The Role of Relationship Quality in Promoting Contraceptive use among Currently Married or Partnered Ethiopian Women aged 18-45 year

Neetu A. John

International Center for Research on Women

Background

Introduction

Understanding how individuals adopt, consistently use, and engage in contraceptive use decision-making is critical, given its potential to address public health challenges like high fertility, sexually transmitted diseases, including HIV, unintended pregnancy, reduction of maternal mortality, and enhancing maternal and child health (Tsui & Creanga 2009; Rutstein 2005; Marston & Cleland 2003). This research is especially pertinent in sub-Saharan Africa as sexually active populations here continue to grapple with high levels of unintended fertility, maternal and child mortality, and HIV infection risk, underlining the need for continued efforts to expand contraceptive acceptance and adoption. While the contraceptive prevalence rate (CPR) is on the rise in many countries in the region, unmet need for contraceptives remains high in many settings (Westoff 2001).

Historically, women have been the main target of family planning programs and research for a variety of reasons (Becker, 1996; Watkins, 1993). However, the advent of HIV epidemic heightened awareness on how gender relations and gender disparities can influence sexual and reproductive health, and highlighted the need to focus on the social context of contraceptive use (Gupta 2000; Pulerwitz et al. 2000; Blanc 2001; Hatcher et al. 2012; Wingood & DiClemente 2002). These shifting paradigms are reflected in international forums such as the International Conference on Population and Development (ICPD) (1994) and the Beijing Conference on Women (1995) that explicitly call for the inclusion of men in reproductive health in general, and particularly in women's reproductive health (United Nations 1995).

1

Since then, role of power in sexual relationship and reproductive decision-making has been a subject of

much theoretical and empirical research, with power being conceptualized in a variety of ways (Riley

1997; Wingood & DiClemente 2000; Blanc 2001). However, the basic premise is that gender-based

power in sexual relationship is frequently unbalanced and that women usually have less power than

men, and that these gender-based inequities and disparities expose women to risk factors that

adversely influence their sexual and reproductive health (Blanc 2001). For example, we now know, in

the reproductive arena, that power may constrain a woman's ability to discuss, negotiate and access

contraception because of threat of partner violence and/or abandonment as well as control over

mobility and financial resources (Gage 1995; Bawah et al 1999; Hindin 2000, Blanc, 2001; Pulerwitz et

al., 2012; Wingood & DiClemente, 2002; Dodoo & Frost 2008, DeRose & Ezeh 2010; Stephenson, Bartel

& Rubardt 2012; Do & Kurimoto,2012). From a policy and programmatic perspective, the global

response to these power imbalances has often taken the form of interventions that focus on women

and promote women's empowerment (Higgins et al., 2010). However, the effectiveness of

empowerment interventions is increasingly being challenged as evidence of 'male backlash' is emerging

in many contexts, resulting in elevated violence in women's lives (Schular & Hashami, 1994; Schular et

al., 1997). Hence, there is growing recognition of the need to understand variability in socio-cultural

context and how that affects female and male vulnerabilities, as well as increasing interest in research

that understands masculinity and men's response to women's increasing power (Higgins et al, 2010;

Dworkin et al., 2013; Dworkin & Blankenship, 2009).

Given these complexities, an area of research that could be very promising for understanding some of

the pathways between gender power differentials and reproductive decision-making is understanding

relationship quality. Scholars are increasingly turning their attention towards relationship quality, which

is theorized as an important precursor for healthy behaviors within couples (Lewis et al., 2006; Robles et

al., 2014). Relationship quality is typically measures as a composite of constructs such as relationship

commitment, trust, intimacy, equality and communication (Fletcher et al., 2000; Kurdek, 1996).

These constructs are positively correlated with one another, but are often treated as distinct factors

(Larzelere and Huston, 1980). Measures of relationship quality came out of interdependence theory

which suggest that positive relationship dynamics foster a "transformation of motivation" from an

individualistic orientation to one that is more pro-relationship (Lewis et. al., 2006; Rusbult and Lange,

2003). Couples that have undergone this transformation are more likely to work together to minimize

the threat of a health issue through a process called "communal coping" (Lewis et al, 2006).

Research in the West has long established a close association between relationship quality and health

outcomes, including contraceptive use **(**Ku, Sonenstein & Pleck 1994; Manlove, Ryan and Franzetta

2007; Sayegh MA et al. 2006; Manning WD et al. 2009; Harvey SM et al. 2006). In sub-Saharan Africa

while interest in this area is emerging, there is currently very little evidence looking at this relationship,

especially in the reproductive arena. Basu (2006) talks about how demographic research often overlooks

the linkages between love and sex and the complex emotional processes that underlie it. She discusses

how relationships have emotional meaning for people. Drawing on anthropological research, she

discusses how individuals in love are expected to trust their partners and not worry about their past or

current actions, making it hard for them to prevent unwanted pregnancy or infections. Given these

emotional processes, she talks about the inadequacy of explaining sexual behavior "solely on questions

of victimhood and empowerment as determinants."

Limited research in sub-Saharan Africa suggests that lower quality relationships are more prone to

violence, relationship dissolution and extra-marital relationship (Conroy and Chilungo, 2014; Dunkle et

al., 2004; Jewkes et al., 2010; Morris and Kretzschmar, 1997). Specifically, regarding contraceptive use,

while many studies have explored the relationship between contraceptive use and specific inter-

personal variables such as couple communication, household decision-making and gender power

differentials, more nuanced research exploring the role of emotional processes such as trust, intimacy

and egalitarian orientation is very limited. Moreover, most of the current research is limited to exploring

the association between condom use with relationship trust in the context of HIV. However, the limited

studies from sub-Saharan Africa do allude to the role of couple dynamics on contraceptive use, although

many of these studies are small scale and mostly qualitative studies. For example, some studies report

how women are driven to use contraceptives covertly because of relationship dynamics (MacPhail 2009;

Oppong C 1997). A qualitative study from Ghana found that men associated female contraceptive use

with promiscuity, which made contraceptive use challenging for the women. In this context, female

contraceptive use could threaten the marriage and lead to consequences such as denial of sex, husband

favoring or bringing a co-wife, threat of domestic violence or even abandonment (Bawah et al 1999).

Another study in Zimbabwe found mistrust to be a major barrier preventing contraceptive use among

married couples, and that contraceptive use was more prevalent among couples who freely

communicated with each other (Muhwava 2009). Similarly, a qualitative study from Malawi found

current relationship dynamics, especially perceived levels of trust and commitment in the relationship,

to be a critical factor determining contraceptive use (John, Babalola & Chipeta, 2015). A quantitative

study from Ghana that used relationship quality scales to assess their relationship with contraceptive

use found a positive association between relationship satisfaction, trust and communication and

contraceptive use (Cox et al 2013).

Given these gaps, in this study we undertook a comprehensive analysis to examine the relationship

between relationship quality domains such as trust, communication, intimacy and egalitarian

orientation on contraceptive use using large-scale population based data from Ethiopian women aged

18-45 years. We were also particularly interested in examining the impact of relationship quality on

contraceptive use after accounting for gender power differentials between couples, which we measured

using spousal age difference, household decision-making and polygamous marriage. Finally, we did

simulations to estimate the affect relationship quality can have on overall contraceptive use.

Ethiopian Context

The median age of first marriage for women in Ethiopia remains low at 17.1 years (Ethiopia

Demographic and Health Survey (EDHS), 2016). The age at first marriage is slightly higher for males at

23.7 years in 2011 (EDHS, 2011). Moreover, the proportion aged 15-49 years, who have never been

married is substantially higher among males than females, with 44% of men and 27% of women never

married (EDHS, 2011).   11% of the population lives in polygynous unions, similar to the 2011 survey

(EDHS, 2016).

Although, there is variation in marriage customs across religious and ethnic groups, in most cases,

traditionally marriages are arranged by families with very brief engagement periods (Tilson & Larson,

2000). The bride joins the groom's house until the couple set up their own household (Ezra, 2003).

Divorce is prevalent, with 45% of first marriages ending in divorce within the first 30 years (Tilson &

Larson, 2000). Traditionally, Ethiopian men and women have distinct roles and responsibilities within

marriage. The males are traditionally viewed as the breadwinners, who work outside the home (Ezra,

2003). The women, on the other hand, primarily have household responsibilities, with childbearing and

child rearing culturally seen as their most significant roles (Ezra, 2003). In fact, the inability to bear

children is a major ground for divorce (Tilson & Larson, 2000). However, some studies have also noted

shifting marriage patterns, especially in urban areas, as the proportion of educated women in increasing

as indicated by higher age at marriage, delay in the birth of the first child, and greater egalitarian role

expectations within marriage (Ezra, 2003; Sibanda, Woubalem, Hogan, & Lindstrom, 2003).

Ethiopian women begin childbearing early, the median age at first birth for women is 19.2 years. Nearly

4 in 10 (38%) women give birth by age 18 (Ethiopia DHS, 2016). According to the Ethiopia DHS (2016),

the current total fertility rate (TFR) is 4.6 children per woman. This means that an Ethiopian woman who

is at the beginning of her childbearing years will give birth to just under five children by the end of her

reproductive period if fertility levels remain constant over the childbearing years. There are large

variations in the rural urban TFR, while the TFR in rural areas was 5.2 children; it was 2.3 children per

woman in urban areas in 2010 (EDHS, 2016). There has been only a slight decline in TFR between 2011

and 2016. Knowledge of contraceptives is almost universal. The government sector is the major

provider of contraceptive services, and caters to 82% of the modern contraceptive users. Thirty five

percent of currently married women are using a modern contraceptive method, with the largest

proportion (23%) using the injectable. There has been substantial increase in the uptake of modern

contraceptives since the year 2000, when only 6% currently married women were using modern

contraceptives (EDHS, 2000). More than 1 in 5 married women in Ethiopia have an unmet need for

family planning: 13% want to delay childbearing, while 9% want to stop childbearing.

Methods

<u>Data</u>

Data for this study was derived from a multi-country study aimed at estimating the economic cost of

child marriage. The study surveyed ever married women in the age ranges of 18-45 years. A total of

4149 women were interviewed in nine regions and one town administration of the country. A two-

stage stratified sampling approach was used to develop the sample. Enumeration areas (EAs) were

selected probability proportional to size (PPS). A household census was then conducted within each

EA, followed by systematic selection of households. Occupants were then enumerated and eligible

women identified. If a woman did not consent to participate, the field team selected another eligible

woman from the same household or an adjacent household. In cases where a family head had

multiple wives, only one randomly selected wife was interviewed. The women's questionnaire

collected detailed information on the woman's demographic background, sexual and health history,

relationship with her husband, household decision-making and contraceptive use. In addition, the

household questionnaire collected information on household wealth, demographic and health

information of the household members.

Measures

Key Dependent Variable

Current contraceptive use: A dummy variable was created to measure current contraceptive use.

Key Independent and Other Variables

Relationship quality: Measures of relationship quality included 3 validated western scales (Trust,

Intimacy, Egalitarian) that have previously been used in the African context (John et al 2017, 2016;

Conroy, 2016; Cox, 2013) as well as a measure to assess general spousal communication. The Trust scale

was an eight- item scale developed by Larzelere and Huston (1980), which was an adaptation of the

Dyadic Trust Scale. Larzelere and Huston define trust "as a belief by a person in the integrity of another

individual." The scale was conceptualized as a one-dimensional construct and has been shown to be

associated with love and intimacy. Respondents are asked, on a scale of one to seven, to indicate how

much they agree with each statement. The higher the score, the more trust the respondent perceives in

her/his relationship. The positively worded items were reverse coded. Intimacy was measured using the six-item intimacy sub-scale of the Relationship Values scale developed by Kurdek (1996). The scale consisted of 6 statements, and respondents were asked, on a scale of one to nine, to indicate how much they agree with each statement, with higher scores indicating more intimacy. Equality scale was also a subscale taken from the Relationship Values scale developed by Kurdek (1996). The eight-item equality sub-scale captures the extent to which power and responsibility are shared between partners in the relationship. Respondents were asked, on a scale from one to nine, to indicate how much they agreed with each statement, with higher scores indicating greater equality or more shared power between partners. To assess general spousal communication, respondents were asked if they and their spouse communicated with each other about how their day went, their fears and worries, hopes for the future, things that happen in the community, birth spacing, schooling and health needs of children. The relationship quality measures were only collected from currently married and recently divorced, separated or widowed women, which included 3971 women. The reliability and validity of the scales was assessed using Cronbach's alpha and factor analysis. The predicted scores obtained following factor analysis were normalized to range from 0-100, where a higher score indicates more relationship quality.

Household decision-making: A series of nine questions were used to assess participants' levels of involvement in household decision-making in a variety of areas ranging from decision-making around children's schooling to larger household purchases. Principal components analysis was conducted and normalized scores that range from 0-100 were generated. Producing only one factor was desirable to minimize the number of predictors used in the multivariate models, which was accomplished by screening variables sequentially and retaining those that contributed to a high explanatory power for the factor (always greater than 30 percent).

Spousal age difference: To generate this variable, the wife's age was subtracted from her partner's age.

Polygamous marriage: A dummy variable was created to differentiate between polygamous and

monogamous marriage.

Contraceptive use at cluster level: To measure prevalence of contraceptive use at the community level,

measures of contraceptive use were aggregated from individual responses at the cluster level, excluding

the index respondent's response.

In addition, a range of standard socio-demographic, household and couple-level variables known to

influence contraceptive use and relationship quality were included in the analysis such as the

respondents' age, education, number of children, household wealth, religion and. Age was measured as

continuous variables denoting age in years. In addition, a squared term for age was added given the

inverted u-shaped relationship between age and contraceptive use. Dummy variables were created to

measure school attendance, employment status and polygamous marriage. Number of children was

calculated using the respondents' response to a series of questions on her childbirth history. Household

wealth was constructed through a principal components analysis of household assets, and a battery of

questions on housing characteristics such as ownership of consumer items and type of dwelling. The

index score was then used to divide the households into quintiles that indicates the poorest, poor,

middle, richer and richest households.

Statistical Analysis

We first conducted exploratory data analysis. We examined data spread, frequency distributions,

outliers, and patterns of missing values to ascertain appropriate treatment of variables. This was

followed by univariate analysis to check frequency distributions and summary statistics, like means and

variances for continuous variables and percentages for categorical variables. Finally, regression models

were estimated using probit regression since our dependent variable - contraceptive use – is a dummy

variable. Given the binary nature of our outcome variable, a linear probability model was not deemed

appropriate since it assumes that the dependent variable has a normal distribution, which results in

inaccurate coefficients in case of binary variables. With a probit model, it is possible to calculate

marginal probabilities for each independent variable, which conveys the change in probability that each

variable produces and whether it is positive or negative. In probit models, the probability of an

individual using (or not) contraceptives is assumed to be determined by an underlying response variable.

$Yi=Xi\beta+\varepsilon i$

Where Yi is the dependent variable – contraceptive use; β are regression coefficient to be estimated; Xi

is a vector of explanatory variables that affect contraceptive use and E is the random error term. To

interpret the sign and the magnitude of the coefficient marginal effects are estimated and interpreted. A

separate probit model was implemented for each of our relationship quality domains (Trust, Intimacy,

Communication and Egalitarian). We used a step-wise method to implement the regressions. We first

implemented regressions with the relationship quality variable and socio-demographic factors. We then

added the variables – decision-making, spousal age difference and polygamous marriage – that have

often been used as proxy measures to measure power to the model to see how the affect the

relationship quality coefficients. All analyses were performed in Stata 14 (StataCorp LP, College Station,

TX). Data were weighted for complex survey design, including clustering of data.

After estimating the impact of relationship quality scales on contraceptive use, we conducted a series of

simulation exercises to assess the impact improvements in relationship quality scores could have on

overall contraceptive use. To implement the simulations, we estimated the difference between current

predicted values of contraceptive use and their predicted values in three different scenarios:

relationship quality score=0, which is the lowest possible score; relationship quality score at the 75th

percentile; relationship quality score=100, which is the highest possible score.

Results

Descriptive and Bi-variate Statistics

Table 1 outlines descriptive statistics of key study variables. Mean age of women in the sample were 30

years old (SD: 7.5), with 3.71 children (SD: 2.21). As many as 34.66% of the women had attended school.

On average, male partners were 7.22 years (SD: 5.75) older than the women, while 8.97% of the women

were in polygamous marriages (table 1). Average relationship quality scores ranged from 60.22 units

(SD: 22.40) for the Egalitarian scale to 69.36 (SD: 24.42) for the Trust scale. The mean household

decision-making score was 89.01 (SD: 19.51). As many as 37.54% of the women used contraception.

Table 2 provides a detailed distribution of relationship variables by contraceptive use. On average, while

contraceptive users had higher relationship quality and household decision-making scores, women in

polygamous marriages and with larger age differences with spouse were less likely to use contraception

and these associations were statistically significant (table 2).

Table 3 presents the estimation results of relationship quality scales on contraceptive use. As discussed

in the methods section, while we used a step-wise approach in implementing the regression, we only

present regression results from the final model in the tables because the coefficients did not change

dramatically. The results indicate that higher relationship quality scores had a positive marginal effect

on contraceptive use. A 10-point increase in intimacy and egalitarian scales increased the likelihood of

contraceptive use by 3 percentage points, while a similar increase for trust and communication scales

increased contraceptive use by 2 percentage points (Table 3). Among other key variables, participation

in household decision-making had a strong marginal effect on contraceptive use. A 10-point increase in

household decision-making increased the likelihood of contraceptive use by about 2 percentage points.

Similarly, as expected, larger age differences between spouses and being in a polygamous marriage

were negatively associated with contraceptive use. Finally, you were more likely to use contraception if

you were older, had attended school, were from a richer household and lived in a community were a

larger proportion of the women were using contraception.

Results of the simulation also suggest that variation in relationship quality scores can impact

contraceptive use (Figure 1). The egalitarian relationship scale saw the greatest shift, while the smallest

change was experienced in the communication scale. There was a 12.5 percentage point reduction in

contraceptive use, when the scores were capped at 0 for the egalitarian relationship scale and

contraceptive use increased by 3.5 and 9.5 percentage points when the scores were fixed at the 75th and

100th percentiles, respectively. For the communication scale, contraceptive use declined by 7.5 points

when the score was fixed at 0, while it increased by 3.5 and 4.5 percentage points when the score was

simulated at the 75th and 100th percentile.

Conclusion

Results from our study suggests that investing in programs that work with couples and focus on building

their relationship skills and quality can go a long way in reducing unmet need for contraception.

References

Blanc, A., 2001. The effect of power in sexual relationships on sexual and reproductive health: an examination of the evidence. Stud. Fam. Plan. 32 (3),189e213.

Christensen, A., Heavey, C.L., 1990. Gender and social structure in the demand/withdraw pattern of marital conflict. J. Personality Soc. Psychol. 59, 73e81.

Christensen, A., Shenk, J.L., 1991. Communication, conflict, and psychological distance in non distressed, clinic, and divorcing couples. J. Consult. Clin. Psychol.59, 458e463.

Conroy, A.A., 2014. Gender, power, and intimate partner violence: a study on couples from rural Malawi. J. Interpers. Violence 29 (5), 866e888.

Conroy, A.A., Chilungo, A., 2014. Male victims of sexual violence in rural Malawi: the overlooked association with HIV infection. AIDS Care 26 (12), 1576e1580.

Cox, C.M., Hindin, M.J., Otupiri, E., Larsen-Reindorf, R., 2013. Understanding couples' relationship quality and contraceptive use in Kumasi, Ghana. Int. Perspect. Sex. Reproduct. Health 39 (4), 185e194.

Dworkin, S., Grabe, S., Lu, T., Hatcher, A., Kwena, Z., Bukusi, E., Mwaura-Muiru, E., 2013a. Property rights violations as a structural driver of women's HIV risks: a qualitative study in Nyanza and western provinces, Kenya. Arch. Sex. Behav. 42, 703e713.

Dworkin, S.L., Blankenship, K., 2009. Microfinance and HIV/AIDS prevention: assessing its promise and limitations. AIDS Behav. 13, 462e469.

Dworkin, S.L., Treves-Kagan, S., Lippman, S.A., 2013b. Gender-transformative interventions to reduce HIV risks and violence with heterosexually-active men: a review of the global evidence. AIDS Behav. 17 (9), 2845e2863.

Higgins, J.A., Hoffman, S., Dworkin, S.L., 2010. Rethinking gender, heterosexual men, and women's vulnerability to HIV/AIDS. Am. J. Public Health 100 (3), 435e442.

Jewkes, R.K., Dunkle, K., Nduna, M., Shai, N., 2010. Intimate partner violence, relationshippower inequity, and incidence of HIV infection in young women in
South Africa: a cohort study. Lancet 376, 41e48. http://dx.doi.org/10.1016/ S0140-6736(10)60548-X.

Kurdek, L., 1996. The deterioration of relationship quality for gay and lesbian cohabiting couples: a five-year prospective longitudinal study. Personal. Relat.
3, 417e442.

Larzelere, R.E., Huston, T.L., 1980. The dyadic trust scale: toward understanding interpersonal trust in close relationships. J. Marriage Fam. 42 (3), 595e604.

Lewis, M.A., McBride, C.M., Pollak, K.I., Puleo, E., Butterfield, R.M., Emmons, K.M., 2006. Understanding health behavior change among couples: an interdependence
and communal coping approach. Soc. Sci. Med. 62, 1369e1380.

Dworkin, S., Colvin, C., Hatcher, A.M., Peacock, D., 2012. Men's perceptions of women's rights and changing gender relations in South Africa lessons for working with men and boys in HIV and antiviolence programs. Gend. Soc. 26 (1), 97e120.

Riley, N.E., 1997. Gender, power, and population change. In: Population Bulletin, vol. 52. Population Reference Bureau, Washington, DC.

Robles, T.F., Trombello, J.M., Slatcher, R.B., McGinn, M.M., 2014. Marital quality and health: a meta-analytic review. Psychol. Bull. 140 (1), 140e187.

Rusbult, C., Arriaga, X., 1997. Interdependence theory. In: Duck, S. (Ed.), Handbook of Personal Relationships, second ed. Wiley, London, UK.

Rusbult, C., Lange, P.M.A.V., 2003. Interdependence, interaction, and relationships. Annu. Rev. Psychol. 54 (54), 351e375.

Wingood, G.M., DiClemente, R.J., 2000. Application of the theory of gender and power to examine HIV-related exposures, risk factors, and effective interventions
for women. Health Educ. Behav. 27, 539e565.

Wingood, G.M., DiClemente, R.J., 2002. The theory of gender and power: a social structural theory for guiding public health interventions. In: DiClemente, R.J.,

Crosby, R.A., Kegler, M.C. (Eds.), Emerging Theories in Health Promotion Practice and Research. Jossey-Bass, San Francisco, pp. 313e346.

Contraceptive Use and Relationship Quality
PAA 2018

Alio AP et al., Intimate partner violence and contraception use among women in Sub-Saharan Africa, *International Journal of Gynecology & Obstetrics,* 2009, 107(1):35–38.

Oyedokun AO, Domestic violence and constrained contraceptive choices in selected areas of Osun State, Nigeria, *Sexual and Relationship Therapy,* 2008, 23(4):305–323.

Bogale B et al., Married women's decision making power on modern contraceptive use in urban and rural southern Ethiopia, *BMC Public Health,* 2011, Vol. 11, Art. 342, <http://www.biomedcentral.com/1471- 2458/11/342>, accessed Sept. 5, 2013.

Do M and Kurimoto N, Women's empowerment and choice of contraceptive methods in selected African countries, *International Perspectives on Sexual and Reproductive Health,* 2012, 38(1):23–33.

Bawah AA, Spousal communication and family planning behavior in Navrongo: a longitudinal assessment, *Studies in Family Planning,* 2002, 33(2):185–194.

Klomegah R, Spousal communication, power, and contraceptive use in Burkina Faso, West Africa, *Marriage & Family Review,* 2006, 40(2–3):89–105.

Woldemicael G, Women's autonomy and reproductive preference in Eritrea, *Journal of Biosocial Science,* 2009, 41(2):161–181.

Upadhyay UD and Hindin MJ, Do higher status and more autonomous women have longer birth intervals? Results from Cebu, Philippines, *Social Science & Medicine,* 2005, 60(11):2641–2655

Bawah AA et al., Women's fears and men's anxieties: the impact of family planning on gender relations in northern Ghana, *Studies in Family Planning,* 1999, 30(1):54–66.

Montgomery CM et al., The role of partnership dynamics in determining the acceptability of condoms and microbicides, *AIDS Care,* 2008, 20(6):733–740.

Akinleye GA and Alade FA, Relationships among family planning, sexual fulfillment and marital satisfaction of married people in Lagos State, Nigeria, *Social Sciences,* 2008, 3(5):343–346.

Pool R et al., Men's attitudes to condoms and female controlled means of protection against HIV and STDs in south-western Uganda, *Culture, Health & Sexuality,* 2000, 2(2):197–211.

Ku L, Sonenstein FL and Pleck JH, The dynamics of young men's condom use during and across relationships, *Family Planning Perspectives,* 1994, 26(6):246–251.

Manlove J, Ryan S and Franzetta K, Contraceptive use patterns across teens' sexual relationships: the role of relationships, partners, and sexual histories, *Demography,* 2007, 44(3):603–621.

Sayegh MA et al., The developmental association of relationship quality, hormonal contraceptive choice and condom non-use among adolescent women, *Journal of Adolescent Health,* 2006, 39(3):388–395.

Manning WD et al., Relationship dynamics and consistency of condom use among adolescents, *Perspectives on Sexual and Reproductive Health,* 2009, 41(3):181–190.

Harvey SM et al., A conceptual model of women's condom use intentions: integrating intrapersonal and relationship factors, *AIDS Care,* 2006, 18(7):698–709.
MacPhail C, Terris-Prestholt F, Kumaranayake L, Ngoako P, Watts C, Rees H. Managing men: women's dilemmas about overt and covert use of barrier methods for HIV prevention. *Culture, health & sexuality.* 2009 Jun 1;11(5):485-97.

Oppong C. Family type and size: some recent evidence from Ghana. The Economic and Social Supports for High Fertility, Family and Fertility Change series. 1977(2):345-54.

Muhwava W. Condom use within marriage and consensual unions in the era of HIV/AIDS in Zimbabwe. *African Population Studies. 2004;* 19(1): 119-141.

John, N. A., Seme, A., & Tsui, A. O. (2016). Partner Relationships and Health: Marital Quality and Health Among Peri-Urban Ethiopian Couples. *Journal of Relationships Research*, *7*.

John, N. A., Babalola, S., & Chipeta, E. (2015). Sexual pleasure, partner dynamics and contraceptive use in Malawi. *International perspectives on sexual and reproductive health*, *41*(2), 99-107.

John, N. A., Seme, A., Roro, M. A., & Tsui, A. O. (2017). Understanding the meaning of marital relationship quality among couples in peri-urban Ethiopia. *Culture, health & sexuality*, *19*(2), 267-278.

Table 1
Descriptive Statistics of Study Outcomes and Predictors (n=3000)

Variables	% or Means (SD)
Current Age	30 (7.5)
Schooling	34.66
Employed	13.54
No of Children	3.71 (2.21)
Spousal Age Difference	7.22 (5.75)
Household Decision-making	89.01 (19.51)
Polygamy	8.97
Relationship Quality	
Trust	69.36 (24.42)
Intimacy	61.22 (21.36)
Communication	65.31 (26.39)
Egalitarian	60.22 (22.40)
Contraceptive Use	37.54

Table 2
Key Relationship Factors by Contraceptive Use Status

	Contraceptive Users	Contraceptive Non-users
Relationship Quality	% or Means (SD)	
Intimacy	**63.11 (18.83)**	**60.07 (22.68)**
Trust	**71.66 (21.98)**	**67.98 (25.67)**

Contraceptive Use and Relationship Quality
PAA 2018

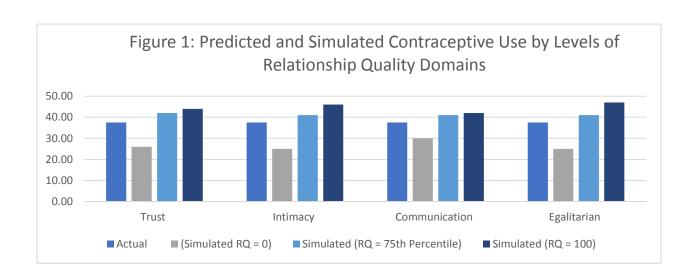|		
Communication	**69.01 (24.65)**	**63.09 (27.15)**
Egalitarian	**62.95 (19.86)**	**58.59 (23.65)**
Household decision-making	**93.26 (19.51)**	**87. 56 (22.28)**
Spousal Age Difference (yrs.)	**6.65 (4.79)**	**7.58 (6.23)**
Polygamous Marriage	**22.14**	**77.86**

 *Significant differences in bold

Table 3: Parameter Estimates from Probit Regressions Examining the Association of Relationship Quality Domains with Contraceptive Use among Currently Married/Partnered Ethiopian Women Aged 18-45 years (n=3000)

Co-variates	Intimacy[1]	Trust[1]	Communication[1]	Egalitarian[1]
	Marginal Effects (Standard Errors)			
Relationship Quality	0.003	0.002	0.003	0.003
	(0.001)***	(0.000)***	(0.000)***	(0.001)***
Age in Years	0.055	0.056	0.055	0.054
	(0.014)***	(0.013)***	(0.013)***	(0.013)***
Age in Years Squared	-0.001	-0.001	-0.001	-0.001
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Attended School	0.072	0.075	0.072	0.069
	(0.021)***	(0.020)***	(0.021)***	(0.020)***
Currently Working	0.003	-0.007	-0.010	0.004
	(0.036)	(0.037)	(0.036)	(0.036)
Decision-Making	0.002	0.002	0.002	0.002
	(0.000)**	(0.001)**	(0.001)**	(0.002)**
Number of Children (No children)				
1-2 children	0.221	0.215	0.208	0.219
	(0.038)***	(0.040)***	(0.043)***	(0.037)***
3-5 Children	0.254	0.247	0.243	0.257
	(0.038)***	(0.041)***	(0.043)***	(0.037)***
More than 5 Children	0.210	0.201	0.198	0.212
	(0.043)***	(0.045)***	(0.047)***	(0.042)***
Spousal Age Difference in Years	-0.004	-0.004	-0.003	-0.004
	(0.002)*	(0.002)*	(0.002)*	(0.002)*
Polygamous Marriage	-0.071	-0.060	-0.076	-0.067
	(0.038)*	(0.038)	(0.037)**	(0.038)*
Household Wealth (Poorest)				
Poor	0.037	0.034	0.038	0.034
	(0.032)	(0.032)	(0.032)	(0.031)
Middle	0.061	0.055	0.062	0.060

Contraceptive Use and Relationship Quality
PAA 2018

	(0.035)*	(0.036)	(0.036)*	(0.035)*
Rich	0.075	0.069	0.077	0.070
	(0.034)**	(0.035)**	(0.034)**	(0.033)**
Richest	0.049	0.042	0.051	0.048
	(0.031)	(0.032)	(0.031)	(0.031)
Contraceptive Use at Cluster	0.525	0.512	0.527	0.521
	(0.067)***	(0.066)***	(0.067)***	(0.066)***

Standard errors in parentheses

*** $p<0.001$, ** $p<0.05$, * $p<0.1$

[1] Models also adjusted for Respondent's Religion, Urban/Rural Residence & Region and Sample Weights

Figure 1: Predicted and Simulated Contraceptive Use by Levels of Relationship Quality Domains