

For PAA conference use only

Title: Couples' agreement on gender norms and contraceptive use in urban Nigeria

Authors' names: Kashika M. Sahay, MPH, PhD¹; Ilene Speizer, PhD¹;
Janine Barden-O'Fallon, PhD¹; Stella Balbalola, PhD²; Joseph G. Ibrahim, PhD; Sandra L. Martin, PhD¹;

Authors' affiliations: 1 UNC Gillings School of Global Public Health, Maternal and Child Health
Department

2 Johns Hopkins University, Department of Health, Behavior and Society

Abstract

Around the world, socially defined responsibilities, decision making ability, and control over resources vary for men and women; men usually have more power than women. Research on equitable gender norms (where women have decision making power and abilities equivalent to men) has increasingly showed positive associations with use of family planning (FP) and health services. However, few studies have examined couples' agreement on gender norms and how (and if) this relates to contraceptive usage. This study examines this topic using data collected from four Nigerian cities (Abuja, Ibadan, Ilorin and Kaduna) as part of the 2010-11 baseline population-based survey of the Measurement, Learning & Evaluation Project. We investigate couples' agreement on gender norms (attitudes towards wife beating, household decision making, and restrictions on wife's activities) related to modern contraceptive usage among 2,184 couples (weighted value=2,130). Disagreement between spouses ranged from 6% to 41% depending on the gender norm measure, with higher disagreement for restrictions on contraceptive usage, beating if unfaithful, and husband deciding large household purchases. Adjusted multivariate analysis showed that couples who jointly believed that restrictions on wife's activities were acceptable had 0.31 times lower odds (95% CI: 0.21, 0.45) of using modern contraception (versus no modern use) as compared to couples who agreed that restrictions of wife's activities were unacceptable. The wife beating and household decision making scales had more mixed associations with contraceptive usage. Couples who endorse restrictions on women's activities may have differential access to health and FP services than couples who do not endorse restrictions.

250 out of 250

Article word count: 5,560

Background

According to UN Women, gender “refers to the social attributes and opportunities associated with being male and female ... as well as the relations between women and those between men...[g]ender determines what is expected, allowed and valued in a women or a man in a given context¹.” Around the world, gender norms such as the normative activities, responsibilities, decision making, and control over resources are inequitably distributed between men and women^{1,2}. Women’s gender roles are often limited due to cultural factors, and are influenced by age, work status and education³. Inequitable gender norms may manifest as social acceptability for a husband to beat his wife or his restrictions on her activities outside (and inside) the home². Furthermore, within the household, decision making power can be inequitable when the husband is the primary decision maker as opposed to decisions being made by the wife or jointly by both partners. Understanding gender norms within a husband-wife partnership can potentially provide insight into the social context for low FP usage⁴. In theory, among couples who agree that husbands should be able to restrict wives’ activities, FP usage could be lower because women may be limited in their abilities to access family planning clinics. Or if couples do not share decision making power within the household, a woman may have limited ability to make decisions about her FP and healthcare. Furthermore, it is possible that if couples endorse wife beating, this may reflect social inequities where women may be less likely to use FP.

The 1994 International Conference on Population and Development (ICPD) asserted that actively engaging men and women is critical to the uptake and use of family planning (FP)⁵. Among couples in sub-Saharan Africa, evidence suggests that married men have a higher ideal number of children than their wives⁶. In some instances, male authority may overpower a woman’s ability to implement her FP desires, as men are often the primary household decision makers⁷. In Nigeria, the site of this study, husbands and wives have differing perceptions about future fertility, timing of their next child and contraceptive

decision making^{8,9}. Kritz and colleagues using data from a 1991 survey in Nigeria found couples' agreement on gender norms (termed women's authority) was positively associated with contraceptive usage¹⁰. Although many studies focus on rural areas² or a specific community within Nigeria^{9,12}, contemporary couples' studies in urban Nigeria are limited¹³.

Research has typically assessed the potential association between gender norms and family planning in either studies of married women or studies of married men (rather than in studies that examine both partners in a couple). This research has found that married women are often not able to make FP and household related decisions^{4,14}. Among married women in Burkina Faso¹⁵ and Tanzania¹⁶, women with equitable decision making power were more likely to use contraception as compared to women with inequitable decision making. Similarly, in urban Nigeria, women with more equitable gender norms were more likely to be using modern contraception¹³. Among men in rural India and Ethiopia, those who reported more equitable decision making were more likely to use modern contraceptives than men with inequitable decision making^{17,18}. However for men in Honduras⁴, urban India¹⁷ and Tanzania¹⁶, equitable decision making was not associated with contraceptive usage. Unfortunately, both members of a couple are usually not interviewed and many studies use perceptions of partner attitudes and behaviors with the assumption that the surveyed partner is aware of his or her partner's thoughts and desires. Studies that evaluate husband and wife's perceptions of their partners views in comparison with partners' actual attitudes find only loose agreement between couples^{19,20}.

A few couples' studies provide a framework for examining health service priorities simultaneously among husbands and wives^{19,21,22}. In urban Kenya, couples that communicated about FP and desired number of children were more likely to use contraception than couples that did not communicate²². One couples' study in Nepal found that couples who endorsed more equitable gender norms were more likely to use antenatal care and complete immunizations as compared to couples with less equitable gender norms¹⁹. When the husband and wife agreed on equitable gender norms, the women used more antenatal care as compared to when couples disagreed, even after controlling for demographic

factors²¹. Our study provides couples' data on contraceptive usage in urban Nigeria and highlights the importance of accounting for each spouse's viewpoint on gender norms.

Research Questions

This study addresses two research questions from a sub-sample of urban Nigerian couples:

- 1) To what extent do couples agree (or disagree) about equitable gender norms?
- 2) Is agreement (or disagreement) on equitable gender norms associated with modern contraceptive usage among couples?

The primary hypothesis for this study is that Nigerian urban couples who both endorse equitable gender norms are more likely to use modern contraception as compared to couples where at least one member of the couple endorses inequitable norms. We believe that couples will disagree on several items of the gender norms scales. Among couples that disagree, we expect that if the husband has less equitable views than the wife, then the wife will be less likely to use contraception. To assess these questions, we conduct a secondary data analysis of data collected as part of Measurement, Learning & Evaluation (MLE) Project to evaluate the Nigerian Urban Reproductive Health Initiative.

Setting

Nigeria is especially crucial for FP efforts due to high gender inequity and poor FP outcomes^{23,24}. As of 2014, the Social Index for Gender Inequity, ranked Nigeria as having "very high" levels of gender inequity. In terms of FP, in 2013 the Nigeria Demographic and Health Survey (NDHS) showed that 15.1% of currently married/in union women ages 15-49 were currently using any type of contraception; 9.8% were using a modern method²³. The maternal mortality ratio in 2014 was 560 deaths per 100,000 live births, among the tenth highest in the world²⁴. In urban areas, 26.8% of currently married women were using any contraception (16.8% modern) based on 2013 DHS data²³. Notably, nearly half of the Nigerian population resides in urban areas²³ and recent research has found high disparities in contraceptive usage between the urban rich and urban poor²⁴.

In this study, we focus on four geographically, culturally and ethnically diverse cities in Nigeria: Abuja, Ibadan, Ilorin, and Kaduna, all with vastly different modern contraceptive prevalence rates per the

2010/2011 Nigeria Urban Reproductive Health Initiative (NURHI) baseline survey²⁵. Abuja is in the middle of the country and ethnically/religiously diverse with a modern contraceptive prevalence of 29.2% in 2010/2011. Abuja is the smallest of the four cities, established as the capital city of Nigeria in 1991. Ibadan is a southwestern city with agricultural roots and is the third largest urban area in Nigeria. In Ibadan, the modern contraceptive rate was 33% in 2010/2011, and people are primarily ethnically Yoruba and religiously Christian. Ilorin is a northern, predominately Muslim and Yoruba city. Relative to the other cities, Ilorin has the second lowest modern contraceptive prevalence rates (21.3%). Kaduna is a predominantly Hausa city that includes both Muslims and Christians. The modern contraceptive prevalence rate in Kaduna is the lowest among the four cities in 2010/2011 (16.3%)²⁵.

Data

This study uses baseline data from the Nigeria MLE project. The MLE project is the evaluation component of the Bill & Melinda Gates Foundation-funded Urban Reproductive Health Initiative (Urban RH Initiative) which aims to improve the health of the urban poor in India, Kenya, Nigeria and Senegal. The MLE project had as a mandate to identify the impact of various interventions to increase contraceptive prevalence among urban populations, especially the urban poor. In Nigeria, the MLE project collected baseline population-level data between October 2010 and March 2011 from women in six cities (Abuja, Benin City, Ibadan, Ilorin, Kaduna, and Zaria) and men in four cities (Abuja, Ibadan, Ilorin and Kaduna). Representative samples of women and men were selected and interviewed using a two-stage sampling method. In the first stage, random samples of primary sampling units (PSUs) were selected to represent the cities' populations using probabilities proportional to the cities' size. Urban enumeration areas were identified through the 2006 Population and Housing Census. The second stage involved a random sample of 41 households within each selected PSU. If a household was selected, all women ages 15-49 were eligible for an interview. In addition, in approximately half of the households in four cities, all men between the ages of 15-59 were identified and eligible to be interviewed. Women who provided verbal consent were asked questions relating to demographics, reproduction, fertility preferences, gender relations, and maternal and child health by a trained female interviewer. Consenting

men were asked similar questions by a trained male interviewer. This study uses a matched sub-sample of married couples from the four cities²⁵.

Study Sample

The couples sub-sample was obtained by matching male heads of households with their spouses in a secondary data analysis exercise (details Table 1). Overall at baseline, 5,232 women and 5,547 men completed interviews within households selected for a male interview. We excluded: 2,251 women because they were not designated as the spouse of a head of the household, 214 because they were not legally married or cohabitating, and 7 were not full time residents of the home*. A similar exclusion criteria was used among the 5,547 men surveyed. Overall, 2,760 women and 2,510 men were considered eligible to be matched. During the matching process, we could not identify partners for 576 women and 399 men, so these individuals were excluded from final analysis. Thus, the final matched sample includes 2,184 couples (2,184 women and 2,111 men since some men had multiple wives with whom they matched).

The MLE project obtained ethical clearance from the University of North Carolina at Chapel Hill Institutional Review Board (UNC IRB) and the National Health Research Ethics Committee of Nigeria to conduct the surveys. This secondary data analysis was also approved by the UNC IRB.

Variables

This study's primary outcome is the current use of a modern contraceptive as reported by the woman. Modern methods include: pills, injectable, intrauterine contraceptive devices (IUCDs), implants, condoms, sterilization, Lactational Amenorrhea Method (LAM), and emergency contraception. Non-use of modern methods was the reference category and included: traditional methods (Standard Days Method[†], calendar method and withdrawal) and no method. We use the women's reported contraceptive

* Note, we would have liked to analyze female head of households. However, among the female head of households, we were unable to match any female head of households to any of the men in the sample. This is probably because while 364 female head of households were married, only 5 men in the dataset identified themselves as spouse of head of household.

[†] SDM was categorized as a traditional method in the NURHI baseline survey.

use in this analysis because men may have more than one partner and may vary contraceptive usage between different partners²².

The primary independent variables of interest are based on couples' agreement as derived from three gender norms measures adapted from DHS questions: attitudes towards wife beating, household decision making and restrictions on wife's activities¹⁴. We chose these gender norm measures for conceptual links to the acceptability of women's involvement in activities, responsibilities, decision making, and control over resources, as well as predominance in the literature^{14,26}. The creation of the couples' agreement variable is discussed for each scale below.

Acceptability of Wife Beating Scale

The acceptability of wife beating measure included seven yes/no questions about the acceptability of wife beating. Respondents were asked whether it was acceptable to beat a wife under a set of hypothetical circumstances (going out without permission, neglecting household responsibilities, cooking improperly, refusing another child, refusing sex, and being unfaithful). An individual's views were characterized as inequitable when an individual answered "yes" to an item on this scale, (an equitable norm is a "no" answer). For an individual, the sum of the number of yes responses was calculated ranging from 0-7 (i.e. number of inequitable norms). For multivariate analysis, couples' agreement was characterized based on a comparison of husbands and wives' scores into four categories: 1) both the husband and his wife have a score of 0 (both have equitable views), 2) husband's score is higher than the wife's score (the husband's views are less equitable than his wife's views), 3) wife's score is higher than husband's score (the husband's views are more equitable than his wife's views), 4) the husband's and wife's scores are equal, but greater than zero (both the husband and wife have the same level of somewhat inequitable views).

Restrictions on wife's activities

The restrictions on wife's activities measure (sometimes referred to as freedom from prohibitions scale¹³) is a series of six yes/no questions about the acceptability of a husband restricting his wife's behavior (e.g. work outside the home, have visits from others, cell phone usage, ability to visit friends/family, and use contraception). As with the wife beating measure, an inequitable norm for this scale is defined when an individual answered "yes" to an item on this scale (an equitable norm is a "no" answer). The individual "yes" responses were added together for an overall number of restrictions (0-6) endorsed by an individual. Couples agreement was characterized in the same manner as the acceptability of wife beating scale.

Household decision making

The household decision making questions ask whether the primary decision maker for a given decision (e.g. small household purchases, large household purchases, visiting friends or family, and deciding when and where to seek wife's medical care) is the husband, wife or both equally*. In the household decision making measure, an inequitable or male-centric norm is one when the husband is the primary decision maker (an equitable norm is when the wife is the primary decision maker or the couple makes joint decisions). Individual answers for each decision were added together for an overall number of male-centric decisions (0-4). As with the other measures, couples' agreement was classified into four categories.

Covariates

We include men's and women's characteristics as covariates based on a priori review of the literature^{14,22}. The number of husband's inequitable views was added as a control variable to provide a baseline metric to the couples' agreement variable discussed above. In addition, characteristics reported by the women include work status, parity,[†] marriage type, religion*, age, and education. Woman's work

* Note, the original survey did have a question about seeking medical care in general, but it was only administered in the spoken language Hausa so response rates were low.

† Highly correlated with husband's responses

status was assessed using the yes/no question: “As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. In the last seven days, have you done any of these things or any other work?” We created an indicator variable for yes responses. Parity was calculated by summing the number of living children residing with the woman, number of living children residing away from the woman, and number of children that died. Due to a high prevalence of polygyny in Nigeria²³, we also controlled for marriage type using an indicator variable. Polygyny was assessed from the woman’s perspective based on “yes” responses to the question, “Besides yourself, does your husband/partner have any other wives?”* Religion was dichotomized to Muslim and Christian due to a lack of variability in responses. Women’s age in years and education levels were included as well.

We include several categorical variables comparing husband’s and wife’s relative differences in sociodemographic characteristics. To assess the relative age difference between husband and wife, we created a categorical variable with three levels: wife’s and husband’s ages within 5 years of each other, husband more than 5 but less than 10 years older than wife, husband 10 or more years older than wife. A similar categorical variable was created comparing husband and wife’s education levels: husband and wife comparably educated (both none/ Quranic[†], primary, secondary, higher than secondary), husband more educated than wife, and wife more educated than husband.

The household level factors include: household wealth quintiles and city. Wealth quintiles were created using principal component analysis of household assets and housing characteristics as described by Filmer and Pritchett for the Demographic Health Survey²⁷. Households were asked about the availability of the asset in binary terms--‘yes, have the asset’ or ‘no, don’t have’. The asset variables included in the wealth index included: watch, stove, electric fan, TV, VCR, DVD, radio, sewing machine, sofa, car/jeep, bicycle, motorcycle, air conditioning, mobile phone, landline phone, computer, internet,

* 92% of men and women agreed on their accounts of multiple partners.

refrigerator, camera, digital camera, tenure rooms, separate kitchen, fuel, water source, toilet. Since the wealth index was at the household level, this did not differ for husbands and wives.

Analysis plan

To evaluate our research questions, we quantify couples' agreement on gender norms using percent agreement on equitable and inequitable views for each gender norm. We use logistic regression analysis to analyze the association between couple agreement on gender norms and modern contraceptive use as reported by the woman, adjusting for the couples' individual-level characteristics (*i.e.*, age differences, education concordance, religion, parity, work status, husband's number of inequitable norms) and household factors (household wealth and city of residence)*. We also compare eligible individuals in the matched couples' sample with unmatched married individuals using F-tests. We compared matched and unmatched individuals' sociodemographic factors to assess if our couples' subsample is representative of the larger sample of married individuals. All statistical analyses were conducted in Stata 14 SE. Population level women's weights were used and all analyses account for clustering and complex survey design. A significance level of 0.05 was determined a priori.

Results

Sample characteristics

The sub-sample of married/cohabiting women included in this study were statistically different from unmatched married/cohabiting women (see Table 2). Matched women in the sub-sample are more likely to be younger, more educated, wealthier, have fewer children and be Christian as compared to unmatched women not included the sub-sample. Couples in the sub-sample were slightly wealthier than unmatched individuals. Current contraceptive use was statistically similar in the two groups (29% in the matched group, 26% in the unmatched group). However, a greater percentage of women were currently pregnant in the matched sample (11.2%) as compared to the unmatched sample (7.3%). Couples where the wife was pregnant were subsequently excluded from multivariable analysis. After excluding pregnant

* We initially performed multinomial regression, but no statistical differences were found between traditional and non-use. We focus on modern contraceptive usage for its programmatic relevance.

women from the non-user category, modern contraceptive usage was 34% in the matched sample compared to 29% in the unmatched sample. We find that husbands are consistently more educated, have more children (possibly due to multiple wives/partners) and are more likely to be working outside the home than their wives (see Table 2).

Sociodemographic characteristics of women and their partners in the analytical sample

Among the matched couples, the average age of husbands was 40 years (SD: 0.2 years), whereas the wives were significantly younger at 32 years (SD: 0.2 years) (Table 3). Approximately one third of husbands were 10 or more years older than their wives. In aggregate, women were less educated than men. Within couples, 33% of husbands were more educated than their wives, but 13% of husbands were less educated than their wives. Couples overwhelmingly had the same religion (57% both Muslim, 36% both Protestant, 1% both Catholic). Approximately 70% of husband and wife pairs reported the same number of living children, but, not surprisingly, 22% of men reported a higher number of children than their wives.

Contraceptive usage and unmet need levels

In our sample, about two-thirds of the women are not using any type of contraception, yet unmet need levels are low. Unmet need describes women who want to limit or delay pregnancy but are not using contraception. Over all four cities, unmet need was approximately 14.7% of women, with more women indicating an unmet need for spacing rather than limiting (9.5% for spacing and 5.2% for limiting). Even among contraceptive users, spacing predominated (24%) as only 17.8% of women were using contraception to limit.

To what extent do couples agree or disagree on gender norms? Acceptability of wife beating scale

Wife beating was also mainly viewed as unacceptable by couples in this sample—ranging from 66% to 94% (see Table 3). For six out of the seven items, less than 5% of couples both felt wife beating was acceptable. Of the circumstances listed, wife beating in the case of suspected infidelity was the most

highly endorsed (7.5% of couples). Interestingly, husbands and wives overwhelmingly agreed that a wife should not be beaten if the wife refuses to have another child (94%). The results suggest that urban couples in Nigeria largely view wife beating as unacceptable, except for possibly beating in the case of suspected infidelity.

In summary, over two-thirds of couples (67%) felt that wife beating was unacceptable under all circumstances listed. Disagreement on the wife beating measure was more limited than the other scales--- in 15% of couples, the wife endorsed some wife beating while their husbands endorsed no situations; and for 11.8% of couples, the husband endorsed some wife beating while their wives endorsed no situations. Only 6.2% of couples both endorsed some wife beating. Other measure, such as the restrictions on wife's activities and household decision making scales were more mixed.

To what extent do couples agree or disagree on gender norms? Restrictions on wife's activities

We calculated couples' agreement on each of the items and overall across the entire scale (Table 4). Equitable agreement on the restrictions of wife's activities scale ranges from 66-83% depending on scale item. Couples were most likely to agree that a woman could use a mobile phone or visit her family without restriction. For five out of the six restrictions, very few couples (less than 5%) jointly endorsed restrictions on the wife. However, restrictions on contraceptive usage was the most controversial restriction with 28% of couples disagreeing about the acceptability of contraceptive usage. The results suggest that couples in Nigeria largely view restrictions on wife's activities as unacceptable, apart from contraceptive usage.

Overall, nearly half of couples (47%) agreed that no restrictions on the wife's activities were acceptable. However, 39% of couples disagreed about the acceptability of restrictions (see Table 4). When couples disagreed, 26% of husbands expressed more restrictions than their wives; whereas for 13% of couples, wives were more restrictive than their husbands.

To what extent do couples agree or disagree on gender norms? Household decision making

For the household decision-making scale, the husband had a greater say in all four decisions among nearly one-third of couples (32.5%), but couples often disagreed on decision making roles. Husbands reported more male-centric decision making than their wives 38% of the time, while the wife reported more male-centric decision making 23.5% of the time. Only 6.2% of couples felt that all three decisions should be primarily wife/joint. This suggests the dominant decision making power of husbands in the context of the household.

Of the three scales, household decision making had the most disagreement between couples. Total disagreement ranged from 30-41% depending on the scale items. Couples overwhelmingly agreed that the husband had the most decision-making power for large purchases (62.6% husband-centric), but small household daily purchases, deciding when to seek wife's healthcare, and visits to family and friends were more likely to be joint/wife only decisions.

Is couples' agreement on gender norms associated with modern contraceptive usage?

Separate logistic regression models were fitted for each of the three gender norm scales and modern contraceptive usage. The adjusted odds ratios and 95% confidence intervals are presented in Table 5 after controlling for age, education, parity, religion, work status, city of residence, wealth status, age difference between spouses, concordance on education and whether the husband endorsed any gender inequitable views for that scale.

Contrary to our expectations, for the wife beating scale, when both couples endorsed some wife beating they had 2.44 times higher odds of using contraception as compared to couples that both felt wife beating was not justified under any circumstances (95% CI: 1.08, 5.48) after adjusting for covariates. When spouses disagreed on the appropriateness of wife beating, there were no statistical differences in odds of contraceptive usage.

In alignment with our hypothesis, the restrictions on wife's activities scale was significantly associated with modern contraceptive usage (see Table 5). As expected, the adjusted odds ratio (aOR) for

modern contraception usage was 0.26 times lower for couples that both endorsed some restrictions as compared to couples that both endorsed no restrictions (95% CI: 0.16, 0.44). However, contrary to our hypothesis, it did not matter whether the husband or the wife had more inequitable gender norms. If either member of the couple endorsed restrictions, the woman was overall less likely to use modern contraception—husband more inequitable aOR: 0.57 (0.36, 0.90); wife more inequitable aOR 0.61 (0.42, 0.87). (See Table 4).

The household decision making scale did not have significant associations with modern contraceptive usage. Since most couples endorsed at least some male-centric decisions, the reference group for this scale was the same non-zero number of male-centric decisions. Couples that agreed that all decisions should be joint/wife did not have different modern contraceptive usage than couples that endorse some male-centric decisions aOR 1.08 (0.55, 2.13). Similarly, if the spouses disagreed on the number of male centric decisions, the odds of contraceptive usage were not statistically different than if the couple agreed on some restrictions. The adjusted odds ratio for wife more inequitable than husband is 1.03 (95% CI: 0.70,1.52); the adjusted odds ratio for husband more inequitable than wife is 0.97 (95% CI: 0.68, 1.36)).

In terms of covariates, in all models, the odds of modern contraceptive use increased with parity, age and education level as reported by the woman. Women in Abuja, Ibadan, and Ilorin had higher odds of using modern contraception relative to women in Kaduna in all models. The husband's number of inequitable views, women's work status, and relative age/education were not significant in any of the adjusted models. For the restrictions of wife's mobility scale, women in polygynous relationships were less likely to use modern contraception than their monogamous counterparts but marriage type was not significant in the other models. For the household decision making scale and wife beating scale, Christian religion was significantly associated with higher odds of using modern contraception.

Discussion

In this study, we performed a detailed couples-level analysis of the insufficiently studied urban populations of Nigeria. Consistent with the high fertility preferences documented in Nigeria, women are more likely to be using contraception for spacing rather than limiting of births²⁸. Our couples' analysis systematically examined the role of couples' agreement on gender norms and FP use. The analysis also adjusted for demographic characteristics as well as household factors. We found that couples' agreement on gender norms varies widely based on the circumstance and scale item. Among the 2,184 urban Nigerian couples interviewed, couples' in which one or both members endorse restricting wife's activities are less likely to use modern contraception after adjusting for sociodemographic factors.

We also found that couples in which both partners endorsed wife beating in some circumstances had higher odds of contraceptive usage than couples who did not endorse wife beating under any circumstances. Although this result is somewhat surprising, research among women in Mali found that women who had more egalitarian views about wife beating had higher ideal family size as compared to women who endorsed wife beating²⁹. This points to complexity in interpreting gender norms in relation to contraceptive usage. Furthermore, this scale asks couples about hypothetical circumstances where violence could be perceived to be acceptable rather than actual intention or perpetration of these acts.

In contrast with other studies^{19,16}, men in this study generally held more inequitable views than their wives on the restrictions on wife's activities and household decision making scales. Also in contrast with other studies^{13,15,30}, equitable norms in household decision making was not significantly associated with higher contraceptive usage. This could be because only four decisions were assessed in our study (visiting friends and family, small household purchases, large household purchases, and women's ability to seek her healthcare), whereas other studies^{16,19} used a larger number of decisions.

Despite these differences, this study contributes to a growing body of literature with a focus on gender norms and FP usage. In contrast to a previous study using the same dataset¹³ but only focusing on women's gender attitudes, here we found that couples' agreement on household decision making and acceptability of wife beating were not associated with modern contraceptive usage. Our differing

analytical sample could explain our non-significant result. The earlier study¹³ focused solely on married women in six cities, rather than couples in the four cities that we have available (men were only sampled in four of the six cities). In our study, matched women were more likely to be younger, more educated, have fewer children, less likely to be in polygynous relationships, wealthier and Christian as compared to the overall population of eligible married women in the full sample, suggesting some potential for systematic advantages. This could explain the low prevalence of inequitable gender norms and high agreement between couples. It is possible that if all married individuals across the four cities could be matched, we would have more variability in couples' agreement. Furthermore, our analytic approach focused on couples' agreement on gender norms rather than the actual number of inequitable gender norms. Thus, it is possible that a woman's perception of equitable gender norms may be more critical than actual agreement on gender norms with her husband.

This study has programmatic implications for contextualizing gender norms. Freedom from restrictions on activities in other countries has emerged as an important proxy for social capital (e.g. visibility in society), ability to access healthcare facilities (e.g. care for an ailing child), and greater control in the familial unit (e.g. ability to visit friends and family)³¹⁻³³. Our findings suggest that a couple's attitudes about wife's activity restrictions are also related to health behavior, specifically contraceptive use. Interventional research suggests that changing gender norms can result in increased contraceptive usage³⁴. It's possible that promoting spousal communication could not be a way to achieve greater agreement between the wife and the husband's attitudes, increasing the prevalence of more egalitarian gender norms and, in turn, increased contraceptive use. Further research is needed to determine the role of gender norms on spousal communication and discussion of FP attitudes.

This study has several limitations, notably in the measurement of gender norms^{14,33,35}. These gender norm measures focus on acceptability rather than action (i.e. individuals are asked whether it is justifiable for a husband to beat his wife rather than asking if the husband has ever beaten his wife). Thus, the administration of the survey instrument itself may suffer from social desirability bias. For example,

participants may believe that the socially acceptable response is to say that it's unacceptable to beat one's wife. Thus, it is important to clarify meaning and to understand the deeper context for responses. Many researchers have noted that these measures were designed in the Southeast Asian setting and thus may not be as useful in African settings despite their common use in DHS-type surveys^{13,14}. Despite measurement challenges, gender-related measures have the potential to provide proxy insight into differences in social context for men and women¹⁴.

The study is further limited by its use of cross-sectional data; we cannot establish temporality or causality of gender norms and contraceptive usage. Contraceptive usage in this study was considerably higher than the Nigerian population because of the focus of women (and men) in union residing together. Notably, our subsample of couples is not nationally representative of urban married couples in Nigeria so generalizability may be limited. Since we matched couples retrospectively, we had to be conservative in our matching criteria, thus potentially excluding polygynous couples. Even so, our study includes a relatively large sample of 2,184 couples across the four cities and study weights allow us to reflect the population-base from the four cities.

Our study supports avenues for further research on gender and family planning. Further qualitative studies are needed to define relevant gender norms in the Nigerian setting. Other researchers use terms such as gender equality, autonomy, agency, status and/or empowerment to describe similar attributes^{3,13,19,21,33}. In this study, gender norms were operationalized based on decision-making ability, restrictions on wife's activities, and acceptability of wife beating. However, a framework for reproductive empowerment specific to contraceptive usage and gender attitudes could be established. Future research could also attempt to establish a temporal relationship between the presence of restrictions on wife's activities and contraceptive usage over time. Further research could assess couples' agreement on other factors such as myths and perceptions specific to FP usage and preferred methods.

Couple studies like this one, provide insight into how the joint viewpoints of couples could be associated with FP behaviors. This study includes perspectives from both partners to provide a more

nuanced understanding of gender norms within a relationship. The results of this study provide evidence that endorsement of restrictions on wife's activities, by either member of a couple, is independently associated with lower FP usage. Even if a wife endorses an equitable viewpoint, her husband's disagreement could prevent or discourage her from accessing FP services. This information will be important for developing gender sensitive interventions that promote healthy reproductive lives for married couples in Nigeria.

Conference Use Only

References:

1. UN Women. Important Concepts Underlying Gender Mainstreaming. <http://www.un.org/womenwatch/osagi/conceptsanddefinitions.htm>. Published 2002. Accessed December 10, 2016.
2. Yadav K, Singh B, Goswami K. Agreement and concordance regarding reproductive intentions and contraception between husbands and wives in rural Ballabgarh, India. *Indian J community Med Off Publ Indian Assoc Prev Soc Med*. 2010;35(1):19.
3. Ahmed S, Creanga AA, Gillespie DG, Tsui AO. Economic status, education and empowerment: implications for maternal health service utilization in developing countries. *PLoS One*. 2010;5(6):e11190. doi:10.1371/journal.pone.0011190.
4. Speizer IS, Whittle L, Carter M. Gender relations and reproductive decision making in Honduras. *Int Fam Plan Perspect*. 2005;31(3):131-139.
5. Thanenthiran S. Twenty years and counting: Taking the lessons learned from ICPD to move the sexual and reproductive health and rights agenda forward. *Glob Public Health*. 2014;9(6):669-677.
6. Gebreselassie T, Mishra V. Spousal agreement of preferred waiting time to next birth in sub-Saharan Africa. *J Biosoc Sci*. 2011;43:385-400. doi:10.1017/S0021932011000083.
7. Tumlinson K, Speizer IS, Davis JT, Fotso JC, Kuria P, Archer LH. Partner communication, discordant fertility goals, and contraceptive use in urban Kenya. *Afr J Reprod Health*. 2013;17(3):79-90.
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3786372&tool=pmcentrez&rendertype=abstract>.
8. Ibisomi L. Is age difference between partners associated with contraceptive use among married couples in Nigeria? *Int Perspect Sex Reprod Health*. 2014;40(1):39-45.

9. Feyisetan B. Spousal communication and contraceptive use among the Yoruba of Nigeria. *Popul Res Policy Rev.* 2000;19(1):29-45. doi:10.1023/A:1006388011947.
10. Kritz MM, Hall W, Makinwa-adebusoye P. Couple Agreement on Wife's Autonomy and Reproductive Dynamics in Nigeria. In: *General Population Conference.* ; 2001:1-27.
11. Bankole A. Desired fertility and fertility behaviour among the Yoruba of Nigeria: a study of couple preferences and subsequent fertility. *Popul Stud (NY).* 1995;49(2):317-328. doi:10.1080/0032472031000148536.
12. Oyediran KA. Fertility desires of Yoruba couples of south-western Nigeria. *J Biosoc Sci.* 2006;38(5):605-624.
13. Corroon M, Speizer IS, Fotso J-C, et al. The role of gender empowerment on reproductive health outcomes in urban Nigeria. *Matern Child Health J.* 2014;18(1):307-315.
14. Singh K, Bloom S, Brodish P. Gender equality as a means to improve maternal and child health in Africa. *Health Care Women Int.* 2015;36(1):57-69. doi:10.1080/07399332.2013.824971.
15. Klomegah R. Spousal Communication, Power and Contraceptive Use in Burkina Faso, West Africa. *Marriage Fam Rev.* 2006;40(2-3):89-105. doi:10.1300/J002v40n02_05.
16. Nanda G, Schuler SR, Lenzi R. The influence of gender attitudes on contraceptive use in Tanzania: New evidence using husbands' and wives' survey data. *J Biosoc Sci.* 2013;45(6):331-344. doi:10.1017/S0021932012000855.
17. Mishra A, Nanda P, Speizer IS, Calhoun LM, Zimmerman A, Bhardwaj R. Men's attitudes on gender equality and their contraceptive use in Uttar Pradesh India. *Reprod Health.* 2014;11(1):41.
18. Tuloro T, Deressa W, Ali A, Davey G. The role of men in contraceptive use and fertility preference in Hossana Town, southern Ethiopia. *Ethiop J Heal Dev.* 2009;20(3).

19. Jejeebhoy SJ. Convergence and divergence in spouses' perspectives on women's autonomy in rural India. *Stud Fam Plann.* 2002;33(4):299-308.
20. Becker S. Couples and reproductive health: a review of couple studies. *Stud Fam Plann.* 1996:291-306.
21. Allendorf K. Couples' reports of women's autonomy and healthcare use in Nepal. *Stud Fam Plann.* 2007;38(1):35-46.
22. Irani L, Speizer IS, Fotso J-C. Couple characteristics and contraceptive use among women and their partners in urban Kenya. *Int Perspect Sex Reprod Health.* 2014;40(1):11.
23. National Population Commission (NPC) [Nigeria] and ICF International. *Nigeria Demographic and Health Survey 2013.* Abuja, Nigeria, and Rockville, Maryland, USA; 2014.
24. Fotso J, Ezeh AC, Essendi H. Maternal health in resource-poor urban settings: how does women's autonomy influence the utilization of obstetric care services? *Reprod Health.* 2009;6(9):1-8. doi:10.1186/1742-4755-6-9.
25. Fotso JC, Ajayi JO, Idoko EE, et al. Family planning and reproductive health in urban Nigeria: levels, trends and differentials. *Meas Learn Eval Proj.* 2011:1-116.
26. Do M, Kurimoto N. Women's empowerment and choice of contraceptive methods in selected African countries. *Int Perspect Sex Reprod Health.* 2012;38(1):23-33. doi:10.1363/3802312.
27. Filmer D, Pritchett LH. Estimating wealth effects without expenditure data—or tears: an application to educational enrollments in states of India. *Demography.* 2001;38(1):115-132.
28. Monjok E. Contraceptive practices in Nigeria: Literature review and recommendation for future policy decisions. *Open Access J Contracept.* 2010:9. doi:10.2147/OAJC.S9281.
29. Upadhyay UD, Karasek D. Women's empowerment and ideal family size: an examination of DHS

- empowerment measures in Sub-Saharan Africa. *Int Perspect Sex Reprod Health*. 2012:78-89.
30. Schuler SR, Rottach E, Mukiri P. *Gender Norms and Family Planning Decision-Making in Tanzania: A Qualitative Study*. Washington, D. C.
 31. Paek H-J, Lee B, Salmon CT, Witte K. The contextual effects of gender norms, communication, and social capital on family planning behaviors in Uganda: a multilevel approach. *Heal Educ Behav*. 2008;35(4):461-477.
 32. Gipson JD, Hindin MJ, Ibisomi L, et al. Bargaining power within couples and use of prenatal and delivery care in Indonesia. *Stud Fam Plann*. 2002;38(2):291-306. doi:10.1111/j.1728-4465.2002.00185.x.
 33. Malhotra A, Schuler SR, Boender C. Women's empowerment as a variable in international development. *Meas Empower Cross-disciplinary Perspect*. 2002:1-59. doi:10.1596/0-8213-6057-4.
 34. Geleta D. Gender Norms and Family Planning Decision-Making Among Married Men and Women, Rural Ethiopia: A Qualitative Study. *Sci J Public Heal*. 2015;3(2):242. doi:10.11648/j.sjph.20150302.23.
 35. Mason KO, Taj AM. Differences between women's and men's reproductive goals in developing countries. *Popul Dev Rev*. 1987:611-638.