment of population explosion, and maternal and child mortality rates. In many developing Sub-Saharan African countries, inhibitory factors concerning the usage of family planning products especially among under-served rural dwellers remain poorly understood. Thus, this paper seeks to deepen and provide contemporary understanding regarding those barriers that frustrate the uptake of family planning products among rural dwellers of reproductive age. Data were generated with a self-administered questionnaire from 250 respondents. Convenience and judgemental sampling procedures were used to recruit respondents. Structural Equation Modelling (SEM) using Analysis of Moment Structures (AMOS) serves as the analytical tool regarding the hypothesized paths in the research model. Findings from the study reveal that access to FP knowledge/information has a negative-significant effect on the usage of family planning products, additionally, religion and cultural norms, experience and fear of side effects, and quality of reproductive healthcare services have a positive-significant inhibitory influence on the usage of family planning products. Management and policy implications of those findings were examined and directions for future research/actions were suggested.

Keywords: Family planning products, Rural women, Usage, Inhibitors, Reproductive age.

Introduction

Family planning (FP) is embedded in Sustainable Development Goals (SDGs); it is conceived as potent pathway of responding to SDGs 3.7 and 5.6 since FP contributes directly in curtailing both maternal and child mortality rates (United Nations, 2015; Eliason et al., 2013; Cates, Abdool-Karim, El-Sadr, Haffner & Kalema-Kikusoka, 2010; Sachs & McArthur, 2005) including unsafe abortion and undesired pregnancies. Condom as an FP method protects individuals against sexually transmitted infections (STIs) such as Human Immunity Virus/Acquired Immunity Deficiency Syndrome (HIV/AIDS) (Eliason et al., 2013; Cates et al. 2010; Sachs & McArthur, 2005). Research shows that FP is a good way of promoting gender equality, and economic and educational empowerment for women (Yue, O'Donnel & Sparks, 2010).

For a long time, FP has been promoted as part of international health efforts in consideration of its potential to reduce the growth of the global population, and maternal and child mortality, including its influence on women empowerment and environmental sustainability (Cleland et al., 2006; Starbird, Norton & Marcus, 2016). FP is defined as the ability of individuals and couples to decide their desired number of children and reach

the set target, and also space and time for their childbearing efficiently (Bongaarts, Cleland, Townsend, Bertrand & Das-Gupta, 2012). The FP programmes being run by national and international agencies in the donor nations are normally focused on providing contraceptive devices and drugs that assist in preventing pregnancy, and treatment of infertility with general exclusion of abortion services, as a result of the social and legal restrictions on such services in many nations.

Across the African continent, there have been pronounced efforts from both governmental and non-governmental agencies towards the promotion of FP services (Varrella, 2020), including Nigeria. While it must be said that success has been recorded in the area of awareness about FP services in the country, the need for FP remains high (Varrella, 2020). The average prevalence of modern contraceptive use in 2012 was 23.9% with a 95% uncertainty interval (UI) of 22.9 – 25.0% and in 2017 it stood at 28.5% with UI of 26.8 – 30.2% approximately among married women and those in unions in Africa (Cahill et al.2018). In 2017, West African countries recorded a low prevalence of modern contraceptive utilization of below 20% among married women or those in relationships (Cahill et al.2018). For instance, the unmet need for family planning products (FPPs) in Nigeria was 25.3% with UI of 20.6 – 30.7% in 2017 and modern contraceptive prevalence rate (MCPR) change of 2.7% points with UI of -0.9 to 7.1% between 2012 – 2017 (Cahill et al.2018). With an estimated population of 206 million and a growth rate of about 2.58% (Varrella, 2020), Nigeria, one of the world's poorest nations (Ventura, 2021), maintains one of the highest population growth rates in the world. In line with the Nigerian Demographic and Health Survey (NDHS), Nigeria's national fertility rate is 5.3 children per woman (4.5 in urban areas and 5.9 in rural areas) (National Population Commission, 2018). Theoretically speaking, if the exponential rise in the country's population, remains unchecked, the population may likely hurt Nigerians and the entire economy of Africa in terms of strain on government budget and public infrastructure (Drabo, 2020). At the individual/micro level, larger family size will simply amount to higher family budgets and, in the face of poverty, this would be a devastating situation for the household (Drabo, 2020). Essentially, the quality-quantity trade-off theory proposes a choice to families

where the size of the family could potentially determine the quality of livelihood for households. The theory argues that family size would compel households to compromise on their quality of livelihoods like health, housing, food, and education, among other indicators (Becker & Lewis, 1973; Hotz, 1997).

Over decades, family planning has been receiving political attention as a strategy for health, social, and economic development, with abortion being restricted to cases of incest, rape, endangerment to the life of the mother, or fetal- malformation. The impact of the legal restriction on abortion is that women are normally pushed to take the unsafe form of abortion at the risk of endangering their health and life (Grimes et al., 2006). On the same note, as a result of these restrictive abortion laws in some countries, those charged with enacting related policies have appropriated the medicalized discourse on abortion that diffuses the global public health actors through their portrayal of abortion as the outcome of "women's unmet needs" for the use of contraception and emphasizes being placed on the need to "create demand" for family planning (Storeng & Ouattara, 2014). Therefore, reproductive governance in Nigeria is focused more on FP.

What is implied by reproductive governance is the way policymakers, healthcare workers, and civil societies, at both the national and international levels, avail dominant reproductive logic and goals that are used to refine the official policies of the concerned states (Morgan & Roberts, 2012). Normally, reproductive governance is enacted from the above – made available in the form of policies, laws, and state programs (El Kotni & Singer, 2019). In Nigeria, reproductive governance is manifested through the measures adopted by the government, international institutions, non-governmental organizations (NGOs), and local organizations, in the form of political commitment, with the central objective of increasing the prevalence of modern contraceptives within the general population (Adebowale & Onyeji, 2020). Notwithstanding the political commitment to the use of modern contraceptives, it is important to highlight the fact that women do not necessarily comply with the official laws and health policies enacted in this direction (Johnson-Hanks, 2002; Guillaume, 2006).

Extant research proves that contraceptives are not used in majority of the premarital sex relations, among married women and those in relationships culminating in higher rates of unplanned pregnancies, maternal mortalities, and induced abortion in Africa (Eliason et al., 2013; National Population Commission, 2018; Baxerres, Boko, Konkobo, Ouattara & Guillaume, 2018). Many studies have examined drivers of FP uptake from the perspective of women of reproductive age generally in diverse countries (Beson, Appiah, & Adomah-Afari, 2018; Apanga & Adams, 2015; (Ebu, Boateng, Pereko & Hormenu, 2018; Asiedu et al.2020). Research that investigates potential barriers to the uptake of FPPs among specific women segments such as “under-served rural dwellers” that generate higher birth rates, and maternal and infant/neonatal mortality (National Population Commission, 2018) in contrast to urban residents associated with more FPPs usage (Ahmed, Li, Liu, & Tsui, 2014; Shah, Sha & Radovanovic, 1998) remains relatively under-explored. Interestingly, evidence in the extant literature suggests consistently low usage of FPPs among women in informal endeavours (Avisah et al. 2018). Understanding the constraints women in rural settings face which tend to restrain their engagement in FPP usage will be useful for policy prescription, intervention program development, and marketing strategy formulations. Specifically, this study investigates factors that inhibit the usage of FPPs among under-served women of reproductive age in rural settings.

Review of Related Literature and Hypotheses Proposition.

Access to Family Planning Knowledge/Information and Services

Prior studies demonstrate that access to FP information and services awareness (Lauria, Donati, Spinelli, Bonciani & Grandolfo, 2014; Malini & Narayanan, 2014) influence FP uptake; exposure of people to community-level FP media messages enhances the usage of contraceptives (Stephenson, Baschieri, Clement, Hennink & Madise, 2007; Wang, Alva, Winter, & Bugert, 2013). A study of contextual factors that influence contraceptive use was conducted across 21 African nations; it was discovered that exposure to media messages had a positive correlation with the decision of people to use contraceptives in just two countries. The effect was found to be negative in nineteen (19) countries (Elfstrom & Stephenson, 2012). Such mixed discovery calls for further assessments to provide a clearer

explanation regarding FP. Similarly, knowledge related to FP was not linked to FPP usage in several studies in FP literature (Apanga & Adams, 2015; Beson et al. 2018; Eliason et al 2014; Osaro, Tobin-West & Mezie-Okoye, 2017). Patients' counselling which is an avenue to transmit FP knowledge/information often lacks details (Malini & Narayanan, 2014). In Nigeria, radio programs, television messages, print/social media, advocacy, and word-of-mouth communications by individuals or clergy are other channels of transmitting FP knowledge to potential women of reproductive age. Based on this narration, this study postulates that:

H1 Access to FP knowledge/information inhibits the usage of FPP.

Religious and Cultural Norms

Interpretation of religion in relation to FP is diverse among Catholics, Protestants, and Muslims (Schenker, 2000; Weaver, 2018; Gudorf, 2011; Albrecht, 2011; Shaikh, 2011; Serour, 2013; Dardir & Ahmed, 1981; Varley, 2012). Notwithstanding, research implicates religious inclinations as a major constraint to the uptake of FP services in Africa (Gaetano et al., 2014; Odimegwu et al., 2005). Also, in a study conducted in Nepal (Bhatt et al. 2021), religious and cultural norms were identified as a strong barrier in terms of the usage of FPPs.

Many people in SSA nations are religion-obsessed (Sundararajan et al., 2019). Sundararajan et al. based on randomized trials, demonstrate that religious leaders can influence the health behaviour of their followers culminating in acceptance or avoidance of health-related issues (Downs et al., 2017). Nonetheless, there is increasing evidence of the desire to access reproductive healthcare (e.g., FPPs) in the Sub-Saharan African (SSA) context regardless of religious inclination (Krehbiel-Keefe, 2006; Mosha & Ruben, 2013; Hallfors et al., 2016; Yeatman & Trinitapoli, 2008). In a recent study by Cannon et al. (2021), the influence of religious leaders positively informed the usage of FPPs. This finding suggests that support from some religious leaders helps to mitigate the effects of religious doctrine on the uptake of FPPs. Thus, this research hypothesized that:

H2 Religious and cultural norms inhibit the usage of FPP.

Fear and Experience of Side-Effects

The likely side effects of modern forms of FPPs are a common predictor of the decision to purchase or discontinue the uptake of FPP (Schrumpf et al., 2020; Kabagenyi et al., 2014). In several investigations, fear and potential side effects are critical considerations undermining the usage of modern contraceptives among women of reproductive age with unmet needs in Africa, Asia, and Latin America (Sedgh & Hussain, 2014; Staveteig (2017; Schrumpf et al. (2020). The more pronounced side effects are menstrual disorders, with specific reference to the absence of menstruation as caused by hormonal issues, fattening, and others related to the use of FPPs (Staveteig, 2017). Similarly, Di Crosta et al. (2021), in a study conducted in Italy among women aged 18-64 report that fear and experience of side-effects are critical considerations in the consumption of FPPs. This finding indicates that among the participating Italians, consumers are worried about the likely side effects that may be associated with the usage of FPPs. Additionally, Staveteig, Shrestha, Gurung, and Kampa (2018) confirm the positive relationship between fear and likely side effects as barriers to FPP use in Eastern Nepal. However, the explanation for these underlying reasons still evades a clearer understanding (Staveteig, 2017). Thus, this study hypothesis that:

H3: Fear and experience of side effects inhibit uptake of FPPs.

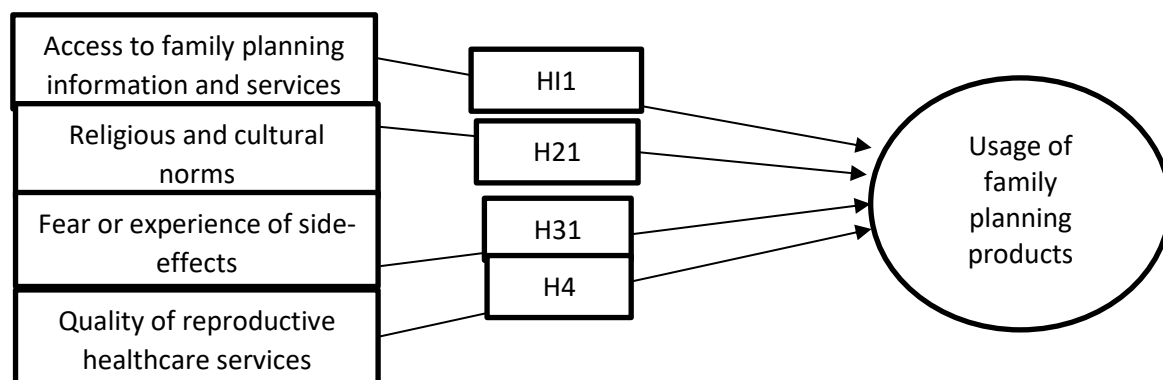
Quality of Reproductive Healthcare Services

In clinical contraception, the ability of health personnel to provide excellent service quality potentially fuels the desire to accept many health services including FPPs. Quality of reproductive health services expressly roughly in terms of

facilities available, application of facilities professionally, emotional support, and interactions delight patients and trigger emotional stability and somewhat lay a solid foundation for repeat visits to the service delivery point and positive word-of-mouth communication about the health personnel, health facility, and health services rendered such FP. In a study conducted in Uttar Pradesh, India (Dey et al. 2021), to determine the effect of quality of healthcare services on contraceptive uptake found that quality of healthcare counseling has a positive and significant correlation regarding the decision of clients to use contraceptives. Similarly, several studies in other climes demonstrate a strong link between the overall quality of health services and the uptake of modern contraceptives (e.g., FPPs) (Akamike, Okedo-Alex, Nze, Ezeanosike, & Uneke, 2020; Silumbwe et al. (2018; Casterline & Sinding, 2004). Indeed, the experience that clients receive when obtaining care is an important predictor of their decision to reuse such service/s in the future; it also yields influence on the care-seeking behaviour of other members of the healthcare community (Creel, Sass, Yinger, 2002). In essence, the correlation between the quality of healthcare services and uptake of family planning products isn't entirely a thing of its influence on purchase decisions, as it extended to repurchase and recommendation decisions. Quality of health services obtained differ markedly between privately-owned and publicly-owned health facilities in various countries; private health facilities were found to provide superior health services (World Health Organization, 2011)

Based on this narration, this study hypothesis that:
H4: Quality of reproductive healthcare services inhibits the uptake of FPPs.

Figure 1: Conceptual Framework



The adopted conceptual framework for this study is illustrated in Figure 1, and it is based on the reviewed literature. It is conceptualized in this work that access to family planning knowledge/information and services, religious and cultural norms, fear or experience of side effects, and quality of reproductive healthcare services are the independent variables, while the dependent variable is the usage of FPPs.

Materials and Methods

Target Population and Sample

A Sample of 272 for this study was taken from a population of relatively under-served women of reproductive age (18+) using the statistical approach for an unknown population (Omair, 2014). The study was conducted in fifteen (15) health centres located in sub-urban areas in Igbo-Eze North, Udenu, and Enugu-East Local Government Areas, Enugu Nigeria. Five (5) health centres were chosen from each local government area. Participants drawn were roughly proportional to perceived clients' traffic to each health facility in an attempt to ensure the representativeness of respondents in the sample. Participation in the research was strictly voluntary and respondents were assured of confidentiality of their responses.

Questionnaire Design and Administration:

The questionnaire was structured into two parts: section A measured the constructs under investigation and section B captured the profile of the respondents. The questionnaire was grounded in a five-point Likert format where 5 means strongly agree and 1 denotes strongly disagree. The five-point Likert scale was chosen because research evidence shows that response options beyond 5 (e.g., 7) generate poor data quality (Simms, Zelazny, Williams & Bernstein, 2019; Revilla, Saris, Krosnick, 2014). The questionnaire has filter questions which help to ensure that only women within 18 – 41 years and have a child participate in the survey; 18 -41 is strongly considered as reproductive age. Recruited participants had at least a child aged less than two years. The questionnaire was subjected to face validity check by research experts in consumer behaviour. The corrections put forward were incorporated into the final questionnaire administered. The adapted questionnaire was subjected to a pilot check using 35 potential respondents. Because of slight modifications in the original questionnaire to suit the research context (Hair et al. 2010). The 25

items had a reliability index of 0.810 which is higher than the acceptable limit of 0.7 (Nunnally & Bernstein, 1994). The alpha value of 0.810 indicates that the research instrument is internally consistent and reliable. Each construct was measured with five (5) items. In all 25 items were employed in this study. Convenience and judgemental sampling procedures were used in this study to recruit respondents. The research team obtained information from health personnel in each hospital/centre regarding the days many women visit the health facility for medical attention. Consequently, copies of the questionnaire were administered on ante-natal and immunization days in each health facility. Three trained females were used in questionnaire administration; however, other male members of the research team observed the process to ensure that research ethics were not breached. Women research assistants were chosen to get higher cooperation from women in terms of filling out the questionnaire. Though 272 copies of the questionnaire were administered and collected, only 250 useable copies were used in the analysis due to incorrect completion (e.g., missing responses, double response).

Measures

Previously validated scales in the extant literature provided the sources for the measurement items used in this investigation. Therefore, scales used to measure independent (IV) and dependent variables (DV) were adapted thus: access to family planning information and services (Jain et al. 2021; Apanga et al. 2021); Okigbo et al. 2018), religious and cultural norms (Krehbiel-Keefe, 2006; Mosha & Ruben, 2013; Hallfors et al. 2016), Fear and Experience of Side-Effects (Cannon et al. 2021; Bhatt et al. 2021), Quality of Reproductive Healthcare Services (Dey et al. 2021), and Consumption of Family Planning Products (Di Crosta et al. 2021; Schruppf et al. 2020).

Data Analysis and Results

Respondents' Demographic Variables

Analysis of the respondents' demographic variables shows that respondents aged between 18 and 23 account for 21% and those within 24 – 29 years represent 32%. The majority of the respondents (92) are aged 30 - 35 years old. Respondents aged 36 – 41 were 10%. Additionally, the majority of 184 (74%) of the respondents agree that they have heard about family planning products before. In terms of the

type of family planning products used in the past, the majority have used condoms (78%), Pills, and Injections 22 (9%) respectively while counseling services were rendered to 11(4%).

Measurement Model Assessment

To confirm measurement reliability and validity, the psychometric properties of the scales were assessed. The result of this assessment is presented in Table (2), and it shows the reliability and validity tests of the measurement. Before computing this analysis, the mean of mean for all the loaded variables was determined, to produce a single unit for further analysis. Single factorial analyses were performed to test the convergent validity of the items of the other constructs. As these constructs were treated theoretically in a one-dimensional manner, there was no need to conduct discriminant validity; thus, there was no need for rotation. Based on Table (2), the factorial analysis for the items shows that the items were loaded into the different factors (with each item in its expected component). Kaiser–Meyer–Olkin (KMO) coefficient (.72) and Bartlett’s test (chi-square = 3142.35, sig = .000) show that the model is good for the data. That is to say, varimax confirms the total independence (item discrimination) for the loaded latent variables. Thus, these findings demonstrate the

unidimensionality of data (Gerbing & Anderson, 1988).

Also, the convergent validity of the measurement model can be established as follows: 1) all the loaded items are significantly related to their corresponding factor ($p < 0.001$), (2) the size of all the standardized loadings, together with their averages, are higher than 0.65; 3) the value obtained for all Cronbach’s alphas are over the recommended value of 0.70 (Tavakol & Dennick, 2011); the composite reliability (otherwise known as the omega coefficient) of the items in each factor was higher than the recommended minimum value of 0.60 (Bagozzi & Yi, 1988; Dunn, Baguley & Brunsden, 2014); and each of the average variance extracted (AVE) coefficient had higher value than the recommended minimum cutoff of 0.5 (Fornell & Larcker, 1981). In addition to all these, the multifactorial solutions obtained for the measurement including discriminant validity, show that there was no case of common method bias in the course of measuring the variable with a single questionnaire as the findings were found to be sufficiently consistent with Harman’s test used for discarding such issue (Podsakoff, MacKenzie, Lee & Podsakoff, 2003).

Table 1: Measurement assessment

Factor	Validity		Reliability		
	Factorial load	KMO & B’s	C’s Alpha	CR	Ave
Access to information	.925	.72**	.725	.76	.68
Religious and cultural norms	.888	One factor solution	.755	.78	.54
Fear of side effects	.937		.707	.87	.69
Quality of reproductive healthcare services	.925		.814	.93	.82
Consumption of family planning products	.657		.739	.89	.67

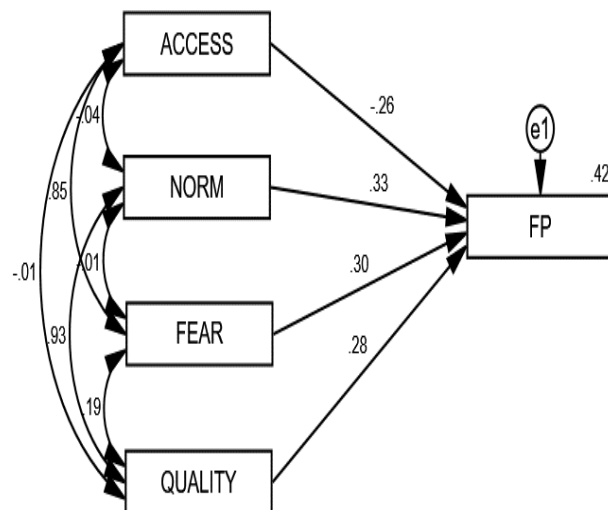
KMO: Kaiser–Meyer–Olkin coefficient; B’s: Bartlett’s test p-value (asterisks show the sig. for this test); C’s alpha: Cronbach’s alpha; CR: composite reliability; AVE: average variance extracted. **p-value ≤ 0.01

The path SEM model that is used for testing the hypothesis is shown in the proceeding section and it presents a good fit of the model to the data. It does further confirm the measurement’s convergent-discriminant validity as most of the standardized measurement weights returned high positive values. In the SEM model, the four factors that influence the consumption of family planning products show collinearity, and it does suggest that these dimensions are independent (Figure 2). In any case, this phenomenon is commonly encountered in multidimensional

constructs within the context of behavioral sciences (Edwards, 2001; Polites, Roberts & Thatcher, 2012). Thus, to confirm the measurement validity further, a confirmatory SEM measurement model (featuring collinear relationships between the variables) was executed. The obtained measurement weights (between the observed variables) show statistically significant output. The results of the absolute indexes were also acceptable and they had a relative/normed chi-square ratio (χ^2/df) value of 2.43 (Wheaton, Muthen, Alwin, &

Summers, 1977), together with a root mean square error of approximation (RMSEA) value of 0.050 (Hooper, Coughlan & Mullen, 2008; MacCallum, Browne & Sugawara, 1996). On a similar note, the obtained baseline fit coefficients were highly satisfactory with a normed fit index (NFI) value of .98, an incremental fit index (IFI) value of .97, and a comparative fit index (CFI) value of .97 (Hooper et al., 2008).

Figure 2: Results (standardized coefficients)



To test the proposed hypotheses and the theoretical model (Figure 1), based on an earlier statement, SEM was undertaken with the aid of

the maximum likelihood method. As shown in the inspection of the variables, there is a low value of skewness (under ± 1.03) and kurtosis (under ± 0.93), evidence that there is a fairly appropriate normality of data. This finding, together with the robustness of the SEM model that was based on rescaled (standardized) coefficients and no missing data within the matrix, is an indication that reliable results will be obtained from the SEM even in cases where the assumption of independence between the exogenous variables are recorded (Benson & Fleishman, 1994; Savalei, 2008). Table 3 and Figure 2 show the empirical estimates for the model's main effect. Based on the result of the structural path model, it can be deduced that the model is a good fit for the data. In the case of absolute fit indexes, findings show that even in cases where $\chi^2 = 542.3$ (213 df) was significant ($p < 0.01$), the normed/relative chi-square ratio ($\chi^2/\text{df} = 2.43$) was smaller than 5 which is the benchmark value (Wheaton et al., 1977). Going further, the RMSEA (= 0.050) was below the recommended maximum value of 0.08 (MacCallum et al., 1996). The baseline fit coefficients (NFI = 0.98; IFI = 0.97; NNFI = 0.97; CFI = 0.96) were also found to be a good fit for the data; as all the values were above the recommended value of 0.9 (Hooper et al., 2008).

Table 2: Testing Relationships

Hypothesis	Proposed structural relationships	Standardized path coefficient	Decision
H1	Access to information → Consumption of family planning products	-.26**	Accepted
H2	Religious and cultural norms → Consumption of family planning products	.33**	Accepted
H3	Fear of side effects → Consumption of family planning products	.30**	Accepted
H4	Quality of reproductive healthcare services → Consumption of family planning products	.28**	Accepted
The goodness of fit indicators			
X ² /DF	RMSEA	NFI	CFI
2.43	0.050	.98	.97
		IFI	NNFI
		.97	.96

RMSEA: root mean square error of approximation; NFI: Bentler–Bonett normed fit index; CFI: comparative fit index; IFI: Bollen incremental fit index; NNFI: Bentler–Bonett non-normed fit index; NS: statistically nonsignificant. ** p -value ≤ 0.001 .

All four relationships that were tested within this statistical model and its related data were accepted (Figure 2). As Table 3 indicates, the path coefficients obtained were highest for socio-cultural and religious norms as inhibitors of the

consumption of family planning products. Also, high coefficients were found for fear of side effects and quality of reproductive healthcare services as inhibitors of consumption of family planning products. What this does show is that

there is a strong direct effect of these factors on the decision of reproductive women to consume family planning products. However, access to information shows a negative coefficient, and while direct, it does yield a negative significant outcome (as access to information will considerably inhibit consumption of family planning products). Overall, the statistical model does show a considerable level of explanation regarding the influence of the independent variables on the dependent variable (consumption of family planning products) of 42% ($r^2 = 0.42$).

Discussions

Management/Practice and Policy Implications

This study examines inhibitory factors that restrain under-served rural women of reproductive age that are associated with higher birth rates, and maternal and neonatal mortality from optimally using FPPs. AMOS-SEM was applied in data analysis regarding the hypothesized paths in the research model. Strangely, access to FP knowledge/information exhibits a negative significant relationship with the uptake of FPPs among the surveyed respondents. Put differently, the higher the information potential FPPs and services users get, the lower the uptake of FPPs and services. This contradicts findings from extant literature (Lauria et al., 2014; Malini & Narayanan, 2014; Stephenson et al. 2007; Wang et al. 2013), where it is found that higher access to information will result in higher uptake of FPPs. However, the finding supports Apanga & Adams, 2015; Beson et al., 2018; Osaro et al., 2017). Possible explanation/s for this somewhat surprising finding are: (1) Negative thoughts about possible deprivation of perceived natural pleasure/feelings associated with sex among the current pleasure-seeking generation tend to undermine prior information about the usage of FPPs. (2) Among rural women dwellers, there appears to be a social stigma when a woman mentions FPPs, married couples display serious disdain and even suspect the wife of infidelity. In such a context, regardless of the quantum of FPP messages, an inverse relationship with usage is most likely. To reverse the trend, coordinated advocacy that utilizes traditional rulers and town union presidents in various communities will be helpful. Endorsement of FPPs by traditional rulers and town union presidents during an annual general return in various villages/communities may correct misgivings associated with FPPs and encourage their utilization among voice-less rural women.

Religious and cultural norms were found to positively inhibit the consumption of FPPs among the surveyed participants. Women who adhere strictly to cultural and religious norms as defined in their culture and religious doctrine avoid FPPs. This finding is consistent with the evidence in extant studies (Bhatt et al., 2021; Weaver, 2018; Gaetano et al., 2014; Gudorf, 2011; Albrecht, 2011), where it has been documented that cultural and religious norm decreases the uptake of FPPs. However, this finding departs from Downs et al. (2017), Cannon et al. (2021), and Hallfors et al. (2016) where religion had a supportive influence on the uptake of FPPs. Divergent views across religions and FPP usage may likely explain the support for FPP usage. In Pentecostal Churches and Muslim, followers are more liberal and therefore more likely to take up FPPs. Catholic faith comprehensively forbids the usage of FPPs. To accelerate acceptance of FPPs, traditional rulers are the custodians of cultural values; therefore, using traditional rulers to promote FPPs in diverse media in local languages and giggles are viable means of diluting adherence to original belief systems and paving the way for rural women to adopt FPPs without fear of discrimination in any form by men.

Fear and experience of side effects are other vital factors found to influence the consumption of FPPs and services. Consistent with extant research (Di Crosta et al., 2021; Schrupf et al., 2020; Staveteig et al., 2018), findings from this study show that fear and experience of side-effect correlate positively with FPP usage and services. This implies that patients who experience side effects directly or have heard of the experience from another person will be reluctant to consume family planning products and services. To counter the patients' fear and potential side-effects of FPP usage, the provision of FP services should be restricted to only trained and qualified medical personnel (e.g., Doctors and Nurses). A situation where poorly trained community health extension workers whose primary responsibility is to create awareness about medical programs in rural communities engage in the administration of FPPs and services appears inappropriate. They likely render unprofessional services which trigger fear and avoidable side-effects. Non-governmental organizations (NGOs) and governments at different levels should urgently delist non-doctors and nurses from rendering FP services in health facilities. Doctors and nurses are better trained to follow procedures that minimize potential side

effects than non-doctors and nurses trained in one week and asked to render FP services in health facilities. Advertisement television stations and social media platforms featuring nurses/doctors providing FP services in a well-furnished health facility may be helpful in fear reduction.

This study affirms a positive-significant relationship between the quality of reproductive healthcare service and the usage of FPPs among the surveyed respondents. This finding corroborates Akamike et al. (2020) and Silumbwe et al. (2018) which indicate a positive and significant influence of quality of reproductive healthcare service on the uptake of FPPs and services among studied rural women of reproductive age. As the quality of health services obtainable from health personnel declines, the higher the decision to discard the FP services. Higher-quality medical services reassure patients that they matter. Regardless of the setting (public or private health facility), quality reproductive health services should not be compromised because of the health implications on reproduction among women. This is extremely imperative because, in Africa, marriage devoid of at least a child may not stand. Africans particularly Nigerians do not marry for mere companionship. Therefore, anything that will affect reproduction should be treated with additional interest and care. Health facilities particularly primary health facilities where FP services take place should be well equipped with appropriate equipment to provide quality services to patients.

Limitations and Direction for Future Studies

This study is limited in its geographical scope. The study is restricted to only three local government areas; therefore, the findings may not be generalizable to entire women of reproductive age in Nigeria. Future research may consider four geo-political zones and the Federal Capital Territory, Abuja to deepen understanding regarding barriers to uptake of FPPs for possible generalization of findings. Again, in future comparative study of FPPs' uptake among different religious groups (Catholics, Pentecostal, Muslims, Non-affiliated) may help to understand where the constraint is most pronounced to enable various stakeholders to develop appropriate strategies to tackle the challenge. On the nature of respondents, only women of reproductive age were surveyed and this eliminates chances of gathering data concerning the views of males of

reproductive age. One needs to understand that in Nigerian society, men have a significant influence on the utilization of FPPs by their female counterparts, therefore, their views are pivotal in future studies.

Conclusion

A sizeable number of women of reproductive age in rural settings are aware of the existence of FPPs. However, FPPs' uptake among rural dwellers is overwhelmingly constrained by access to information, religious and cultural norms, fear and potential side effects, and the quality of reproductive health services in diverse health facilities. To bolster FPP uptake exponentially, the co-option of traditional rulers as the custodians of cultural value and ethos and town union presidents, as representatives of villages/communities and clergies to educate rural dwellers on the benefits of FPPs to drastically dilute cultural and religious misgivings on FPPs usage is necessary. Service quality upgrades through the deployment of skilled and professionally qualified medical personnel who are medically informed to provide services that will allay patients' concerns have become urgent.

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