Women Empowerment and unmet Need for Family Planning in Kenya

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Abstract

This paper examines the association between unmet need for family planning and women's empowerment in Kenya. The association was examined using bivariate and multivariate analysis of the 2008-2009 Kenya Demographic and Health Survey data. Logistic regression analysis was used to predict the likelihood of women experiencing unmet need for family planning when exposed to different empowerment variables. Women's employment and mode of payment emerged as a significant predictor of unmet need after controlling for the confounding effects of all the other variables, including age, education, type of residence, region of residence, and wealth. Women who worked in the year preceding the survey but were not paid, had 37 percentlower odds for having unmet need compared with the reference group of women who did not work. Similarly, women who were paid in cash onlyas well as those who were paid in kind only or in cash and in kind had 28percent and 55percent lower odds of having unmet need respectively compared with those who did not work. Thus women's work status isa significant factor inexplaining differences in unmet need.Experience of spousal violence emerged as a significant predictor of unmet need for family planning after removing the husband/partner control variable from the model, implying that there could exista relationship between husbands' controlling behaviour and women's experience of spousal violence, both factors considered in the literature as contributing to disempowerment of women.The paper recommends the need to address factors influencing access to family planning services in order to reduce current levels of unmet need. At programme level, the study also recommends formation and/or strengthening of programmes focusing on women's empowerment.

Key words: *Kenya Women's Empowerment; Reproductive Health; Unmet Need For Family; Women Employemnt Status; Women Decision Making*

Introduction

When women have access to family planning, they are better able to prevent unintended pregnancies and unwanted births, achieve education and employment goals, increase family incomes, and contribute to development. A woman's decision to use or not to use family planning services, however, is ultimately a function of household dynamics, including familial relationships (which may determine whether women have control over their own lives or not), available resources, and household decision-making. Thus women's empowerment indicators, such as the number of decisions a woman makes individually or collectively with her spouse and the resources available for health care (through paid employment) indirectly affect use of family planning services and therefore also affect unmet need for family planning.

Women with unmet need are defined essentially as those who are fecund and sexually active but are not using any method of contraception and who do not want to have any more children or want to delay their next birth for at least two years (United Nations, 2011). In Kenya, there has been a rise in the level of unmet need for family planning, from 24percent in 2003 to almost 26percent in 2008 (NACPD, 2010), suggesting that a growing percentage of married women are having more children than they would prefer. This study seeks to understand the nature and strength of the association between indicators of women's empowerment and unmet need for family planning among currently married women in Kenya, using data from the 2008-2009 Kenya Demographic and Health Survey (KDHS).

Concept and dimensions of women's empowerment

Women's empowerment is a multi-dimensional concept, whose definition encompasses women's expansion of opportunities to participate in all aspects of life, including (but not limited to) education, wage employment, decision-making, and access to information and services that could improve their lives (World Economic Forum, 2005). Greater participation not only helps improve women's individual lives but also contributes to socioeconomic development of their communities. From a programme perspective, it has been hypothesized that population and development programmes are more effective when they address educational opportunities, status, and empowerment of women (UNFPA, 2012).

Some proponents of women's empowerment identify several broad dimensions of empowerment: economic empowerment (sometimes referred to as a resource dimension), educational empowerment, political empowerment, social well-being or a sociocultural dimension, and interpersonal/familial dimension (World Economic Forum, 2005;Malhotra, 2003). Some of these dimensions, however, are not applicable at the household level and can only be analysed at community or higher levels, for example, the political dimension.

Kabeer (1999) considers empowerment to be about change: people acquire the ability to make strategic life choices in a situation where this ability was previously denied. It can therefore be argued that this change could occur in the various dimensions outlined above; that is, women could acquire access to or control of resources (economic empowerment), could be more involved in decision-making, either individually or collectively (socio-cultural/familial), and could achieve certain goals or outcomes that clearly indicate they are empowered. In terms of health outcomes, research findings have suggested that empowering women and increasing their ability to make decisions may influence uptake of reproductive health services (Hou& Ma, 2011). Such reproductive health services include family planning and maternal health care that ultimately influence the quality of family health for women and their families.

Indicators that measure women's empowerment

In most studies relating to women's empowerment, the indicators used to measure empowerment reflect some or all the dimensions identified above, depending on the context and field of study. In health and demographic studies, the emphasis is mainly on indicators that have a bearing on women's health and demographic outcomes. Such outcomes include access to and use of facilities for reproductive health (including uptake of family planning), nutrition status, fertility, mortality, or overall population growth. Indicators relating to economic or resource dimensions of empowerment are also important because they affect the extent to which women can access and pay for health care information and services. Paid employment is therefore a strong indicator of women's economic empowerment.

Inter-familial and household relationships have been cited as possible sources of disempowerment for women, especially in patriarchal communities(Malhotra, 2003). Sometimes, access to resources does not automatically lead to control over use of the resources; the husband or other family members rather than the wife make crucial decisions on how resources are distributed within the household and also control the woman's freedom of movement outside the home (freedom of movement is considered a way of enhancing access to information and services). Indicators of women's empowerment in relation to this socio-cultural/familial dimension are participation in decision-making (ability to make childbearing decisions and use contraception among other decisions), freedom from violence and freedom of movement, among others (Al Riyami et al., 2004; Malhotra, 2003).

It is worth noting that some of the variables such as women's education and employment that have been frequently used as proxies for women's empowerment only work through other proximate indicators. Education helps women access employment opportunities (Ashford and Noble, 1996) outside the home and indirectly access resources while creating opportunities for access to information and services for improving family health.

Employment as an indicator of empowerment is important when one considers the mode of payment, whether for pay or not, on the assumption that working for pay increases access to resources.

Literature Review

According to UNFPA, an estimated 150 million women worldwide want to delay or avoid pregnancies but are not using family planning methods (UNFPA, 2009, cited in Ferdousi et al., 2010). In sub-Saharan Africa, nearly one married woman in every four has an unmet need for family planning (Maki, 2012). Studies have shown the extent of unmet need and attempted to explain the reasons why women who do not want to become pregnant right away nonetheless do not use contraception. Reasons for non-use vary from concerns about contraceptive methods themselves (side effects) and service delivery quality to socioeconomic and sociocultural factors. Casterline and Sinding (2000) contend that stakeholders concerned with family planning programmes need to understand the extent to which non-use is a result of reasons related to contraceptive methods themselves or to service delivery versus reasons related to socio-cultural factors, such as husbands' opposition to contraception use.

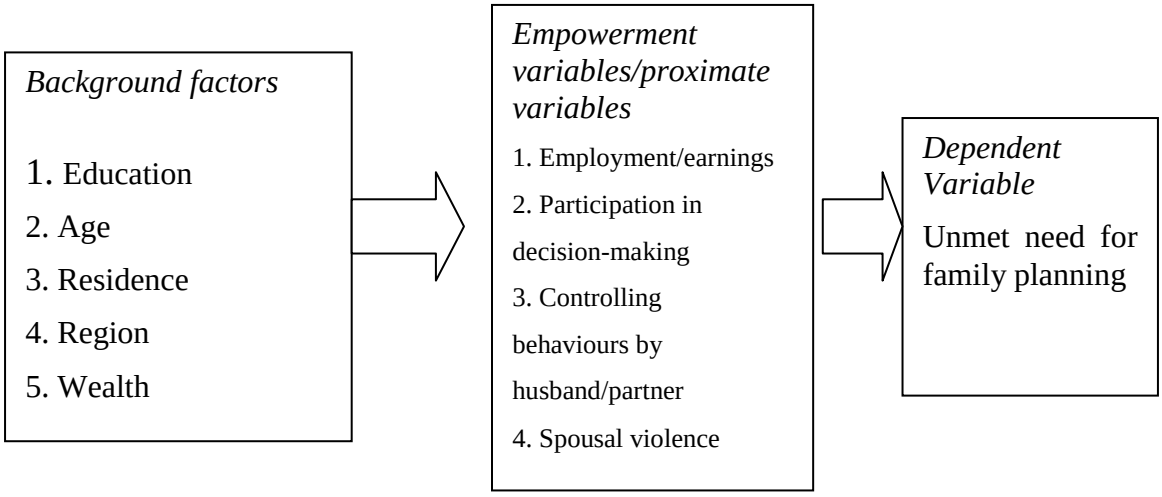
There is considerable literature linking unmet need for family planning with women's socioeconomic characteristics such as age, education, type of residence (rural or urban), discussion of family planning with a health worker or husband, household wealth, and employment (Korra, 2002; Ojakaa, 2008; Ndaruhuye et al., 2009; Hailmariam andHaddis, 2011). Few studies, however, have examined exclusively the effect of women's empowerment indicators on unmet need. Fewer studies have focused on sub-Saharan African countries, where gender-related social and cultural obstacles arising from predominantly patriarchal family systems prevent women from realising their desired fertility preferences. In most cases, men have greater decision-making power than women over childbearing preferences.

Women's active participation in domestic decision-making within the household, which reflects their power or autonomy within the household, may increase their chances of realising their childbearing preferences (Dharmalingam and Morgan, 1996, as cited in Woldemicael and Beaujot, 2011). Using evidence from the 1992 and 2002 Eritrea Demographic and Health Surveys, Woldemicael and Beaujotfoundthat unmet need for family planning is associated with a woman's position within the household, as measured by her level of autonomy. Women with little autonomy were more likely to have higher levels of unmet need than women with more autonomy. Decision-making and freedom of movement were used to construct an indicator of autonomy.

There is a dearth of research on the association between women's empowerment and unmet need for family planning in the Kenyan context, where unmet need for family planning stands at 26percent among currently married women (KNBS and ICF Macro, 2010). Investigating this linkage is aimed at informing policies and programmes geared towards increasing contraceptive use among Kenyan women, as Kenya gears up to reposition family planning to realise the goals of Vision 2030 .

Hypothesis and Conceptual Framework

The objective of the study is to examine the relationship between women's empowerment and unmet need for family planning in Kenya. The hypothesis is that women's empowerment is negatively associated with unmet need. The more empowered women are, the lesser is the likelihood of their having unmet need.The study hypothesizes that women's empowerment, as measured by proxy variables such as employment and mode of pay, participation in decision-making, and controlling behaviours by husbands/partners, may have an effect on women's use of family planning and hence influence unmet need. In attempting to establish whether there exists a relationship between these variables and unmet need for family planning, the investigation takes into consideration the effect of background variables by controlling for women's education level, age, type of residence, region of residence, and wealth, as illustrated by the diagram below.



Data

The analysis is based on the 2008-2009 Kenya Demographic and Health Survey (KDHS), a nationally representative survey carried out every five years and designed to provide data on population and health. The 2008-2009 KDHS was a follow-up of previous KDHS surveys conducted in 1989, 1993, 1998, and 2003. The research design of the survey is detailed in the KDHS final report (KNBS and ICF Macro, 2010). Data were collected from a sample of women of reproductive age (15-49) and a sample of men age 15-54 in a one-in-two sub-sample of surveyed households. For the purpose of this investigation, we limited the study population to married women age 15-49 who met our criterion for the analysis of unmet need. The criterion for inclusion was that the woman should be currently married or living together with her husband/partner.

Conceptualising Unmet Need

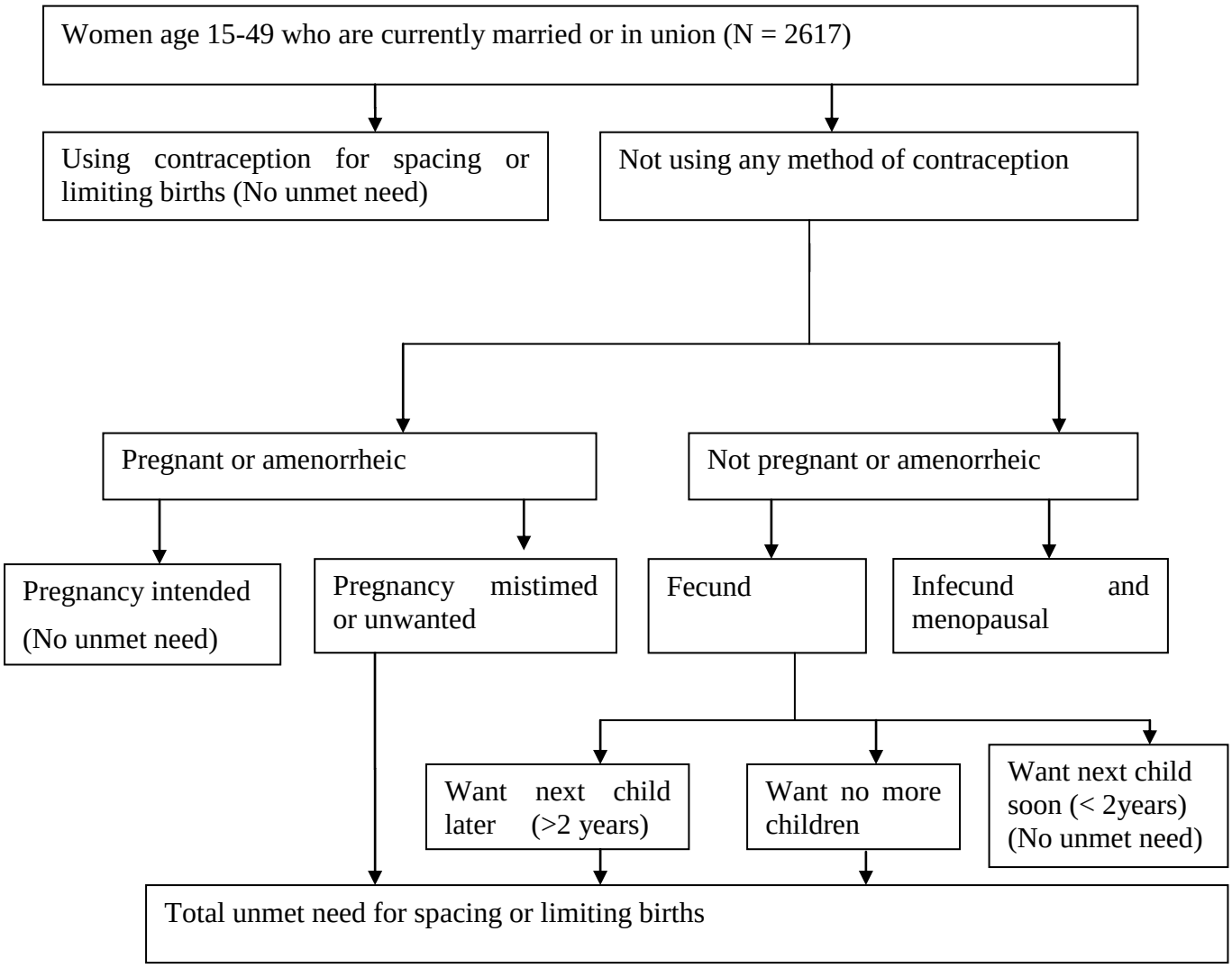
The dependent variable of the study is unmet need for planning. This study employed the definition of unmet used in the KDHS, which includes pregnant women whose current pregnancy was mistimed or unwanted, as well as amenorrhoeic women whose last pregnancy was mistimed or unwanted.

In this investigation, women considered infecund, for example, those who did not have a birth in the last five years and were not using contraception, were not included, as recommended in the revised definition of unmet need (Bradley et al., 2012).

Figure 1 illustrates the concept of unmet need applied in this study.

Figure 1: **Conceptualising Unmet need**

(Adopted from Bradley et al., 2011)



The sample further included only currently married women living together with husband/partner, and was weighted using the domestic violence variable. The number of women who met this criterion is 2617[1].

Analytic techniques

The analysis of the relationship between women's empowerment and unmet need for family planning was performed in SPSS. The first step of the analysis involved a description of the background characteristics of the respondents. Cross-tabulations with Pearson's chi-square test were performed to check the significance of the association of unmet need with background characteristics and women's empowerment indicators.

Further, logistic regression was used to predict the odds of women experiencing unmet need for family planning when exposed to different empowerment variables. This was necessitated by the binary nature of the dependent variable (unmet need). Logistic regression has the advantage of allowing for inclusion of statistical controls, which is not possible with cross-tabulations. Moreover, the odds ratios generated permit direct observation of the relative importance of each independent variable in predicting the likelihood of experiencing the event of interest compared with the reference category.

Women with unmet need were coded as 1, while those with no unmet need were coded as 0. Three multivariate logistic models were fitted. In the first model, all indicators of women's empowerment were included, while in the second model spousal violence was not included. The third model excluded the variable on controlling behaviours by husband/partner. This was to ascertain whether there is a possible linkage between husbands/partner's controlling behaviours and spousal violence. For each of the empowerment variables, the first category was set as a reference category.

[1]Data are weighted by the weighting variable for domestic violence, which is D005.

An odds ratio greater than 1 meant that the likelihood of a woman experiencing unmet need is higher compared with the reference category and *vice versa*. In all these models, background characteristics are age, education, region, type of place of residence, and economic status as measured by wealth quintile.

Proximate/predictor variables

In the 2008-2009 KDHS, one woman in each sampled household was asked a series of questions relating to the key dimensions of women's empowerment. The independent variables of this study were derived from responses to some of these questions. Specifically, four indicators of women's empowerment were selected: employment and mode of payment; women's participation in household decision-making; husband's or partner's controlling behaviours, and experience of spousal violence. Recoding was done for some variables of interest to come up with various categories of the empowerment indicators as described below.

1. **Employment and mode of payment**

Women who work for pay are likely to be more empowered compared with those who work and are not paid or those who do not work. Employment and mode of payment categorized women into those who were not paid at all, those who were paid in cash only, those who were paid in cash and in kind, and those who did not work in the 12 months preceding the survey.

2. **Number of decisions a woman can make in the household**

The greater the number of decisions a woman makes concerning health care and household expenditures, the more empowered she is likely to be. Women's participation in household decision-making was captured by five questions,[2] which were combined and categorized thus: 0-2 decisions; 3-4 decisions; and all the five decisions.

3. **Number of husband/partner control behaviours**

The degree of marital control exercised by husbands over their wives' movement and association outside the home is a measure of women's autonomy or lack of it at the household level. Restrictions on movement and communication could imply that a woman has little power over her own decisions or other decisions made in the household. The five husband'sor partner's controlling behaviours[3] were grouped into one composite variable with the following categories: no controlling behaviours; one or two controlling behaviours; and three or more controlling behaviours.

4. **Experience of spousal violence**

Freedom from gender-based violence is here considered to be a sign of empowerment that could also imply absence of control by husband/spouse. Although spousal violence can take many different forms, this study focused primarily on physical[4], emotional, and sexual violence, as captured in the KDHS. A composite variable was then constructed to categorise women into those who experienced spousal violence and those who did not.

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[2]Decisions on respondent's health care; making large household purchases; making household purchases for daily needs; visits to family or relatives; and food to be cooked each day.

[3] The behaviours are: Husband jealous if talking with other men; husband accuses her of unfaithfulness; husband does not permit her to meet her girl friends; husband tries to limit her contact with family; husband insists on knowing where she is; husband doesn't trust her with money.

[4] Both mild and severe forms were combined first before the variable was used to compute "physical violence."

Background/Control variables

The study controlled for possible confounding effects of selected background characteristics: age, education, region, type of place of residence, and wealth index (a proxy measure of access to resources and information). According to previous studies, these variables are known to influence access and use of family planning (Ojakaa, 2008).

Results

Background characteristics of respondents

Table 1 shows that currently married women age 25-29 account for the largest percentage of the sample (23percent), followed by currently married women age 30-34 (20percent). Three-quarters of the women sampled were living in rural areas, and about two-thirds had attained a primary education. Twenty-seven percent of the women in the sample were from the Rift Valley region, while North Eastern region accounted for less than 1percent.

Table 1: Percent distribution of currently married women age 15-49 by background characteristics

Background characteristic	Categories	Percent	Number =2617 (Weighted)
Age	15-19	3.2	83
	20-24	18.5	484
	25-29	22.8	597
	30-34	20.3	531
	35-39	14.9	391
	40-44	11.7	306
	45-49	8.6	224
Education	No education	6.6	173
	Primary	61.7	1614
	Secondary	25.4	666
	Higher	6.3	164
Region			
	Nairobi	7.4	192
	Central	12.9	338
	Coast	7.2	189
	Eastern	17.9	467
	Nyanza	16.4	428
	Rift Valley	26.9	703
	Western	10.7	280
	North Eastern	0.7	19

Type of place of residence	Urban	23.6	617
	Rural	76.4	1999
Wealth index			
	Poorest	14.7	384
	Poorer	19.1	501
	Middle	19.9	520
	Richer	21.2	554
	Richest	25.1	657

Source: Authors computation from 2008-2009 KDHS data

Women's background characteristics and unmet need

Table 2 shows that women's age, education, wealth status, place of residence, region of residence, and wealth status are significantly associated with unmet need for family planning. Women under age 30 had higher proportions with unmet need than older women. Unmet need was higher among women with no education compared with those with primary, secondary, or higher education.

Table 2: Percent distribution of currently married women age 15-49 with an unmet need for family planning, according to background characteristics (with Chi-square to test association)

Background characteristics	Categories	Percent with unmet need	Number	P values for respective variables
Age				
	15-19	55.9	83	p<0.001
	20-24	49.3	484	
	25-29	37.4	597	
	30-34	29.9	531	
	35-39	32.2	391	
	40-44	29.9	306	
	45-49	32.5	224	
Education				
	No education	61.0	173	p<0.001
	Primary	41.4	1614	
	Secondary	24.7	666	
	Higher	11.4	164	
Region				
	Nairobi	23.2	192	p<0.001
	Central	17.4	338	
	Coast	40.6	189	
	Eastern	32.5	467	
	Nyanza	48.0	428	
	Rift Valley	44.3	703	
	Western	33.1	280	
	North Eastern	83.4	19	
Type of place of residence				

	Urban	28.3	617	p<0.001
	Rural	39.2	1999	
Wealth index				
	Poorest	62.9	384	
	Poorer	46.0	501	
	Middle	31.0	520	
	Richer	27.6	554	
	Richest	26.1	657	

Source: Authors' computations of 2008-2009 KDHS data

The difference between women with unmet need in the group with no education compared with those with primary education is almost 20 percentage points. The p value of 0.001 across all the background variables indicates a statistically significant association between the five variables (age, education, type of residence, region of residence, and wealth) and unmet need, at over 99 percent confidence level (that is, the association between background variables and unmet need is not due to chance).

Women living in rural areas had higher levels of unmet need than women in urban areas. Women living in the richest households had the lowest percentage with unmet need. Indeed, the poorest quintile had more than twice the percentage of women with unmet need than the richest quintile. With the exception of women in North Eastern region, which had an unusually high percentage of women with unmet need for family planning (83percent), women in Nyanza (48percent), Rift Valley (44percent), and Coast (41percent) regions had much higher levels of unmet need compared with women in Central (17percent) and Nairobi (23percent) regions.

Women's empowerment and unmet need

Table 3 shows the percent distribution of currently married women with unmet need for family planning by selected indicators of women's empowerment. The percentage with unmet need was highest among women who did not work in the 12 months preceding the survey (46percent) and lowest among those who worked and received payment in kind only or both cash and in kind (29percent). Among women who worked but did not receive payment, the unmet need was 39percent.

Table 3: Percent distribution of currently married women age 15-49 with an unmet need for family planning, by women empowerment indicators (with Chi-square to test association)

Empowerment characteristic	Categories	Percent with unmet need	Number (weighted)	P values for respective variables
Employment and mode of payment for work[1]				
	Not paid	39.6	473	p<0.001
	Cash only	30.1	1098	
	In kind only or cash and in kind	29.4	250	
	Did not work last year	46.0	792	
Decisions a woman can make in the household[2]				
	0-2 decisions	47.2	378	p<0.001
	3-4 decisions	39.0	866	
	All 5 decisions	32.2	1370	
Number of husband/partner control behaviours				
	None	35.8	975	p<0.05
	1 or 2 behaviours	34.1	1024	
	3+ behaviours	42.1	618	
Experience of spousal violence				
	No spousal violence	33.8	1461	p<0.001
	Spousal violence	40.2	1156	

[1]Number excludes three missing cases

[2]Number excludes two cases

The results also showed an inverse relationship between unmet need and the number of decisions a woman participated in within her household. The higher the number of decisions, the lower the unmet need. Among women who participated in decisions on all five household issues examined, 32percent had an unmet need compared with 47percent among women who made decisions on one or two household issues, or not at all. Women whose husbands tried to control their actions in three or more ways had higher unmet need (42percent) than those whose husbands had no controlling behaviours (36percent).

Overall, there was a statistically significant association between the empowerment indicators and unmet need for family planning, with association between employment, decision-making, and experience of spousal violence at $p < 0.001$, and husband's control at $p < 0.05$.

Multivariate analysis

Two multivariate regression models were fitted to test the direction and strength of association between the different measures of women's empowerment and unmet need for family planning.

Table 4 presents results of the regression analysis showing the association between empowerment indicators and unmet need,controlling for the selected background factors (age, education, type of place of residence, region, and wealth status).

Although unmet need was associated with factors such as age, education, rural-urban residence, region of residence, and wealth status (the background variables in this study), women's empowerment was a critical intervening factor. The three models focused on the proxy measures of women's empowerment, the explanatory variables of this study, while controlling for the background characteristics. The first of the three models included all of the four variables (employment and mode of payment; number of controlling behaviours by husband or partner; number of decisions a woman participates in making by herself or with a husband or partner; and experience of spousal violence). Since the husband or partner controlling behaviours may be correlated with spousal violence, the second model excluded spousal violence, while the third model excluded husband controlling behaviours.

When all indicators of women's empowerment were included in the model, the only variable that displayed a statistically significant association after controlling for background characteristics was employment and mode of payment. Compared with women who did not work in the year preceding the survey, those whoworked but were not paid had a 37percent lower odds of having unmet need for family planning, and the difference was statistically significant at the 99percent confidence level.

Women who were paid in kind only or in cash and in kind had a 55percent lower odds of having unmet need compared with those who did not work, with the difference being statistically significant at the 99percent confidence level. This percentage was much higher than the comparison with women who worked and were paid cash only (with 28percent lower odds).All other women's empowerment variables were not significantly associated with unmet need in this model, which had all the predictors.

It is worth emphasizing that, while the association between employment and unmet need remains significant in all the three models, exclusion of spousal violence marginally changes the odds for unmet need among women who workedwithout pay compared with those who did not work (from 37percent to 36percent lower odds of having unmet need). In contrast, after exclusion of husband's/partner's controlling behaviour from the model, the odds for unmet need among these women was 38percentlower compared with women who did not work in the year preceding the survey.

Removing husband's/partner's controlling behaviour from the modelalso makes spousal violence a significant predictor of unmet need, implying some collinearity between women's experience of spousal violence and a husbands' controlling behaviour. When the husband/partner control variable was excluded from the model, women who experienced spousal violence had 23percent higher odds for unmet need compared with women who did not report experiencing any form of spousal violence. These results were statistically significant at $p<0.05$.

Table 4: Odds ratios from logistic regression showing the association between women's empowerment and unmet need for family planning among currently married women age 15-49 (N=2617 Weighted)

Background characteristic	Category	Model 1: all variables included				Model 2: spousal violence not included				Model 3: Husband/partner control not included			
		Odd ratios	P Values	95.0 percent C.I. for EXP(B)		Odd ratios	P Values	95.0 percent C.I. for EXP(B)		Odds ratios	P values	95.0 percent C.I. for EXP(B)	
Mode of payment for employment													
	(Did not work last year)	1											
	Not paid	0.627	0.001	0.478	0.823	0.643	0.001	0.491	0.843	0.618	0.001	0.471	0.810
	Cash only	0.718	0.003	0.579	0.892	0.738	0.005	0.596	0.914	0.714	0.002	0.575	0.886
	In kind only or cash and in kind	0.447	0.000	0.318	0.626	0.467	0.000	0.334	0.653	0.453	0.000	0.324	0.635
Husband control behaviours													
	(No control)	1								Not included in this model			
	One or two control behaviours	0.874	0.201	0.712	1.074	0.907	0.342	0.741	1.11				
	Three or more control behaviours	1.104	0.427	0.865	1.408	1.19	0.138	0.945	1.498				
No. of decisions a woman participates in													
	(0-2 decisions)	1											
	3-4 decisions	1.050	0.721	0.802	1.375	1.049	0.729	0.801	1.373	1.034	0.809	0.790	1.352
	All the 5 decisions	0.927	0.569	0.713	1.204	0.917	0.519	0.706	1.192	0.920	0.528	0.709	1.193
Experience of spousal violence													
	(No spousal violence)	1.000				Not included in this model							
	Spousal violence	1.203	0.060	0.993	1.459					1.226	0.028	1.022	1.471

Note: Reference categories are in parentheses.Control variables were age, education, region of residence, type of place of residence, and wealth index.

Discussion

The study was guided by the postulate that women's empowerment is an important factor not only in knowledgeand attitudes towards family planning but also, importantly, in influencing decisions to use family planning methods. Therefore, women's empowerment is negatively associated with unmet need.

Results from the analysis of the association between background characteristics and unmet need (Table 2) reveals a strong and highly significant association ($p<0.001$) between unmet need for family planning and woman's age, education, place of residence, region, and wealth status. Younger women have higher rates of unmet need than older women. Unmet need appears to decline with increased education and wealth status. Women living in urban areas have lower levels of unmet need than rural women. Women who are more educated and women who are wealthier can afford to buy contraceptives and are more likely to reside in urban areas, where contraceptives are more accessible than in rural areas. They are also more informed about available family planning methods and are more likely to prefer small families than their less educated and less well-to-do counterparts. These results confirm findings from other countries on the association of such background characteristics as women's age, education levels, type of residence and wealth with unmet need (Korra, 2002; Ndaruhuye et al., 2009; Hailmariam and Haddis, 2011).

By region of the country, women in North Eastern, Nyanza, Rift Valley, and Coast have higher levels of unmet need for family planning compared with women in Central and Nairobi. The results are consistent with previous findings in Kenya by Ojakaa (2008). A high level of unmet need in these regions is also consistent with the fact that the same regions also have lower contraceptive prevalence and consequently higher fertility rates compared with Central and Nairobi (KNBS and ICF Macro2010).

Analysis of the association between unmet need for family planning and selected women's empowerment variables yields similar results (Table 3) and conforms to the expectation that women who are more empowered have lower levels of unmet need. Women who worked in the 12 months preceding the survey have lower levels of unmet need than those who did not work. Women who received cash or in-kind payment have lower levels of unmet need than women who worked but received no pay. Currently married women whose husbands try to control their actions have higher unmet need than those whose husbands are not controlling. Women who participate in decision-making on more household issues have lower unmet need than those who make fewer decisions. This finding confirms the results of a study in Eritrea that women's decision-making (as one of the determinants of women's autonomy) influences unmet need (Woldemicael&Beaujot, 2011).

Multivariate analysis of the association between unmet need for family planning and women's empowerment indicators, while controlling for selected background factors, showed that lack of employment is a significant predictor of unmet need. Women who worked in the year preceding the survey have significantly lower odds for having unmet need for family planning compared with women who did not work, even when the work was not for pay. Compared with those who did not work, women who worked and were paid in cash or both in cash and in kind had a greater likelihood of not having unmet need – the odds of having unmet need were 55percent lower. This result confirms our hypothesised association between women's employment and unmet need.

After removing controlling behaviour by husbands/partnersfrom the model, women's experience of spousal violence emerged as a significant predictor of unmet need for family planning. This finding not only confirms our hypothesised link between spousal violence and unmet need but also indicates a possible relationship between husbands' controlling behaviours and women's experience of spousal violence.

According to theories of women's empowerment and evidence from some studies, equity in household decision-making is associated with positive outcomes in various spheres, including health (Hou& Ma, 2011;Desai & Johnson, 2005; Woldemicael&Beaujot, 2011). This perspective is confirmed by bivariate analysis of the association between the number of decisions a woman can make in the household and unmet need for family planning. However, with inclusion of statistical controls in the regression models, the strength of the association between the two variables is not statistically significant. Further analysis of the specific mechanisms through which inclusion of background factors (age, education, residence etc) attenuates the strength of the association between a woman's decision ability and unmet need for family planning is recommended.

Conclusion

From the preceding discussion, women's background characteristics—age, educational level, region, type of place of residence, and wealth index—are all (as expected) significantly associated with unmet need for family planning. While indicators of women's empowerment are also significantly associated with unmet need, only a woman's lack of employment appears as a significant predictor of unmet need after controlling for the confounding effects of all other variables.

Spousal violence also emerges as a predictor of unmet need but is interlinked with husband/partner controlling behaviour. It is therefore important that national programmes aimed at reducing unmet need for family planning address the economic dimension of women's empowerment as well as familial interrelationships aimed at improving spousal relations.

Policy-makers need to emphasize building partnerships among sectors focusing on expanding employment opportunities for women. This emphasis goes hand in hand with programmes aimed at reducing gender disparities in educational attainment, so as to increase chances for women in paid employment. Therefore, any anticipated reduction in unmet need for family planning needs to factor in women's access to resources through employment, and also the need for programmes to improve spousal communication.

Improvement in spousal communication will not only enhance collective decision-making among couples in relation to family health and family planning but will also help to reduce incidence of spousal violence, which in this study has been significantly associated with higher levels of unmet need. In addition, pivotal importance is the need for innovative strategies for men's involvement in family health, including family planning.

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