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Unmet Need for Contraception among Clients of FP/HIV Integrated Services in Nigeria: The Role of Partner Opposition.

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Abstract

While women are aware of family planning (FP) methods in Nigeria, the unmet need for modern contraception remains high. We assessed the association between male partner opposition to FP and unmet need for modern contraception among women seeking anti-retroviral therapy (ART), HIV counseling and testing (HCT) and prevention-of-mother-to-child-transmission of HIV (PMTCT) services in Cross-River State, Nigeria. This secondary analysis used data from a facility-based FP/HIV integration study. Logistic regression was used to model the association of interest. Unmet need for modern contraception was high among all clients – ART (49%), HCT (75%), and PMTCT (32%). Perceived partner opposition to FP was widespread (≥70%); however, multivariate analysis showed no significant association with unmet need for modern contraception. Significant covariates were woman's age, marital status, parity, and previous use of modern contraception. Efforts to improve modern contraceptive use among women at risk of HIV infection in Nigeria should contemplate involving their male partners. *Afr J Reprod Health 2014; 18[2]: 134-143).*

Keywords: Partner opposition, contraceptive use, HIV/FP service integration, Nigeria

Résumé

Malgré la bonne connaissance des méthodes de la planification familiale (PF) au Nigeria, le besoin non satisfait de la contraception moderne reste élevé. Nous avons évalué l'association entre l'opposition du partenaire masculin à la PF et le besoin non satisfait de la contraception moderne chez les femmes qui recherchent un traitement anti- rétroviral (TAR), le conseil et le dépistage du VIH CDV) et des services de la prévention de la transmission du VIH de la mère à l'enfant (PTME) dans l'état de Cross River, Nigeria. Cette analyse secondaire a utilisé des données provenant d'une étude d'intégration PF / VIH basée sur un établissement. La régression logistique a été utilisée pour modéliser l'association d'intérêt. Le besoin non satisfait de la contraception moderne était élevé parmi tous les clients - TAR (49 %), CDV (75 %) et la PTME (32 %). La perception de l'opposition du partenaire à la PF était généralisée (≥ 70 %) ; cependant, l'analyse multivariée n'a montré aucune association significative avec le besoin non satisfait de la contraception moderne. Les covariables significatives étaient l'âge de la femme, l'état civil, la parité et l'utilisation antérieure de la contraception moderne. Les initiatives destinées à améliorer l'utilisation de la contraception moderne chez les femmes à risque d'infection du VIH au Nigeria devraient envisager à mobiliser leurs partenaires masculins. *Afr J Reprod Health 2014; 18[2]: 134-143).*

Mots-clés: L'opposition de la part du partenaire, utilisation des contraceptifs, intégration des services du VIH / FP, Nigeria

Introduction

Preventing unintended pregnancies among women living with, or at-risk of contracting, human immunodeficiency virus (HIV) is a key component of the global HIV prevention strategy[1]. The use of modern contraception is an effective way of preventing unintended pregnancy. However, not all individuals in need of contraception have access to quality family planning (FP) services. One way to improve the coverage and reach of FP services is through its integration with other health services. The integration of FP services into HIV services is one such way, which has the potential to reach both men and women with information on FP and HIV services at the same time—increasing

access to both services[2]. Hence, FP/HIV integration efforts are particularly important in countries with high fertility rates and high HIV burden where access to health services is still poor. Unwanted or unplanned pregnancies among HIV positive women are not uncommon[3]. While the majority of the prevention of mother-to-child transmission of HIV (PMTCT) efforts have focused on the delivery of antiretroviral therapy (ART) to mothers and their infants, modeling efforts have shown that preventing unintended pregnancies through the provision of FP services is more cost-effective compared to ART alone[4-7]. An estimated 20% - 30% of HIV infections in newborns will be averted if unintended pregnancies are prevented among HIV-positive women[4,5].

Integrating FP into HIV services increases HIV service clients' access to information and services on modern contraception. It is hoped that an increase in the access to health services will translate to uptake of those services; however, in most cases, this is not the case. For instance, the uptake of contraceptive methods by women has been shown to be dependent on a host of factors such as availability of contraceptive methods, fear of side effects, low perception of pregnancy risk, and partner opposition[8]. Bandura's social cognitive theory (SCT) has been used to study several reproductive behavioral changes including, but not limited to, adoption of HIV risk-reduction behaviors and use of contraceptive methods[9-10]. The theory postulates that human behavior results from the dynamic interaction of personal, behavioral, and environmental influences; some of the key constructs of the SCT that applies to the study of contraceptive use includes outcome expectations, self-efficacy, self-regulation, observational learning, and facilitation[11]. These factors interact in a unique way to result in behavioral change. Focusing on self-efficacy and facilitation, studies have shown that one of the many reasons cited for non-use of contraceptive methods is sexual partner's negative attitude towards the woman's use of contraceptive methods[8,12]. Partner opposition to contraceptive methods has been associated with low contraceptive prevalence and high unmet need for modern contraception, with its' effect higher among urban women compared to rural women[12]. Recent estimates report that approximately 222 million women worldwide have an unmet need for modern contraception, which if met, can avert millions of unwanted births and maternal deaths from unsafe abortions[13]. To date, the role of partner opposition on the unmet need for modern contraception among women especially those living with or at-risk of contracting HIV has not been fully understood. Thus, the aim of this analysis is to assess the association between male partner opposition and unmet need for modern contraception among women utilizing ART, HCT, and PMTCT services in Cross-River State, Nigeria using data from a study that evaluated the impact of integrating family planning counseling into HIV services[14].

Integrated services

According to a literature review conducted by the World Health Organization (WHO) on FP/HIV integrated services, integration efforts are acceptable and feasible and, to date, have shown no negative effect on other health outcomes[15]. Studies conducted in several African countries (Ethiopia, Nigeria, Uganda, and Zambia) showed that integrated FP/HIV services, using concurrent or on-site referral model, resulted in dramatic increases (≥ 3 folds) in FP counseling and modern contraceptive method uptake among HIV counseling and testing (HCT) clients[16-19]. A randomized control trial in Kenya reported more than a 100% increase in the uptake of non-barrier long-acting contraceptive method (mainly injectable hormonal contraceptives) among ART clients in a facility that implemented a concurrent model of FP/HIV integration[20]. Another Kenyan study conducted among antenatal care (ANC) clients showed a significant increase in postpartum uptake of long-acting hormonal contraceptives (mainly injections) after the implementation of a referral-based FP/HIV integration model[21]. Integrated FP/HIV services have also been associated with increased client satisfaction, increased access to services, increased uptake and adherence to antiretroviral drugs and contraceptives, and reduction of HIV-related stigma[22]. Hence, the benefits of integrating FP and

HIV services are evidence-based. However, it is known that some women still have unmet for modern contraception within the context of FP/HIV integrated service programs. We postulate that the partner opposition to contraceptive use is one of the barriers preventing women from using modern contraceptive methods.

Partner opposition & fertility desires in Nigeria

Partner opposition to contraceptive use is theorized to increase the unmet need for contraception through prohibition of, or negative attitudes towards, women using any modern contraceptive methods. Most women, especially those in patrilineal societies, require their male partners' consent for the uptake and consistent use of modern FP methods[23-28]. Even in situations where the contraceptive method is female-oriented such as diaphragm or vaginal gel, some women still need their male partners' approval prior to contraceptive use[27-29]. This situation may be worse among women who are HIV-positive as they are more disadvantaged—they have a stigmatized health condition in societies where gender norms are unfavorable towards women[3,25]. A qualitative study conducted among HIV-positive Kenyan women revealed that attitudes of male partners towards contraceptive use were generally perceived to be negative and were especially worse in situations where a male child is needed[25]. In most developing countries, women who have higher self-efficacy towards contraceptive method use or who are empowered (i.e. participate in decision-making or have the ability to discuss contraceptive use with their male partners) are more likely to consistently use a contraceptive method[23,24,26,30]. Ntshebe, in 2011, found that Malawian women (regardless of HIV serostatus) who discussed contraceptive method use with their male partners were six times as likely to use a method as those who did not have such discussions with their partners[30]. In sub-Saharan Africa, male involvement in reproductive health services has been accepted as key to FP acceptance and adherence, and may play important role in the uptake of FP/HIV integrated services[30]. Nigeria is a patrilineal society that favors men as the decision-makers of households[31]. Ideally, both partners should make fertility decisions. However, in Nigeria, family size and reproductive health decisions are made mainly by the male partners[31]. Men tend to want larger family sizes; some of the benefits cited for wanting more children include financial support for aging parents, companionship, and extending the family lineage. Hence, many women in such patrilineal society tend to succumb to the reproductive health decisions made by their male partners – intentionally and unintentionally. The social norms in such patrilineal communities tend to support the male-dominant views, which are usually the popular views. These popular views tend to become the desirable views. Recognizing the role of gender in reproductive health service utilization is therefore paramount in the Nigerian context and can lead to improved reproductive health outcomes for both men and women. Improving women's capability to use modern contraception may result in decreased unwanted fertility, decreased maternal deaths especially from unsafe abortions, and prevention of HIV incidence especially through heterosexual and vertical transmission.

Methods

We used data collected for the evaluation of a FP/HIV integration study conducted in Cross-River State, Nigeria between March 2008 and June 2009. In the study, FP services were integrated into ART, HCT, and PMTCT services and facilities were assigned to implement a basic or an enhanced FP/HIV integration program. Five local government areas (LGAs) in the state were chosen to receive either the basic or the enhanced integration intervention package. Both intervention packages were referral-based models—clients from HIV services were referred to FP services for contraceptive methods. Data were collected from study participants at baseline and 12-14 months later. More details about the integration efforts and the study in general has been published elsewhere[14].

Study design, sample size, and participants

The main study includes ART, HCT, and PMTCT clients receiving health services from integrated FP/HIV service facilities. Clients were enrolled at

the selected facilities. A total of 335 female ART clients were enrolled and interviewed at baseline. ART clients were eligible to participate in the study if they were between the age of 18 and 45, were receiving ART treatment, and had a CD4 count of more than 100 or were in WHO clinical stage I, II, or III. For HCT services, 376 women were recruited after they had completed an HCT session and were eligible to participate in the study if they were between the age of 18 and 45, non-pregnant, and at the health facility solely for HIV testing. Female PMTCT clients (N=314) were eligible if they were between the ages of 18 and 45, pregnant, have had at least one ANC clinic visit, and as such have already been tested for HIV. The Protection of Human Subjects Committee of FHI360, the Nigerian National Health Research Ethics Committee, and the ethics board of the Ministry of Health in Cross-River State, Nigeria provided ethical approval for the study. All study participants provided informed consent. We used the baseline data collected from the FP/HIV integration study described above. The rationale for using only the baseline data was to assess the association of interest among these women prior to any influence of the intervention. The goal of this study is to assess the influence of male partner opposition on unmet need for modern contraception among female clients in the facilities that provide integrated FP/HIV services. We assessed: 1) the unmet need for modern contraception; 2) the association between perceived partner opposition and unmet need for modern contraception; 3) other factors associated with unmet need for modern contraception in the sample; and 4) the differences across the ART, HCT, and PMTCT client populations with respect to these factors. For this analysis, we restricted the analytical sample to women who reported they had male partners. With this restriction, our sample sizes reduced to 216, 330, and 313 for ART, HCT, and PMTCT clients respectively.

Assessment measures

Dependent variable

The main outcome of interest for all clients was unmet need for modern contraception. For ART and HCT clients, the outcome was defined as a fecund and sexually-active woman who reported not wanting any more children or wanting to delay her next birth for at least two years, but was not using any modern contraceptive method. For PMTCT clients, the outcome variable was defined as a pregnant woman who reported that the index pregnancy as unwanted or mistimed and was not using any modern contraceptive method at time of conception.

Independent variable

The main predictor of interest was perceived partner opposition which is a composite variable of the responses to the following statements: a) "If my [partner] found out I was using a contraceptive method he would become angry with me"; b) "I would not begin to use a contraceptive method in the future if I thought my [partner] would find out"; and c) "I would not begin to use a contraceptive method in the future if I thought my [partner] would not approve". These responses were factor-analyzed and were found to have high factor loadings on a single factor (0.8, 0.8, and 0.7 respectively). The Cronbach's alpha for these three variables was high at 0.70. We also reported information on the clients' experience of partner opposition. This variable was created from responses to the statement, "Having a [partner] who disapproves of pregnancy prevention methods has been a big reason for not using contraceptives". This question was asked only to women who said they were not using a contraceptive method at time of survey. Since women who were using a modern method at the time of survey skipped out of this question, we did not include this variable in the multivariate analyses.

Covariates

The socio-demographic and reproductive health characteristics of the clients at time of interview were controlled for in the multivariate analysis. These included respondents' age, educational attainment, marital status, number of living children, history of contraceptive use, and sexual activity in the 30 days prior to survey. Some other variables that were also included as covariates were whether: a) respondent lives with her partner;

b) she or her partner approves of family planning; c) she or her partner wants more children; d) the number of times she had tested for HIV; and e) whether she opposes family planning. The clients' opposition to family planning was assessed by the question that asked, "Would you say that you approve or disapprove of couples using a contraceptive method to avoid getting pregnant?"

All analyses were conducted using Stata version 13[32]. Logistic regression models were used to assess the association of interest while adjusting for relevant covariates.

Results

Women across the three service types had similar socio-demographic characteristics as shown in Table 1. The majority of women were between the ages of 26 and 35. The PMTCT clients were the most educated among the three groups and were more likely to be married or cohabiting with a partner. Most of the women had at least one child. In addition, a majority were sexually-active in the month prior to survey.

Use of modern contraceptive methods

A majority of the ART and HCT clients (61.1% and 51.5% respectively) reported a history of modern contraceptive use but a lower percentage (25.9% and 15.8%) reported a current use at the time of survey. This trend was not observed among the PMTCT clients; most of them (59.4%) reported never using a modern contraceptive method in the past. Current modern contraceptive use was not assessed among the PMTCT clients as they were pregnant at the time of the survey.

Fertility desires

Most of the women (75.9% of ART, 81.8% of HCT, and 84.0% of PMTCT clients) reported that they wanted more children in the future. In addition, the women reported that their partners wanted more children with 62.5% of ART clients, 60.6% of HCT clients, and 72.2% of the PMTCT clients reporting so (See Table 1).

Partner opposition and unmet need for modern contraception

As shown in Table 1, the unmet need for modern contraception was high among our sample with 49.5% of ART clients, 75.2% of HCT clients, and 31.6% of PMTCT clients having an unmet need for modern contraception. Although the majority (>65%) of the women across the three service types reported that they approved of couples practicing family planning, less than half of them (41% for ART, 49% of HCT, and 49% of PMTCT clients) reported that their partners approve of couples using family planning methods. Approximately 20% of these women reported that they did not know whether their partners approve or disapprove of couples using family planning methods.

Table 1: Socio-demographic and reproductive characteristics of clients by service type

Socio-Demographic Factors	ART clients N = 216; Col. %	HCT clients N = 330; Col. %	PMTCT clients N = 313; Col. %
Age			
≤25 years	25.0	47.0	47.6
26 – 35 years	47.7	39.4	44.4
≥35 years	27.3	13.6	8.0
Education			
Completed primary or less	33.8	27.0	19.5
Some/Completed secondary	47.7	48.5	55.6
Post-secondary	18.5	24.5	24.9
Marital status			
Married	55.1	57.3	17.6
Single	44.9	42.7	82.4
Live with partner			
Yes	57.4	63.0	90.1
No	42.6	37.0	9.9
Number of living children			

None	33.3	35.4	46.0
1 – 2 children	38.9	36.7	33.9
≥ 3 children	27.8	27.9	20.1
Reproductive & Sexual Factors			
Sexually active in last 30 days			
Yes	65.7	58.8	77.6
No	34.3	41.2	22.4
Previous use of a modern method			
Yes	61.1	51.5	40.6
No	38.9	48.5	59.4
Current use of a modern method			
Yes	25.9	15.8	---
No	74.1	84.2	---
Client approves of Family Planning			
Yes	65.7	66.7	66.8
No	34.3	33.3	33.2
Partner approves of Family Planning			
Yes	41.2	49.1	49.8
No	36.6	28.5	32.6
Don't Know	22.2	22.4	17.6
Client wants more children			
Yes	75.9	81.8	84.0
No	24.1	18.2	16.0
Partner wants more children			
Yes	62.5	60.6	72.2
No	18.5	23.0	17.3
Don't know	19.0	16.4	10.5
Previous HIV testing			
Once	31.0	43.6	38.0
Multiple	69.0	56.4	62.0
Unmet need for modern contraception			
Yes	49.5	75.2	31.6
No	50.5	24.8	68.4

--- women were pregnant at the time of survey so were not using any contraceptive method

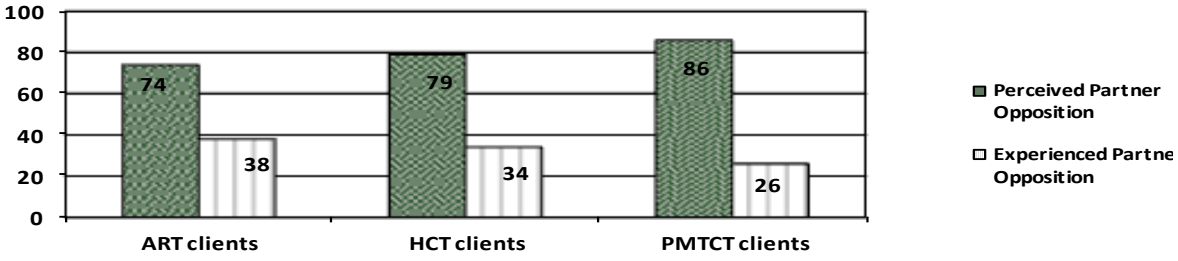

Figure 1: Proportion of women who reported partner opposition to modern contraception across service types

Figure 1 shows the proportion of women who reported perceived and experienced partner opposition towards use of modern contraceptive methods. Approximately three-quarters (74%) of ART clients reported that they perceived partner opposition to use of a modern method and 38% reported that an opposing partner was a big reason for not using a modern contraceptive method. Among HCT clients, 79% perceived partner opposition to modern method use while 34% cited partner opposition as a big reason for not using a modern method at time of survey. Similar trend was seen among PMTCT clients as 86% reported perceived partner opposition to method use while 26% said that an opposing partner was a big reason for not ever using a modern method.

Table 2 shows the distribution of the partner opposition (both perceived and experienced) stratified by unmet need for modern contraception across the three service types. As is shown, The majority of the women who perceived partner opposition to modern method use had an unmet need for modern contraception. However, there was no distributional difference in perceived partner opposition among women with unmet need for modern method and those without. This goes to show that perceived partner opposition is prevalent in our study population. Among women who reported that partner opposition was the main reason for not using a contraceptive method (i.e. experienced partner opposition), about a third had an unmet need for modern contraception (35.5% for ART clients, 33.5% for HCT clients, and 30.3% for PMTCT clients).

Table 2: Partner opposition and unmet need for modern contraception across service types

	ART Clients Unmet need (Column %)		**HCT Clients Unmet need (Column %)**		**PMTCT Clients Unmet need (Column %)**	
	Yes	**No**	**Yes**	**No**	**Yes**	**No**
Perceived partner opposition						
Yes	72.9	75.2	80.0	74.4	86.9	85.5
No	27.1	24.8	20.0	25.6	13.1	14.5
Experienced partner opposition *						
Yes	35.5	43.4	33.5	40.0	30.3	23.8
No	64.5	56.6	66.5	60.0	69.7	76.2

* asked only to women who were not using a modern contraceptive method at time of survey (N=160 for ART; 278 for HCT; and 313 for ANC clients)

Table 3: Multivariate analysis of the factors associated with unmet need across service types

Multivariate analysis	**ART Clients Unmet need OR (95% C.I)**	**HCT Clients Unmet need OR (95% C.I)**	**PMTCT Clients Unmet need OR (95% C.I)**
Perceived partner opposition to FP use			
No	1.0	1.0	1.0
Yes	0.8 (0.4 – 1.6)	1.0 (0.5 – 1.9)	1.1 (0.5 – 2.2)
Client's opposition to FP use			
No	1.0	1.0	1.0
Yes	1.1 (0.5 – 2.1)	0.6 (0.3 – 1.3)	1.0 (0.6 – 1.8)
Age			
18 – 24 years	1.0	1.0	1.0
25 – 34 years	0.6 (0.3 – 1.3)	0.6 (0.3 – 1.2)	0.8 (0.4 – 1.7)
35 – 45 years	0.2 (0.1 – 0.6) **	0.5 (0.2 – 1.6)	1.0 (0.3 – 3.0)
Education			
Completed primary or less	1.0	1.0	1.0
Some or completed secondary	0.7 (0.3 – 1.4)	0.9 (0.4 – 1.9)	1.7 (0.8 – 3.3)
Post-secondary	0.9 (0.3 – 2.2)	0.8 (0.3 – 1.8)	0.8 (0.3 – 2.0)
Marital status			
Single	1.0	1.0	1.0
Married	0.6 (0.2 – 1.3)	0.6 (0.2 – 1.9)	0.2 (0.1 – 0.5) ***
Live with partner			
No	1.0	1.0	1.0
Yes	0.7 (0.3 – 1.6)	1.2 (0.4 – 3.6)	1.7 (0.6 – 4.9)
Number of living children			
None	1.0	1.0	1.0
1 – 2 children	1.4 (0.6 – 3.0)	2.2 (1.0 – 5.0)	1.5 (0.8 – 2.9)
≥ 3 children	9.0 (2.8 – 28.5) ***	2.8 (0.9 – 8.5)	2.5 (1.1 – 6.1) *
Previous use of a modern method			
No	1.0	1.0	1.0
Yes	0.3 (0.2 – 0.6) ***	0.2 (0.1 – 0.3) ***	0.7 (0.4 – 1.2)

* p value <0.05; ** p value <0.01; *** p value <0.001

From the multivariate logistic regression results presented in Table 3, it can be seen that unmet need for modern contraception was not significantly different among women who perceived partner opposition to modern contraception compared to those who do not, after adjusting for potential confounders including the woman's opposition to family planning use. However, among ART clients, older age (35 years and older), having three or more living children, and a previous use of a modern contraceptive method were significantly associated with unmet need for modern contraception. Women aged 35 years or more were less likely to report unmet need for modern contraception compared to those aged 18 – 24 years (OR: 0.2 for ART; p value <0.05). ART clients who had three or more children were 9 times as likely to have an unmet need for modern contraception as those who do not have a living child (p<0.05). A similar trend was observed among ART and HCT clients who had ever used a modern method as they were less likely to report an unmet need for modern contraception compared to those who had never used a modern method (OR: 0.3 for ART clients and 0.2 for HCT clients; p value <0.001). For PMTCT clients, married women were 80% less likely to have an unmet need compared to unmarried women (OR: 0.2; p value <0.001). In addition, PMTCT clients who already had three or more living children were more than twice as likely to report an unmet need for modern contraception as women with no living children (OR: 2.5; p value <0.05).

Discussion

We found that perceived partner opposition to modern family planning and unmet need for modern contraception was high among our study participants. However, we did not find sufficient evidence that indicated that perceived partner opposition is an important predictor of unmet need for modern family planning. This finding could be due to the fact that both factors are pervasive in our population so that there is no distributional variation between women who perceived partner opposition to method use and those who did not. However, the ubiquity of partner opposition to modern contraception is a signal that both men and women accessing HIV services in Nigeria need to be targeted for FP service improvement as FP/HIV integration efforts expands.

We found higher rates of partner opposition to contraceptive use among our study population than was found in the general population in Nigeria. For instance, we found that about one-third of all the women reported that partner opposition to family planning use was the main reason for not using a contraceptive method. However, the most recent Demographic and Health Survey in Nigeria (DHS, 2008) reports that about 10% of women who were not using a contraceptive method and do not intend to use one in the future reported partner opposition as their main reason[33]. According to the survey, the woman's opposition to family planning use accounted for a greater percentage – 20% compared to the 10% due to the partner's opposition. In our study, we also found a higher percentage – about a third of the women did not approve of couples using family planning. The reason for the higher proportion in our study population may be due to the fact that we restricted our sample to only women who have partners and are in the facility to receive reproductive health services unlike the DHS that is a household nation-wide survey.

Similar to other studies, we found that the woman's age, marital status, parity, and history of contraceptive use were associated with the unmet need for modern contraception[33, 34]. Older women are more likely to have their need for contraception met as it is expected that as women advance in age, they gain agency and as such can assert their needs. According to the social cognitive theory, agency and self-efficacy influence adoption of a new health behavior, in this case, modern contraceptive use. In addition, older women may have better access to family planning methods and services as they most likely have the financial capability. Married women may be less likely to report an unmet need for modern contraception because they may want to have more children or be unable to report that a pregnancy is unwanted based on cultural values. The finding that having three or more children is positively associated with an unmet need for family planning has also been reported by other studies[24, 34]. This is

understandable as multiparous women will be more likely to want to limit the number of children they have, and as such have a need for contraception, compared to women with no children. We also found that women who had previously used a method were more likely to use in the future and as such will be less likely to have an unmet need for modern contraception.

There are a few limitations to our study. We used women's reports of perceived male partner opposition; there is no doubt that more reliable reports would be gained from interviewing the male partners. Moreover, in order to address why men oppose modern contraceptive use, more in-depth information on reasons for the opposition is needed. In addition, there is a potential for selection bias as women were recruited at the health facilities. It is possible that the health-seeking behaviors of these women are different from that of the women who did not visit the health facility during the time of survey and as such did not participate in the study. This potential for selection bias makes it impossible to generalize the results to the entire population. However, these results can be extrapolated to women seeking HIV and ANC services in health facilities in Southern Nigeria. Future research should include the males' perspective and also in-depth interviews with both women and men to fully understand the context in which partners disapprove of family planning so that appropriate interventions can be tailored towards addressing the identified problem areas.

As was noted in a study conducted among HIV clients in India, HIV-positive women were more likely to report an unwanted or unplanned pregnancy[3]. Therefore, there is a need to tailor intervention towards HIV-positive women who are most at-risk of unintended pregnancy in order to prevent vertical transmission of HIV. Our results suggest that programs and interventions aimed at increasing modern contraceptive prevalence rate among HIV service clients should put into consideration the woman's age, marital status, parity, and previous use of contraception. Interventions should be tailored to the needs of the women depending on their characteristics and should incorporate their male partners. Due to the pervasiveness of partner opposition to modern contraception in our study population, there is a need to modify existing programs or to develop new programs/policies that consider gender and cultural influence on family planning service utilization and method uptake. There is a need to increase the self-efficacy of the clients towards contraceptive use and spousal communication about family planning in general. Family planning counseling should highlight the influence of gender and cultural norms on perception and attitudes towards modern method use and should help the clients in making informed choices/decisions about family planning.

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Contribution of Authors

DRM, UG, GV, and OC conceived, designed, and collected data for the larger study. CCO conceived the idea for this manuscript and conducted data analysis with MC. CCO prepared the manuscript and all authors approved of the final draft of the manuscript.

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