

Determinants of Unmet Need for Modern Contraception and Reasons for Non-use among Married Women in Rural Areas of Burkina Faso

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Abstract

Burkina-Faso (TFR=6.0) is among the top-ten high fertility countries world-wide and CPR (15%) among women is low. This study examined the factors associated with non-use of modern contraception among married women residing in the rural areas of Burkina-Faso. The study used 2010 Burkina Faso Demographic and Health Survey data-set and focussed on married women aged 15-49 years (n=7,191). Chi-square and logistic regression techniques were used for the analysis ($\alpha=5\%$). Mean number of living children was significantly higher among women who have UNMC (3.92) than those with met need (3.01). Modern CPR and UNMC among married women was 12.7% and 40.7% respectively. The multivariate analysis reveals that being married more than once increases the likelihood of UNMC (OR=1.304;C.I=1.082-1.571, $p<0.05$). Husbands' approval of FP is a protective factor of UNMC (OR=0.858;C.I=0.756-0.975, $p<0.05$). Husbands' approval and health education on benefits of FP are important factors to consider in strategies aimed at reducing UNMC in Burkina-Faso.

Keywords: Unmet need; Modern Contraceptive; Rural women; Contraceptive Use; Burkina Faso

Résumé

Burkina-Faso (TFR=6.0) est parmi les hauts pays de fertilité de dessus-dix dans le monde entier et CPR (15%) parmi des femmes est bas. Cette étude a examiné les facteurs liés au non-usage de la contraception moderne parmi les femmes mariées résidant dans les secteurs ruraux de Burkina-Faso. L'étude a employé Burkina 2010 Faso démographique et enquête de santé de l'ensemble de données et s'est concentrée sur les femmes mariées âgées 15-49 ans (n=7,191). la Chi-place et les techniques logistiques de régression ont été employées pour l'analyse ($\alpha=5\%$). Le nombre moyen des enfants vivants était sensiblement plus haut parmi les femmes qui ont UNMC (3.92) que ceux avec le besoin satisfait (3.01). CPR et UNMC modernes parmi les femmes mariées étaient 12.7% et 40.7% respectivement. L'analyse multivariable indique qu'étant marié augmente plus d'une fois la probabilité d'UNMC (OR=1.304;C.I=1.082-1.571, $p<0.05$). Approbation de maris la' du point de gel est un facteur protecteur d'UNMC (OR=0.858;C.I=0.756-0.975, $p<0.05$). Approbation de maris la' et l'éducation sanitaire sur des avantages du point de gel sont des facteurs importants à considérer dans les stratégies visées réduisant UNMC dans Burkina-Faso.

Mots clé: Le besoin d'Unmet; Contraceptif moderne; Femmes rurales; Utilisation contraceptive; Burkina Faso

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Introduction

Burkina Faso with a population size of 17.5 million persons and an annual population growth rate of 3.1%, is one of the top ten high fertility countries worldwide (TFR=6.0) and the prevalence of modern contraceptive use (15%) although higher in urban than rural area is among the lowest in sub-Saharan Africa (Population Reference Bureau, 2012). High fertility is known to profoundly affecting the socioeconomic development of a country particularly among the poor nations (Mikko, 2010; Gary and Robin, 2013). Previous studies have shown that childhood and maternal mortality are high in any nation experiencing rapidly increasing fertility (Rosenzweig and Schultz, 1983). When women die during child birth, children are orphaned and the responsibility of the care provider in the family will shift on to older female siblings in the family. Such girls often begin childbearing early and are limited in their socioeconomic development (Moore and Waite, 1977). These situations can jeopardize their health in terms of knowledge and hamper their opportunities to actively contribute to the development of their communities and countries (Diez and Mistry, 2010). Addressing these concerns will be ineffective if the use of modern contraception is neglected.

As shown in table 1, fertility in sub-Saharan Africa is high and contraceptive use remains a deficient agenda in the region most especially as a result of unmet needs for family planning (Cleland et al., 2006; Cleland et al., 2011). Research shows that a woman has unmet need for family planning if she wants to avoid a pregnancy either to space or stop childbearing completely but she is not using an effective contraceptive method (WHO, 2012). Women who rely on traditional methods are often considered as having unmet need for family planning because of the high failure rates of these methods (WHO, 2012; Centre for Disease Control and Prevention, 2000). Studies in various countries have consistently reported lower use of modern contraceptive in rural than urban areas (Uddin et al., 1985; White and Speizer, 2007). Burkina Faso is predominantly a rural nation as about 65% of its inhabitants reside in rural communities (Population Reference Bureau, 2012), thus high prevalence of unmet need for modern contraceptive is likely in the country. Therefore, it is necessary to identify factors influencing unmet need for modern contraceptive in Burkina Faso particularly in the rural areas where

services and access are limited (Population Reference Bureau, 2012).

Researchers have identified several reasons why some women still have unmet need for family planning: lack of knowledge about the risks of becoming pregnant, fear of side-effects of contraceptives, perceived opposition to family planning on the part of their husbands and other relatives, religion and lack of access to family planning services (Greenspan, 1993; Westoff and Akinrinola, 1998; Govindasamy and Boadi, 2000; Pasha et al., 2001). In a study conducted in Karachi Pakistan, factors associated with unmet need include women's perception that their mother-in-law's fertility goals differ from their own, having less than two sons or two daughters, lack of economic independence and lack of spousal communication on sexual matters (Pasha et al., 2001). A similar study that was carried out in the city slums in Kenya shows that factors documented as being responsible for the low use of family planning services included partner's approval, quality of the services, attitudes of care providers and knowledge about family planning services (Okech et al., 2011). Other factors which have been identified in other studies included the woman's income level, proximity to the provider and religion (Okech et al., 2011; USAID, 2006; Magadi and Curtis, 2003).

Unmet need for family planning among married women is a common phenomenon worldwide, but the prevalence is higher among the developing than developed countries (Population Reference Bureau, 2012). Feasible and efficient family planning programs could be devised through reliable information on the magnitude of unmet need for family planning. West Africa has one of the most rapidly growing populations in the world, and on average, the TFR in the region is about 5.7 (Population Reference Bureau, 2012). Despite the high level of unmet need for family planning in Burkina Faso, little is known about its determinants. Therefore, investigating the underlying mechanisms influencing unmet need for modern contraception in Burkina Faso is critical (PRB, 2012). This is essential for effective planning of programmes to reduce the current level of fertility (TFR=6.0) and unmet need for modern contraceptive in the country (PRB, 2012). There have been numerous research on factors associated with the unmet need for family planning in some parts of West Africa (Sondo et al., 2001; National Population Commission and ICF Macro, 2009; Westoff, 2006). However, there has

been little or no research of this nature in rural areas of Burkina Faso; our study was aimed to fill the gap.

The broad objective of this study is to examine the underlying factors of unmet need for modern contraceptive among women residing in rural areas of Burkina Faso. The specific objectives are to; describe the characteristics of married women with unmet need for modern contraceptive, examine the main reasons for non-use among married women with unmet need for modern contraceptive and, identify the main factors responsible for unmet need for modern contraceptive. We also provide the level of current use of modern contraception among married women across different socioeconomic backgrounds. These objectives were conceived with the view to using the outcome as part of the framework for improvement of family planning services in the rural areas of Burkina Faso and other developing countries with similar demographic characteristics. Also, the level of current use of modern contraceptive is a valuable measure of the success of family planning programmes and useful in estimation of the reduction in fertility attributable to contraception.

Literature Review

Since the 1960s, the thought of “unmet need for contraception”, which refers to women who do not want to become pregnant but are not using contraception has been used in the international population studies. In early studies on family planning, contraceptive prevalence rate was the key contraception index, but in recent time, the prevalence of unmet need has gained wide attention. The research on a group of women in Taiwan first identified women who indicated a desire to stop childbearing but reported no use of contraception (Freedman et al. 1972). In 1974, Freedman and Coombs used survey data from several countries to justify this finding. However, Bogue (1974) revealed that in nearly all societies, a divergence existed between some women’s reproductive preferences and their contraceptive behaviour. Unmet need has come to occupy an essential position, not astoundingly it has been subjected to careful examination. Condemnation and doubt of the concept, its strength and its usefulness as a guide for policy formulation and program design have been logically articulated and addressed in the 1990s (Dixon-Mueller and Germain, 1992; Pritchett 1994; Jain 1999).

At the onset of WFS data availability, Westoff (1978) produced a five-country study of “unmet need for family planning,” the phrase he alternatively used for “KAP-gap” as a result of his determination to develop more-refined measures of the inconsistency between fertility preferences and contraceptive use. This was the first of several studies by Westoff. In early 1990s, unmet need for contraception was strongly recognized as a core concept in the family planning and population policy literature. Consequently, Sinding and colleagues opined that in nearly all countries that had specified demographic targets, fully satisfying the unmet need for contraception would result in contraceptive prevalence rates higher than the established targets (Sinding et al., 1994).

Globally, the proportion of married women with unmet need declined from 19 percent to 17 percent in the 1990s, but the number of women with unmet need has remained nearly constant because of population growth (Ross and Winfrey, 2002). In the vast majority of the 33 countries that had different rounds of DHS survey, there was a decline during the 1990s in the percentage of women with unmet need (Ross and Winfrey, 2002). However, some countries have experienced only small declines in unmet need, and a few, such as Mali, Senegal, and Uganda, have seen an increase. These increases have occurred mainly because fertility preferences have changed; that is, more women want to postpone or limit childbearing while increases in contraceptive use have lagged behind. In developing countries, women with unmet need for family planning constitute a significant fraction of all married women of reproductive age. As an example, data from DHS showed that among currently married women, 36.9% in Rwanda and 35% in Senegal had unmet need for family planning during the period 1990-2000 (Measure DHS, 2000). At this period, rising rates of contraceptive use have increased unmet need for family planning in most of the developing countries (Lori, 2003).

Unmet need for family planning have been found to be influenced by several factors. For instance, in Kenya, women with primary incomplete education were twice as likely to experience an unmet need for family planning compared to those with primary complete or higher education and similar pattern was observed in Sudan and other sub-saharan African countries (Wafula and Ikamari, 2007; PRB, 2012; Abdel and Amira, 2013). Apart from women’s

education, unmet need for family planning is influenced by couple's educational status and woman's occupation (Abdel and Amira, 2013). Assefa and Fikrewold (2011) in their study found that women with unmet need for family planning are more likely to be living in rural areas, have lower level of education, lower level of knowledge about family planning methods, have no work other than household chores, and have never been visited by a family planning worker. Socio-demographic factors such as age, education level, income, wealth quintile, place of residence, partner education, religion, household wealth, DHS survey year, number of living children in residence and media exposure have been identified in previous studies as predictors of unmet need for family planning (Westoff, 2012; Choudhary, 2009). In addition, lack of knowledge, barriers to information, awareness of contraceptive methods, knowledge of where to obtain supplies, cost and proper use of the methods were found to be important factors in reducing unmet need (Casterline and Sinding, 2000; Antenane, 2002).

An analysis of the 2005 Ethiopia Demographic Health Survey data revealed that women residing in rural areas were significantly more likely to report unmet need for family planning compared to women in urban areas (Assefa and Fikrewold, 2011). This finding was similar to the outcome of the study conducted by Rafiqul et al (2013) where higher unmet need to space births was reported to be higher in rural area than urban. Significant gaps and potential determinants have been identified between women's desire to delay/avoid having children and their actual use of contraception. Reduction in the unmet need for contraception has been found to be one of the main elements in improving women's reproductive health (Saurabh, 2013). Other measures such as strong political will, formulation of specific evidence-based guidelines for encouraging uptake of family planning methods for different population groups/settings, establishment of health information system to monitor trend of contraceptive usage and for evaluation of family welfare programs are recommended for enhancing accessibility and uptake of contraceptive methods (Saurabh, 2013).

Variables included in the analysis

Dependent Variable Categories

- ✓ Modern contraceptive use status
- ✓ Unmet need for modern contraceptive

A substantial body of new empirical research on rural-urban differential in unmet need for family planning, its prevalence and determinants has been completed in several countries and we sense that the broader significance of such research has not been extensively documented.

Data Source and Methods

Data extraction

We used the 2010 Burkina Faso Demographic and Health Survey (BFDHS) for this study. The data was extracted from the Measure DHS web platform after the permission to use the data was granted by the data originators (<http://www.measuredhs.com/>). The survey was conducted among 17,087 women of childbearing age (15-49 years) using multi-stage sampling techniques and it was a national representative survey. Detailed information on data collection procedures with respect to design of the survey instruments, training of the research assistants, pre-test of the study instruments, validity test and other procedures of the survey are available in the report of the initial analysis of the collected data (Institut National de la Statistique et de la Démographie (INSD) et ORC Macro, 2011).

Study Design

The 2010 BFDHS was cross-sectional in design where women and men who met the criteria set for the study were interviewed using interviewer administered questionnaire. The analysis in this paper is restricted to 1 women residing in the rural areas, who were married, fecund who expressed their desire to space or limit the number of children they want but who are either not using or currently using modern contraceptive. We excluded from the analysis women who have never had sexual intercourse, want another child within 2 years, infecund and menopausal. Using these criteria reduced the number of women to 7,191 among which 5,623 had reported information on their unmet need status. Also, included are married women who stated reasons for non-use of modern contraception among those who had unmet need for modern contraceptive but who are not currently using contraceptive (2,165).

Independent Variables

Demographic Variables

- ✓ Age 15-19, 20-24, 25-29, 30-34, 35+
- ✓ Number of unions Once, more than once
- ✓ Number of living children 0, 1-2, 3-4, 5+
- ✓ Ideal number of children 0, 1-2, 3-4, 5+

Socioeconomic Variables

- ✓ Woman's education No education, primary, secondary and higher
- ✓ Husband's education No education, primary, secondary and higher
- ✓ Religion No religion, Muslim, Christian, Traditionalist
- ✓ Wealth quintile Poorest, poor, middle, richer, richest
- ✓ Working in the last 12 months No, worked in the past year, currently working
- ✓ Exposure to media Radio/TV/newspapers, none of them
- ✓ Visited by FP worker No, yes
- ✓ Health facility visit Not visited, visited and discussed FP, visited but not discussed FP

Proximate Variables

- ✓ Discussion of FP with partner Never, once or twice, more often
- ✓ Woman's approval of FP Disapproves, approves
- ✓ Husband's approval of FP Disapproves, approves

Bivariate analysis

At the onset of data analysis after all the necessary variables have been identified, the sample was weighted for better representation of the study population from which the sample was selected. Consequently all the descriptive tables are based on weighted numbers. The bivariate analysis provides a preliminary look at the characteristics of married women with unmet need and this was carried out using the Chi-square technique with the level of significance set at 5%. The bivariate results provide a basis for the selection of significant variables to be included in the multivariate analysis in this paper.

Multivariate analysis

However, since multivariate analysis is run to explain the connection between individual responses to questions and how these responses relate generally to the dependent variable, therefore the multivariate analysis was based on un-weighted data since it preserves the one respondent/one response relationship. We examined the reasons why the prevalence of unmet need for modern contraceptive was higher among subgroup of women than others. The total number of relevant cases in the multivariate analyses was 5,623. The dichotomous relationship between the unmet need for modern

contraception and various predictor variables was analysed using logistic regression.

The logistic regression model is defined as;

$$\log\left(\frac{\xi_i}{1-\xi_i}\right) = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \dots + \beta_kx_k$$

Where ξ_i is the outcome measure and $i = 1$ if ξ is the proportion of respondents that have unmet need for modern contraceptive and 0 if otherwise. Also, $\beta_1, \beta_2, \beta_3, \dots, \beta_k$ are the regression coefficients to be estimated, $x_1, x_2, x_3, \dots, x_k$ are the independent variables such as age, current work status, wealth index etc. (Boyd et al., 1987).

Results

Demographic profile of the respondents by current use of modern contraceptive and unmet need for modern family planning:

The data as shown in figure 2 reveal that variation exists in unmet need and current use of modern contraception across all the regions in rural areas of Burkina Faso. Rural women in Centre region have the highest prevalence of unmet need (55.5%) and sudouest has the least (31.4%). The prevalence of current use of modern contraceptive ranges between 7.9% in sahel through 27.2% in the centre region. It is surprising that women in some of the regions with higher unmet need for modern

contraceptive are currently using modern contraceptive than those with lower met need.

Figure I: Unmet need and current use of modern contraceptive by region, 2010 BFDHS (n = 7191)

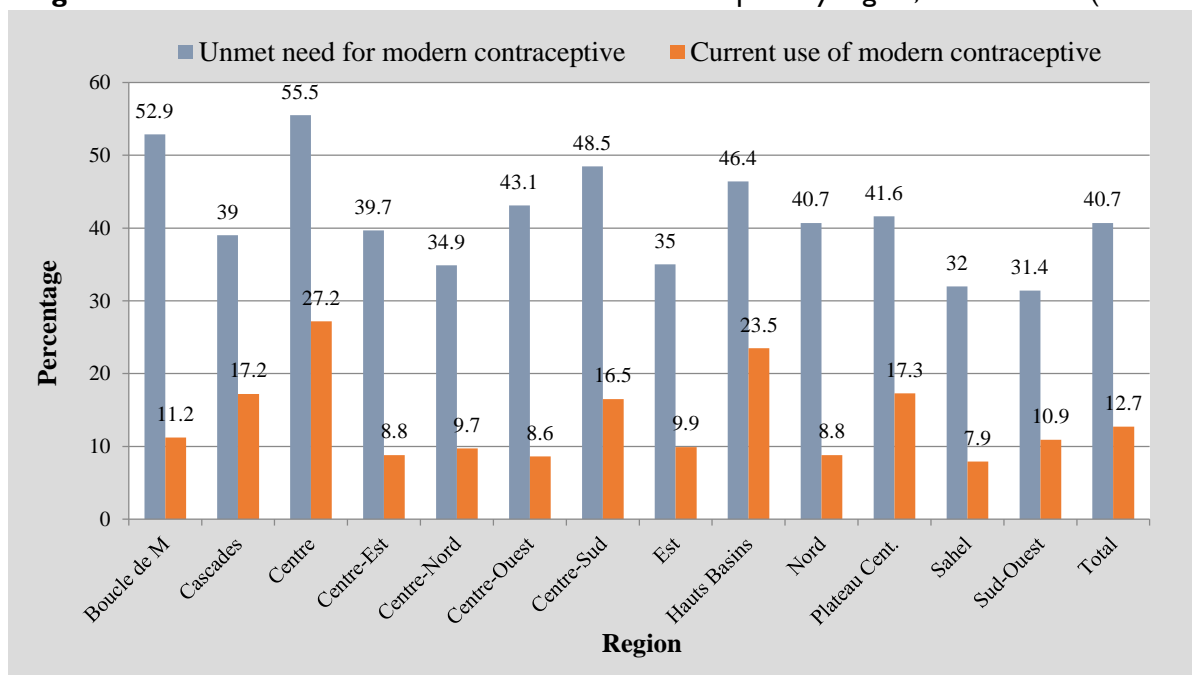


Table I: Total Fertility Rate, Births per 1,000 Population, Modern Contraceptive Prevalence Rate, for 16 selected countries in sub-Saharan Africa

<u>Regional Block</u> Country	Total Fertility Rate	Births per 1,000 Population	Modern CPR
Burundi	6.4	42	18
Uganda	6.2	45	26
Zambia	6.3	46	27
Tanzania	5.4	41	26
Congo Democratic Rep.	6.3	45	5
Cameroun	5.1	44	14
Gabon	3.3	27	12
Sao Tome and Principe	4.9	37	33
Burkina Faso	6.0	43	15
Cote d'Ivoire	4.6	35	8
Ghana	4.2	32	17
Nigeria	5.6	40	8
Lesotho	3.2	28	46
Namibia	3.3	26	53
South Africa	2.4	21	60
Swaziland	3.5	30	63

Source: Population Reference Bureau (2012, World Population Data Sheet); CPR: Contraceptive Prevalence Rate among Married women aged 15-49

In this study, the data show that the mean age of the married women was 31.2 ± 8.5 years and was higher among those who are currently using modern contraceptive (32.2 ± 7.9 years). The data as presented in table 2 show that the prevalence of current use of modern contraceptive increases steadily with increasing age with a reduction at age group 45-49 years. The percentage of women who are currently using modern contraceptive increases

from 4.1% among women who had no living children through 14.6% among those with at least five living children ($p < 0.001$). A similar pattern exists for married women with unmet need for modern contraceptives. The highest proportion of married women currently using modern contraceptives was reported among those who mention 1-2 children (19.1%) as the number of ideal children they should have.

The prevalence of unmet need for either to limit or to space children for married women in the sample was 40.7%. The percentage of married women with unmet need for modern contraceptive increases consistently from 31.9% among those aged 15-19 years to 78.8% among those aged 45-49 years. Married women who had married more than once (52.3%) have higher unmet need for modern contraceptive than those who only married once

(39.1%) ($p < 0.001$). Married women who reported that the ideal number of children was 1-2 (57.6%) have higher unmet need for modern contraceptive than their counterparts who said the ideal number of children should be 3-4 (43.5%) and 5+ children (39.7%). The mean number of living children was strikingly higher among married women who have unmet need for modern contraceptive (3.92) than those with met need (3.01) ($p < 0.001$).

Table 2: Contraceptive method currently using and unmet need for modern contraceptive by demographic characteristics, 2010 BFDHS (n = 7191)

Variables	Modern	Total	χ^2 -value	p-value	Unmet Need	Total	χ^2 -value	p-value
Total	12.7(910)	7191			40.7(2286)	5623		
Age			56.692*	0.000			262.2*	0.000
15-19	4.1(19)	466			31.9(142)	445		
20-24	11.9(169)	1424			34.9(435)	1247		
25-29	11.9(177)	1492			35.8(465)	1299		
30-34	14.1(184)	1309			37.3(410)	1100		
35-39	15.2(157)	1034			44.3(362)	818		
40-44	16.6(144)	869			61.5(323)	525		
45-49	10.1(60)	597			78.8(149)	189		
Mean	32.2 \pm 7.9	31.1 \pm 8.5		0.000	31.2 \pm 8.2	29.5 \pm 8.2		0.000
Number of Union			3.194	0.074			38.82*	0.000
Once	12.9(829)	6417			39.1(1949)	4980		
2+	10.6(77)	727			52.3(316)	604		
Number of living children			30.035*	0.000			154.1*	0.000
None	4.1(9)	222			11.4(24)	210		
1-2	10.8(232)	2143			37.1(691)	1862		
3-4	13.1(300)	2291			38.4(693)	1803		
5+	14.6(369)	2535			50.2(878)	1748		
Mean	4.05 \pm 2.1	3.75 \pm 2.2		0.000	3.92 \pm 2.2	3.53 \pm 2.1		0.000
Ideal number of children			53.411*	0.000			9.636 ^	0.022
1-2	16.6(8)	48			57.6(19)	33		
3-4	18.7(238)	1274			43.5(417)	959		
5+	11.3(637)	5649			39.7(1770)	4464		
Mean	5.57 \pm 1.7	6.11 \pm 1.9		0.000	6.07 \pm 1.94	6.13 \pm 1.9		0.045

*Significant at 0.1%; **Significant at 1%; ^ Significant at 5%

Socioeconomic profile of the respondents by current use of modern contraceptive and unmet need for modern family planning:

As shown in table 3, the data depict that current contraceptive use increases as the level of education of husband and wife increases. For instance, 43% of married women with at least secondary education are currently using modern contraceptive as against 11.4% of married women with no formal education ($p < 0.001$). It is striking that those married women who belong to Traditional religious worshipers (22.8%) use modern contraceptive more than their counterparts who are either Muslims (11.7%) or Christians (15.6%). Contraceptive use was predominantly higher among married women in the highest wealth quintile (31.3%), those were exposed to family planning on the media (15.3%),

currently working married women (13.1%), those who visited a hospital in the past one year (20.3%) and married women who discussed family planning during their visit to the hospital (20.4%). The percentage of married women who use modern contraceptive was significantly higher among women who have discussed family with her husband (27.4%) than those who have not (9.1%). The proportion of married women who are currently using modern contraception was more for those whose husbands approve the use of family planning (21.8%) as compared to 4.2% of married women whose husbands disapprove.

Among married women who are not currently using modern contraception, the highest unmet need was reported among those whose husbands have at least secondary education (54.3%).

However, exposure to family planning information on media and currently working status reduce the unmet need for modern contraception among married women included in this study. Unmet need for family planning was less among married women who have visited a hospital where family planning issues were discussed (32.7%) than those who

either never visited such facility (57.9%) or visited without any information on family planning discussed (37.6%). Unmet need for family planning was significantly lower in households where husbands approve the use (38.9%) than in households where husbands disapprove (43.7%).

Table 3: Bivariate Analysis Depicting Modern Contraceptive Method (n = 7191) and Unmet Need (n = 5623) among Married Women in Burkina Faso, 2010 BDHS

Variables	Modern	Total	χ^2 -value	p-value	Unmet Need	Total	χ^2 -value	p-value
Total	12.7(910)	7191			40.7(2286)	5623		
<u>Education</u>			149.8*	0.000			1.067	0.785
None	11.4(737)	6490			40.6(2080)	5123		
Primary	20.7(118)	570			41.1(176)	428		
Secondary+	43.0(55)	128			44.1(30)	69		
<u>Husband's Education</u>			155.7*	0.000			11.687**	0.009
None	11.3(712)	6320			40.2(2013)	5002		
Primary	18.7(122)	654			41.5(204)	491		
Secondary+	37.4(76)	203			54.3(63)	116		
<u>Religion</u>			51.638*	0.000			2.195	0.533
No religion	10.1(7)	69			40.0(22)	55		
Islam	11.7(512)	4392			40.9(1431)	3495		
Christian	15.6(233)	1492			43.0(482)	1120		
Traditionalist	22.8(98)	429			39.1(119)	304		
<u>Wealth Quintile</u>			191.2*	0.000			1.059	0.901
Poorest	8.1(131)	1620			39.6(524)	1322		
Poorer	10.6(192)	1809			40.6(586)	1442		
Middle	10.7(198)	1843			41.0(611)	1491		
Richer	17.8(280)	1571			41.1(475)	1157		
Richest	31.3(109)	348			42.7(90)	211		
<u>Employment status</u>			6.933 ^	0.031			10.24**	0.006
Not working	10.4(96)	926			35.7(273)	764		
WPY	10.3(29)	281			37.7(86)	228		
Curr. working	13.1(785)	5984			41.6(1927)	4631		
<u>Exposure to FP media</u>			55.825*	0.000			9.132**	0.003
No	9.4(300)	3202			42.8(1100)	2568		
Yes	15.3(608)	3984			38.9(1186)	3052		
<u>Visited by FP worker last 1 year</u>			36.080*	0.000			0.187	0.666
No	11.9(783)	6562			40.6(2092)	5157		
Yes	20.3(127)	626			41.6(193)	464		
<u>Visited HF & discussed FP</u>			228.8*	0.000			227.0*	0.000
No	7.6(148)	1953			57.9(773)	1335		
Visit not DFP	8.6(223)	2596			37.6(842)	2237		
Visit DFP	20.4(539)	2637			32.7(669)	2047		
<u>Discussed of FP with the husband</u>			340.3*	0.000			2.571	0.109
No	9.1(528)	5793			41.1(1916)	4659		
Yes	27.4(382)	1393			38.3(368)	960		
<u>Husband's desire for children</u>			86.806*	0.000			2.903	0.407
Same as wife	17.6(424)	2403			39.4(714)	1813		
Husband more	9.9(362)	3640			41.7(1203)	2883		
Husband fewer	15.9(26)	164			39.1(50)	128		
Don't know	9.9(97)	983			39.9(319)	799		
<u>Partner/Husband approved</u>			543.7*	0.000			14.299**	0.003
Disapprove	4.2(112)	2673			43.7(966)	2210		
Approved	21.8(779)	3566			38.9(1008)	2592		
DK	2.1(19)	924			38.0(312)	821		

*Significant at 0.1%; **Significant at 1%; ^ Significant at 5%; WPY: Worked in the past year; FP: Family planning; HF: Health Facility; DFP: Discuss family planning

Reasons for non-use of family planning methods among women with unmet need:

Identifying the key reasons for non-use of modern contraceptives is important in designing and implementing appropriate family planning intervention strategies. There could be numerous reasons that disallow women from using modern contraceptives. In the 2010 BFDHS, these reasons were grouped into four categories: fertility-related; opposition to use; lack of knowledge and method-related.

As regards the fertility related reasons, approximately 61% of the married women who are

not using any contraception mentioned fatalistic as the reason for non-use as against only 9.9% of women who said postpartum amenorrhoeic was the reason. For the reasons related to opposition to use; 57.3% of the women self-opposed the use and 55.8% reported their not using was due to husbands' disapproval. Predominantly (72.3%), health concerns/fear of side effects was the highest reported reason for non-use and about 57% linked their non-use with high cost of contraceptive are the identified method related reason for non-use.

Table 4: Percentage Distribution of married women with unmet need for family planning by reason for not currently using a contraceptive method, 2010 BFDHS (n = 4413)

Reasons	Unmet need	Total	χ^2 -value	p-value
Total	49.1(2165)	4413		
<u>Fertility-related reasons</u>				
Not having sex**	43.2(179)	414	6.198	0.013
Infrequent sex*	59.1(315)	533	24.452	0.000
Postpartum amenorrhoeic*	9.9(91)	917	709.4	0.000
Breastfeeding*	37.3(486)	1302	101.7	0.000
Fatalistic*	61.0(147)	241	14.533	0.000
<u>Opposition to use</u>				
Respondent opposed**	57.3(153)	267	7.728	0.005
Husband opposed*	55.8(406)	727	16.040	0.000
Others opposed	44.4(8)	18	0.154	0.695
Religious prohibition	56.2(36)	64	1.344	0.246
<u>Lack of knowledge</u>				
Knows no method	58.5(55)	94	3.433	0.064
Knows no source	43.5(20)	46	0.579	0.477
<u>Method-related reasons</u>				
Health concerns /Fear of side effects*	72.3(240)	332	77.518	0.000
Lack of access/too far	52.8(131)	248	1.489	0.222
Costs too much*	56.8(263)	463	12.412	0.000
Inconvenient to use	57.6(19)	33	0.965	0.326
Interference with body processes	65.2(15)	23	2.414	0.120
Method not available	60.0(3)	5	0.240	0.624
Other*	64.6(137)	212	21.583	0.000

*Significant at 0.1%;**Significant at 1%;

Multivariate analysis:

The logistic regression results as shown in table 5 depict that the odds ratios associated with unmet need for modern contraceptive were 3.181 (C.I=1.963-5.156; $p < 0.001$) and 1.514 (C.I=1.054-2.176; $p = 0.025$) for married women aged 45-49 and 40-44 years respectively. These coefficients were higher than those associated with married women aged 15-19 years. Also, being married more than once increases the likelihood of

unmet need for modern contraceptive as women who married for at least two times have higher odds (OR=1.304; C.I=1.082-1.571; $p = 0.005$) of unmet need than those who married only once. The likelihood of unmet need for modern contraceptive increases consistently as the number of living children increases. For instance, women who have at least 5 living children were approximately 8 times more likely to have unmet need for modern

contraceptive than those who do not have any living children (state odds ratio, CI and p-value here).

The data in Table 5 further show that married women whose husbands have at least completed secondary education (OR=1.958; C.I=1.305-2.938; $p=0.001$) have higher odds of unmet need for modern contraceptive than their counterparts whose husbands have no formal education. It is quite interesting to observe that married women who were currently working (OR=1.435; C.I=1.205-

1.708; $p<0.001$) have higher odds of unmet need for modern contraceptive than those who are not working. However, the likelihood of unmet need for modern contraceptive was lower among married women who had visited a health facility recently with or without family planning issues discussed than those who never visited any such facility. Husband's approval of family planning is a protective factor of unmet need for modern contraceptive (OR=0.858; C.I=0.756-0.975; $p=0.019$).

Table 5: Logistic Regression of Determinants of unmet need for Modern Contraceptive among Married Women in Burkina Faso, 2010 BFDHS (n = 5623)

Variables	β	p-value	Odds ratio	95% C.I for Exp(β)	
				lower	upper
<u>Age</u>					
15-19 (Ref. Cat.)			1.000		
20-24	-0.213	0.104	0.808	0.625	1.045
25-29	-0.276	0.055	0.759	0.572	1.006
30-34	-0.362	0.022	0.696 ^	0.511	0.950
35-39	-0.204	0.233	0.815	0.583	1.141
40-44	0.415	0.025	1.514 ^	1.054	2.176
45-49	1.157	0.000	3.181*	1.963	5.156
<u>Number of Union</u>					
Once (Ref. Cat.)			1.000		
More than once	0.265	0.005	1.304**	1.082	1.571
<u>Number of living children</u>					
None (Ref. Cat.)			1.000		
1-2	1.744	0.000	5.720*	3.575	9.152
3-4	1.877	0.000	6.532*	3.967	10.758
5+	2.051	0.000	7.775*	4.620	13.084
<u>Husband's Education</u>					
None (Ref. Cat.)			1.000		
Primary	0.196	0.060	1.216	0.992	1.492
Secondary+	0.672	0.001	1.958**	1.305	2.938
<u>Employment status</u>					
Not working (Ref. Cat.)			1.000		
Worked in the past year	0.221	0.192	1.247	0.895	1.738
Currently working	0.361	0.000	1.435*	1.205	1.708
<u>Exposure to FP media</u>					
No (Ref. Cat.)			1.000		
Yes	-0.048	0.423	0.953	0.848	1.072
<u>Visited HF & discussed FP</u>					
No (Ref. Cat.)			1.000		
Visited, did not discuss FP	-0.735	0.000	0.480*	0.413	0.557
Visited discussed FP	-0.975	0.000	0.377*	0.323	0.441
<u>Partner/Husband approved</u>					
Disapprove (Ref. Cat.)			1.000		
Approved	-0.153	0.019	0.858 ^	0.756	0.975
Don't Know	-0.280	0.003	0.756**	0.628	0.909

*Significant at 0.1%; **Significant at 1%; ^ Significant at 5%; FP: Family planning

Discussion

Over the past three decades, the use of modern contraceptive methods has increased noticeably in sub-Saharan African countries, leading to a reduction in fertility rates (Population Reference Bureau, 2012). In most of the countries in this region, the pace at which fertility reduces remains slow. The high fertility which continues to be the situation in

sub-Saharan African countries could be ascribed to striking level of unmet needs for family planning. Otherwise, there would have been a decline in the prevalence of unintended pregnancies. Improvement in maternal and child health, and the impact on fertility would have resulted in lowering the population growth and considerable increase in development benefits (Scott et al., 2010). For

instance, in Burkina Faso, the desire for smaller family size has been on the increase, thus there is a possibility of reducing the pace of the country's population growth in the future (Institut National de la Statistique et de la Démographie et ORC Macro, 2011; Espeut et al., 2010) bearing in mind of the fact that population growth is not only influenced by fertility but a result of the interplay of fertility, mortality and migration. But the contraceptive use rate is low (CPR=15%) pointing to the gross effect of unmet needs for modern contraceptive in the country (Population Reference Bureau, 2012). Usually, women who have unmet need are targets of family planning programmes since there is a difference between their fertility goals and contraceptive practice and most of these women live in rural areas (Population Reference Bureau, 2012; Westoff and Akinrinola, 1998; Espeut et al., 2010). Consequently, meeting the unmet need for contraception among rural married women in Burkina Faso may play a significant role in slowing the rapidity of population growth, improving maternal and child health, and alleviating the problems with sustainable development that prevail in the country.

We found from our study that approximately one in eight married women in rural areas of Burkina Faso are currently using modern contraception. This finding is slightly lower than that of previous studies where 15% of all married women aged 15-49 were reported as using modern contraceptive (Population Reference Bureau, 2012). The lower prevalence in our finding is expected since we focused only on rural married women. Other studies have shown striking rural-urban differential in modern contraceptive use and consistently, these studies reported that the likelihood of modern contraceptive use is less among rural women than their counterparts who reside in urban areas (Uddin et al., 1985; White and Speizer, 2007). Researchers have found that the rural-urban difference is mainly due to poor education and lack of access to family planning information and programmes (Westoff, 2006; Abdel and Amira, 2013; Korra, 2002).

Contraceptive use was primarily higher among married women in the highest wealth quintile, those who were exposed to family planning on the media, currently working married women, those who visited a hospital in the past one year and those who discussed family planning during their visit to the hospital (National Population Commission and ICF

Macro, 2009; Abdel and Amira, 2013; National Statistical Office and ICF Macro, 2011). It is interesting to know that married women who belong to Traditional religious worshipers use modern contraceptive more than their counterparts who are either Muslims or Christians. This is contrary to the revelation from earlier studies (National Population Commission and ICF Macro, 2009; National Statistical Office and ICF Macro, 2011). However, since the current study was restricted to married women residing in the rural area of Burkina Faso, traditionalists are often recruited and trained as birth attendants (Falle et al., 2009; Amie et al., 2011).

We also found that contraceptive use was predominantly higher among married women who have discussed family planning issues with their husbands than those who have not. This finding is in line with literature on male attitudes and behaviours concerning family planning and male initiatives in Africa where it was found that men often have positive attitudes toward family planning, but women believe that their husband disapproves of it (Toure, 1996). The study concluded that spousal communication was positively associated with contraceptive use (Toure, 1996). The results from similar studies were consistent with this outcome (Ashraf and Stan, 1999; Kamal, 2011). However, Ezeh in his study in Ghana showed that spousal influence, rather than being mutual or reciprocal, is an exclusive right of the husband (Ezeh, 1993). Also, in a similar survey, one in ten married women have unmet need for modern contraception because their husband disagrees (Drennan, 1998). In our study, the multivariate analysis identifies husband's approval of family planning as one of the protective factors of unmet need for modern contraception among married women in rural areas of Burkina Faso.

The prevalence of unmet need for either to limit or to space children was 40.7%. This prevalence was higher than the figure reported in a study conducted in Ethiopia where about 36 % of married women had unmet need for family planning (Korra, 2002). Our study focused on rural communities, therefore, the research interval between our study and that of Korra (2002) should explain the reason why higher value in this study should be a source of concern to government of Burkina Faso and FP programmers. A similar study conducted recently in Nigeria, Ghana and Senegal reported a lower rate of

unmet need for rural area; 20.6%, 37.6%, and 22.5%, respectively (National Population Commission and ICF Macro, 2009; Ghana Statistical Service, Ghana Health Service, and ICF Macro, 2009; Agence Nationale de la Statistique et de la Démographie et ICF International, 2012).

Unmet need for modern contraception in the rural areas of Burkina Faso was higher among older married women than their younger counterparts. Although, menopausal/infecund married women were excluded from this study, the observed pattern could be that the majority of older married women intended to limit other than space childbearing which is more peculiar to younger women. A similar pattern as found in our study was observed in the study conducted in Uganda in 2008 where it was reported that women with an unmet need for limiting tend to be older (Khan, et al., 2008). This is contrary to the findings from related studies where older women reported lower unmet need for modern contraception (National Population Commission and ICF Macro, 2009; Korra, 2002). Focusing on rural areas only as shown in our study may explain the observed discrepancy in the pattern of unmet need for contraception.

Unmet need was higher among married women who claimed that the ideal number of children should be 1-2 than those who reported at least three children as an ideal number. This pattern is expected as some of the married women who mentioned 1-2 children as the ideal number must have had this desired number either presently or in the past and are willing to limit childbearing but have no access to modern contraception of their choice. Conversely, their counterparts who wanted more children are probably in active childbearing and as such might only want contraception to space childbearing. In rural areas of Burkina Faso, contraception to limit childbearing is often scarce unlike other modern methods which are more available and accessible. The decision to uptake the permanent or long acting methods is hard to reach than other modern methods (Centre for Disease Control and Prevention, 2000). Our finding corroborates earlier findings from similar studies. For instance, lower unmet need was found among married women who reported higher number of children as ideal (Khan, et al., 2008).

In our study, it was shown that the exposure to family planning information on media reduces the risk of unmet need for modern contraceptives. This

outcome corroborates the findings from previous studies conducted in some African countries (National Population Commission and ICF Macro, 2009; Khan, et al., 2008; Westoff and German, 1995). For instance, Westoff and colleague concluded that given the persistent relationship of family planning messages on contraceptive use, mass media can have an important effect on women's reproductive behaviour. Media has an important responsibility in raising understanding on family planning and its usefulness to women's and children's health and national advancement. Women's exposure to family planning messages on either the radio, television or newspaper will go a long way at creating awareness, improving the knowledge of specific modern methods and utilisation of family planning services. For instance, drama is a known way to ventilate information across to people. It is a better way to engage men and to get information across to illiterate women. Adequate and regular information on family planning can erode the cultural mindsets on the attitudes towards acceptability of family planning choices particularly in the rural areas (Adebowale, et., 2013; Gurmu and Mturi, 2013; Khan, et al., 2008; Westoff and German, 1995). As part of the outcome of the multivariate analysis provided in our study, recent visit to health facility with or without family planning issues discussed reduces the probability of unmet need among those who visited. Visiting a health facility is a form of exposure to family planning messages such as poster display, health talk with fellow women who also came for medical attention and from health workers. Some men accompany their spouses to the health facility or provide care for them when on admission. Family planning messages can also filter across to such men and thus improve their knowledge and need to embrace family planning. Therefore, in such homes, the likelihood of unmet need for modern contraception might be reduced.

Our study also revealed that husbands having at least secondary education promote unmet need for modern contraceptive among women. Unmet need for family planning is often higher among women with a primary school education. This is because women with higher education are more likely to use contraception and women with no education generally want more children. However, the influence of the husband's education on unmet need for family planning can change the dynamics of modern contraception use among women

particularly if the wife's level of education is lower than that of the husband which is a common situation among rural dwellers of Burkina Faso.

The likelihood for pregnancy and childbearing are less when women are either not engaged in any union or would have experienced marriage dissolution during their reproductive ages. However, marital instability can propel women to re-marry and have additional children in their new relationship thus increasing their fertility beyond their intention if their first marriage was not disrupted (Thomson et al., 2012). Having intention to bear children in their new homes can enhance women's unmet need. In our study, the multivariate analysis reveals that the likelihood of unmet need was higher among women who married more than once than those who married only once. Marital stability is a fundamental factor among variables influencing the number of children ever born (Thomson et al., 2012). In Thomson's and colleagues study, it was found that a population of women whose first unions dissolve during the childbearing years will end up with smaller families, on average, than a population in which all unions remain intact. Because new partnerships encourage higher parity progressions, re-partnering minimises the fertility gap between populations with and those without union dissolution (Thomson et al., 2012). Supporting this finding we argue that in the African context, it is believed that any marriage should have at least a child as a symbol of unionism even if the woman had given birth to her desired number of children in her previous unions.

The higher likelihood of unmet need among currently working married women found in this study is expected as such women often have a higher desire to limit or space births than those who are not working. In rural settings of a developing country like Burkina Faso, the need of such women for modern contraception might be relatively difficult to meet in terms of accessibility and availability of desired choices of modern contraception.

Despite the revealing information obtained from the findings of this study, there are limitations that must be considered carefully while interpreting the study's outcome. For instance, age at first marriage which is known to be one of the key demographic determinants of contraceptive use and unmet need for family planning was omitted in this study. The variable was not collected at the time of the survey and all efforts to generate it using other variables

were futile. Reasons for unmet needs for modern contraceptive are many and beyond those mentioned in this study. Therefore, qualitative studies that could track additional reasons are areas for further research.

Conclusion

The unmet need for modern contraception reported in this study is high compared to other countries of similar demographic characteristics. Husband's approval and health talk on values of family planning at the household level are important factors to consider in strategies to improve the use of modern family planning and reduce unmet need in rural communities of Burkina Faso. Community-based family planning programmes should be expanded and strengthened in rural areas for information spread on family planning and improvement of services, principally to women with unmet need. Effective family planning programmes will make rapid spread of voluntary modern family planning methods possible in rural areas of Burkina Faso.

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