Levels, Patterns and Trends in Unmet Need for Family Planning in Kenya

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Abstract

This study sought to establish trends, patterns and correlates of unmet need for contraception among currently married women in Kenya. The data drawn from the 1998 and 2003 Kenya Demographic and Health Surveys were used to achieve this objective. The results revealed only a marginal drop in the total levels of unmet need for contraception (26.8 per cent in 1998 and 24.0 per cent in 2003). The unmet need for contraception to space was 16.0 per cent and 13.4 per cent in 1998 and 2003 respectively while that to limit further childbearing was 10.7 per cent and 10.6 per cent in 1998 and 2003 respectively. Evidently most of the decline was observed among women who were in need for spacing while the levels seem to have remained unchanged among women in need for limiting births.

Substantial declines in the levels of unmet need to space were observed among women aged 25-29 years, those in Western province, among the rural residents, in households where the husband approved of family planning, where spouses never discussed about family planning, among all ethnic groups except the Kikuyu and the Kamba, among women who had completed secondary education and above and among women who had 3-5 number of living children. On the other hand, unmet need for spacing increased in Nairobi and Nyanza provinces, among the Kikuyu and Kamba and marginally, among women with six or more living children.

On the other hand, substantial declines in unmet need for limiting were observed among women aged 35-39 years, those residing in Western province, among urban residents, among those whose husbands disapproved of family planning, among spouses who never discussed about family planning, among all other ethnic groups except the Kikuyu, the Kamba and other (such as Taita Taveta, Miji Kenda, etc which recorded an increase), among those who had no education and among those who had six or more living children. The greatest increase in unmet need for limiting was however observed among Nairobi, Coast, Nyanza and Rift Valley provinces, among those who did not know whether their husbands approved of family planning, among spouses who discussed family planning, and among respondents who had 1-2 number of living children.

Generally, bivariate results revealed that the age of the woman, the level of education, type of place of residence, province, husband approval of family planning and ethnicity are significantly associated with unmet need for contraception to space and to limit (ρ-value<0.05). However, while respondents' own approval of family planning was associated with unmet need to space for 2003, it was not significantly associated with unmet need to space in 1998 and unmet need to space and to limit in 2003 (ρ-value>0.05). Equally, spousal communication about family planning was not significantly associated with unmet need for limiting in 1998 and spacing for 2003 (ρ-value>0.05) but was significantly associated with unmet need for spacing in 1998 and limiting in 2003 (ρ-value<0.05).

The multivariate analyses indicated that the most significant factors correlated with unmet need for contraception to space were number of living children, place of residence, province, husband approval of family planning, educational attainment of the respondent, age, spousal communication about family planning and ethnicity. On the other hand, number of living children, education, age, husband approval of family planning, ethnicity and spousal communication about family planning were the only explanatory factors for unmet need to limit childbearing. The overall unmet need for contraception was explained by the following factors: number of living children, province of residence, level of education, husband's approval of family planning, ethnic background of the respondent, age and spousal communication about family planning. These findings point out the fact that more efforts should the placed on reaching women who are currently experiencing high levels of unmet need as a measure to address the current stall in Kenya's fertility.

1.0 Introduction and rationale

The levels and patterns of unmet need for contraception in Kenya have not been widely studied in the recent past yet an understanding of these levels and patterns is critical to our limited understanding of the on-going stall in fertility. Women are described as experiencing unmet need for contraception if their responses to survey questions reveal a discrepancy between their reproductive intentions and their contraceptive behaviour. Past studies and surveys dating back in the 1960's have found that some married women wanted to avoid pregnancy but were not using any form of family planning to enable them achieve this goal. This discrepancy was initially referred to as the ' KAP-gap' and in the 1970s; it was renamed "*unmet need'* for family planning.

Worldwide, over 100 million married women in the reproductive age (15-49 years) in the developing countries are estimated to have unmet need for family planning (Robey *et al.,* 1997). Over the last thirty years or so, increasing contraceptive prevalence rates have reduced the levels of unmet need for family planning in most developing countries. However, in some countries, unmet need has remained persistently high or even worse still, it is increasing. In Kenya, contraceptive uptake appears to have stalled between 1998 and 2003 and thus it would be interesting to study how this stall has affected levels and trends in the unmet need for contraception components.

The measure used in DHS II upon which this paper is based targets married women. Though this is not the only population subset that experiences unmet need, married women no doubt constitute a substantial fraction of all women of reproductive age in developing countries exposed to the risk of experiencing unmet need. Secondly, the measurement tools for unmet need for contraception for the currently married women are far more developed than those of any other group of women (and men). Thirdly, most childbearing in Kenya occur in marriage or among couples in union thus married women are more likely to suffer from the consequences of unmet need for family planning than the rest of the population. Finally, it is almost intractable to study unmet need for contraception of other population subsets such as men (see study by Ngom 1997).

The fact that a substantial proportion of women have unmet need for family planning has important demographic implications. For instance, if unmet need were eliminated, fertility would decline

substantially (Casterline 1995; Westoff and Bankole, 1995; Sinding et al., 1994). Despite its importance in meeting national goals for a decline in fertility, little is known about the determinants of unmet need for contraception (Dixon Mueller and Germaine, 1990).

In this paper, currently married women, including pregnant and amenorrhoeic women can be divided into those having met or unmet need, and no need for family planning. Those with met or unmet need can be further categorized into those who want to limit their family size – that is, to prevent all future births- and those who want to space births by delaying the next birth. All other currently married women including non sterilized women, who are infecund, are defined as having no need for family planning.

Understanding the levels, patterns and trends in the correlates of unmet need for family planning is important in mapping strategies for addressing its adverse consequences. For instance, unmet need can lead to unintended pregnancies, which pose numerous risks for women, their families and societies. For example, some of the unintended pregnancies are often aborted in unsafe conditions. It is estimated that 18 million unsafe abortions take place in developing countries every year, contributing to the high rates of maternal mortality and injury in these regions (Murray and Lopez, 1998).

Further rationale for this study emanates from the overwhelming results which indicated that sub Saharan Africa is the only region that has not responded adequately to the family planning stimulus (Dodoo and Landewijk, 1996) yet despite this, about half of the females in this region tend to have a gap between their reproductive preferences and their actual fertility. A recent DHS survey in Kenya (NCPD, et al., 1999) for instance, shows that although current fertility stands at 4.7 children per woman, the desired fertility is only 2.7 children. This gap between current and desired fertility could substantially be reduced if women with unmet need were largely reached with family planning services.

Although I do not intend to enter into definitional and evolutional controversies surrounding the concept of unmet need and its measurement, it is important to mention that the measure has undergone various modifications partly due to the remarkable improvements in data collection and the importance of obtaining more objective and realistic estimates (Ezeh and Bankole 1999).

In Kenya, efforts to estimate the level of unmet need for contraception among women date back to the 1977/1978 Kenya Fertility Survey (KFS). This survey collected partial information that could provide insights into the level of unmet need and perhaps correlates of unmet need. However, KFS did not ask respondents on how soon they were intending to have the next child (see also Kekovole 1998). This limited the estimation of the spacing component of unmet need for family planning. Some pertinent information was also collected in the 1984 Kenya contraceptive survey. However, no information on the wantedness of the last child was collected. This makes it difficult to use the data to estimate the overall levels of unmet need for family planning. The 1993, 1998 and 2003 Kenya demographic and health surveys obtained all the necessary information for estimating unmet need for contraception to space and limit births. However, the 1993 measure is slightly different from the standard algorithm used in the 1998 and 2003. In addition, the study was interested in measuring the correlates of unmet need from the period Kenya started experiencing a stall in fertility.

1.1. Study problem and justification

Past studies show that in developing countries where contraceptive prevalence is still low, the levels and magnitude of unmet need for family planning are high. In Kenya, about 39% of the married women were using contraception in 1998 and 2003 (NCPD, *et al.,* 1999) and about 26.8 and 24.0 per cent had unmet need for contraception in 1998 and 2003 respectively.

The correlates behind the observed high prevalence of unmet need for family planning in Kenya in 1998 and 2003 are not well understood. For instance, little is known as to why married women in the reproductive ages who wish to use contraception do not actually do so despite the fact that contraceptive knowledge in Kenya is almost universal (NCPD, et al., 2004). In the literature, the causes of unmet need are indicated to be varied and complex. Studies conducted from the 1990s reveal a range of obstacles and constraints that can prevent a woman in a third world country from actualizing her fertility preferences and intentions (Ashford, 2003). For example, many women fear the side effects of contraceptive methods having heard rumours or experienced some side effects themselves. Others are reluctant to use them because of their husband's disapproval or retribution if they use family planning, or oppose to family planning themselves because of religious or personal reasons. Finally, some women lack knowledge about contraceptive methods or where to get them, or they may not have access to the methods they want because of weaknesses in services and supplies. We do not know in the Kenyan

context how some of these factors have influenced unmet need for family planning during the study period.

In a country like Kenya where one of the goals of the government is to reduce the rate of population growth there is the important question of how much of the reduction in fertility can be realized by the satisfaction of existing but unsatisfied demand for family planning services (Westoff 1997). The concept of unmet need has a significant force in influencing the development of family planning programs (Bongaarts, 1991; Robey et al., 1996; Westoff, 1998a). In particular, the assessment of unmet need helps planners, program managers and policy makers by providing them with information concerning the magnitude and characteristics of the additional market for contraception and enabling them to estimate the impact on fertility that would result if the additional contraceptive needs of the market were met (Westoff and Bankole, 1995).

Understanding the correlates of unmet need for contraception is also useful in efforts aimed at improving the provision of reproductive health services in the country. Similarly, such information would also be useful for research purposes. Unmet need for contraception is also recognised as a pre-eminent rationale for investments in family planning programs since it is related to unwanted childbearing (Jain, 1999).

1.2. *Objectives of the study*

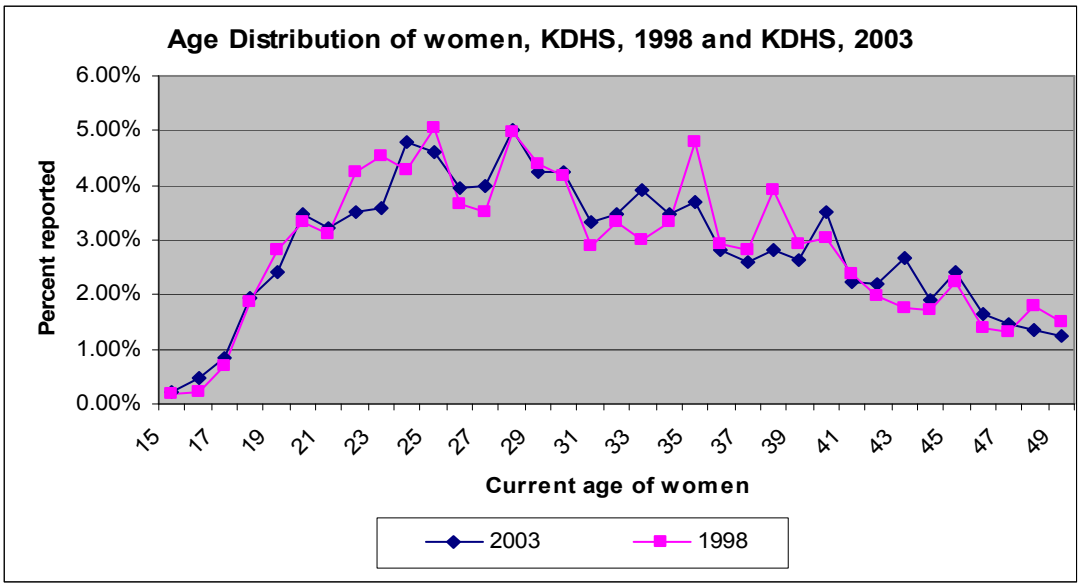
This study aims at establishing the levels, differentials, trends and correlates of unmet need for spacing, limiting and total unmet need for family planning in Kenya between 1994 and 2003 in order to frame recommendations for strategies that will help family planning programs to address unmet need among the currently married women in Kenya.

1.3 Methodology

This study uses data drawn from the 1998 and 2003 KDHS. The datasets are national in scope. Out of the 7,881 women of reproductive age (15-49 years) that were interviewed during the 1998 survey, 4847 were the unweighted cases of currently married women or those in union. On the other hand, out of the total 8195 women (15-49 years) that were successfully interviewed in 2003 survey, 4449 constituted the unweighted cases of women in union or married. Weighted cases of women who were either currently married or were in union were 4630 in 1998 and 4462 in 2003 surveys. In this study, I will exclude the

North Eastern Province for comparison purposes since no data exist in previous surveys prior to the 2003 KDHS. Unmet need for family planning is computed from women's fertility preference and current contraceptive behaviour.

Although DHS data have been shown to be generally of acceptably high quality (NCPD, et al. 2004) they are not without errors. In this study, age of the woman is a critical factor in the estimation of levels of unmet need. Below, I have used some simple graphical technique to assess the quality of age reporting for the 1998 and 2003 KDHS datasets.



Source: Authors' primary analysis of the 1998 and 2003 KDHS datasets

As seen from the graph, there is serious underreporting of age among married women below age 25. Both data show massive under reporting of women ages 15-24, as indicated by the fall of the graphs in the said age groups. There is also age heaping on ages 20 and 25 in both data sets, suggesting age shifting from the surrounding ages. The same can be said for ages 40 and 45. The 1998 data show preference for digits ending in "0" and "5", and avoidance for digits ending in odd numbers such as 3, 7 or 9. It can also be generally said that the 2003 data are less noisy besides the initial problem of under reporting at ages below 25. Though further application of the relevant demographic techniques to establish the extent and nature of age misreporting and necessary subsequent data adjustments are beyond the scope of this paper, the above results provide a cautionary note on the interpretation of the dummies of age on the components of unmet need for contraception.

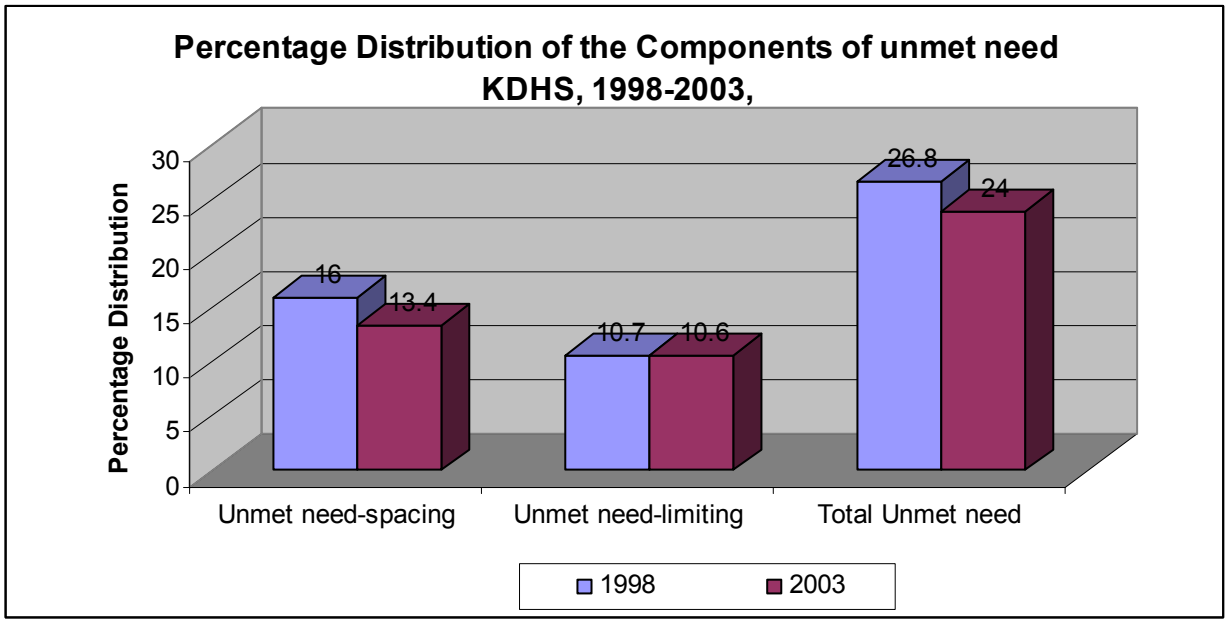
Cross tabulations with chi-square statistics are run using SPSS version 15.0 to establish bivariate correlates of unmet need for spacing and limiting by selected background characteristics. Binary logistic regression is used to assess the effects of the selected variables on the unmet need for contraception. This is an appropriate statistical procedure since the dependent variable is dichotomous. Separate regression models are fitted for each aspect of unmet need (spacing, limiting and the overall unmet need for contraception).

Explanatory variables used in this study include: husband's or partner's approval of family planning, age of the respondent, number of living children and education of the respondent, ethnicity, place of residence, province of residence and spousal communication about family planning. Past studies show that most of these factors are important explanatory variables of unmet need for contraception elsewhere (Westoff and Bankole, 1995, Robey et al., 1997; Casterline et al., 1997; Stash 1999; Ezeh and Bankole 1999).

1.4 Results

1.4.1. Levels, Composition and Differentials of Unmet Need for Contraception

The results from the graph below indicate that the levels of unmet need remain high and most of the decline during the 1998-2003 period occurred among women who wanted to space rather than limit childbearing (2.6 per cent versus 0.1 per cent respectively). These figures are not unique. In other sub Saharan African countries, the need for spacing has also been found to be greater than that to limit (Westoff and Ochoa 1991; Robey et al., 1996; Ngom 1997).



The table below shows the levels, patterns and trends in the components of unmet need for spacing and limiting by selected characteristics. Results reveal that unmet need for spacing generally decreased with age. On the other hand, unmet need to limit births appeared to increase with age. In addition, the most significant changes in the need for spacing were observed among women aged 25-29 years while that for limiting births were observed among women 45-49 years.

Substantial declines in the levels of unmet need to space were also observed among women in Western province, among the rural residents, in households where the husband approved of family planning, where spouses never discussed about family planning, among all ethnic groups except the Kikuyu and the Kamba, among women who had completed secondary education and above and among women who had 3-5 number of living children. On the other hand, unmet need for spacing increased in Nairobi and Nyanza provinces, among the Kikuyu and Kamba and marginally, among women with six or more living children.

On the other hand, unmet need for limiting births declined most among women aged 35-39, among those in Western province, among those living in urban areas, among those whose husbands disapproved of family planning use, among spouses who never discussed about family planning, among the Kalenjin and Luhya communities, among those with no education and finally, among women who had six or more number of living children.

Table 1: Change in the Percentage Distribution of Unmet need by component and by selected characteristics, 1998 and 2003 KDHS

	Unmet need- Spacing			Unmet need-Limiting		
CHARACTERISTIC	**KDHS 1998**	**KDHS 2003**	**% change**	**KDHS 1998**	**KDHS 2003**	**% change**
Age						
15-19	27.4	27.1	0.3	2.3	1.2	1.1
20-24	27.3	25.8	1.5	4.2	5.5	-1.3
25-29	21.9	15.7	6.2	9	7.2	1.8
30-34	14.2	12.8	1.4	12.3	14.5	-2.2
35-39	8.6	6.5	2.1	18.5	15.7	2.8
40-44	4.2	2.6	1.6	17.3	15.1	2.2
45-49	0.8	0.5	0.3	8.4	12.2	-3.8
χ^2 statistic	*290.5*	*296.43*		*140.71*	*103.94*	
ρ value	*0.000*	*0.000*		*0.000*	*0.000*	
Region						
Central	6	5.5	0.5	5.8	5.4	0.4
Nairobi	8.4	14.7	-6.3	4.7	19.9	-15.2
Coast	17.6	16.6	1	10.4	16.7	-6.3
Eastern	10.7	10.6	0.1	11.1	10.5	0.6
Nyanza	16.1	17.6	-1.5	12.5	17.6	-5.1
Rift Valley	20	18.2	1.8	11.9	15.8	-3.9
Western	22.7	11.3	11.4	12.1	10.9	1.2
χ^2 statistic	*92.02*	*69.44*		*26.05*	80.74	
ρ value	*0.000*	*0.000*		*0.000*	0.000	
Place of Residence						
Urban	11.5	10.3	1.2	7.9	6.3	1.6
Rural	16.9	14.3	2.6	11.3	11.8	-0.5
χ^2 statistic	*14.36*	*10.32*		*7.79*	24.3	
ρ value	*0.000*	*0.000*		*0.005*	0.000	
Husband Approval of FP						
Approves	13.5	10.1	3.4	9.5	9	0.5
Disapproves	21.8	19.8	2	15	13.3	1.7
Don't Know	19.2	16.6	2.6	9.5	12.4	-2.9
χ^2 statistic	*43.89*	*72.01*		*24.72*	18.17	
ρ value	*0.000*	*0.000*		*0.000*	0.000	
Respondent Approval of FP						
Approves	14.7	13.6	1.1	10.8	11.2	-0.4
Disapproves	13.3	12.8	0.5	13	7.2	5.8
Don't Know	16.7	11.9	4.8	4.9	12.7	-7.8
χ^2 statistic	*1.119*	*0.594*		*7.76*	10.13	
ρ value	*0.572*	*0.756*		*0.021*	0.1	
Spousal Discussion about FP						
More often	13.8	13.1	0.7	9.5	9.7	-0.2
Once/twice	16.8	15	1.8	11.1	12.2	-1.1
Never	17.7	12.3	5.4	11.6	9.7	1.9
χ^2 statistic	*9.3*	*5.33*		*3.54*	6.63	
ρ value	*0.009*	*0.068*		*0.171*	0.037	

Table 1 continues

Ethnicity						
Kikuyu	9.2	12	-2.8	6.3	11.6	-5.3
Kamba	10.6	19.3	-8.7	11.9	19.2	-7.3
Kalenjin	20.7	-	20.7	12.5	-	12.5
Kisii	11.4	6.5	4.9	8	6.2	1.8
Luhya	21.2	8.7	12.5	12.5	7.6	4.9
Luo	19.4	18.2	1.2	13.9	18.2	-4.3
Other	15.8	15.5	0.3	9.7	14.8	-5.1
χ^2 statistic	*72.64*	*87.37*		*30.67*	67.09	
ρ value	*0.000*	*0.000*		*0.000*	0.000	
Educational Attainment						
Sec comp. +	9.8	5.2	4.6	6.4	11	-4.6
Prim Incomplete.	21.2	20.5	0.7	12.6	20.4	-7.8
Prim complete.	16	12.8	3.2	9.5	13.1	-3.6
sec incomplete.	14.2	10.4	3.8	6.5	9.9	-3.4
None	12.5	11.1	1.4	15.9	5.5	10.4
χ^2 statistic	*59.93*	*112.28*		*51.05*	108.089	
ρ value	*0.000*	*0.000*		*0.000*	0.000	
No. of Living Children						
0	9.7	9.4	0.3	0.3	9	-8.7
1-2	20.7	19.4	1.3	3.8	17.7	-13.9
3-5	17.5	11	6.5	11.2	11.1	0.1
6+	9	9.5	-0.5	22.7	9.4	13.3
χ^2 statistic	*74.96*	*70.31*		*270.01*	*49.73*	
ρ value	*0.000*	*0.000*		*0.000*	*0.000*	
TOTAL	**16.0**	**13.4**	**2.6**	**10.7**	**10.6**	**0.1**

Source: Authors' primary analyses of the 1998 and 2003 KDHS

The table also shows that the greatest increase in unmet need for limiting was observed among Nairobi, Coast, Nyanza and Rift Valley provinces, among those who did not know whether their husbands approved of family planning, among spouses who discussed family planning, and among respondents who had 1-2 number of living children.

Generally, bivariate results from the Table above reveal that the age of the woman, the level of education, type of place of residence, province, husband approval of family planning and ethnicity were significantly associated with unmet need for contraception to space and to limit (ρ-value<0.05). However, while respondents' own approval of family planning was associated with unmet need to space for the five years preceding 2003, it was not significantly associated with unmet need to space for the five years preceding 1998 and unmet need to space and to limit for the five years preceding 2003 (ρ-value>0.05). Equally, spousal communication about family planning was not significantly associated with unmet need for limiting for the five years preceding 1998 and spacing for the five years prior to

2003 (ρ-value>0.05) but was significantly associated with unmet need for spacing for the period 1994-1998 and limiting for the period 1999-2003 (ρ-value<0.05).

The age of the woman was found to be negatively associated with unmet need for spacing but positively associated with unmet need for limiting in both study periods. The level of unmet need for spacing appeared to peak at 1-2 number of living children and decreases thereafter while the level of unmet need for limiting increased monotonically with the number of living children.

The table also shows that women with incomplete level of primary schooling exhibited the highest level of unmet need for spacing for both periods. Generally, the levels of unmet need for spacing and limiting tended to decrease gradually after primary incomplete level of schooling. Thus incomplete primary level of schooling seemed to be the threshold level beyond which, unmet need for spacing and limiting tended to decrease monotonically with education.

As expected, rural women generally exhibited higher levels of unmet need for spacing and limiting as compared to their urban counterparts in both periods (Table 1). This could be due to the fact that urban residence offers greater access to family planning and related services as compared to rural areas (Dodoo, 1998). Except for spacing in 2003, there appears to be an apparent insignificant association between women's approval of family planning and each of the three components of unmet need for contraception examined under this study (see p-value >0.05). In our multivariate analyses we therefore excluded this variable.

1.4.2 Multivariate analyses of the Correlates of Unmet Need for Spacing

Table 2 shows the correlates of unmet need for contraception to space. According to this model, age of the mother, the number of living children, husband approval of family planning, and province of residence are associated with the odds of experiencing unmet need for spacing for both the five years preceding the 1998 and 2003 periods. In addition to these factors, respondent's education, spousal discussion about family planning and ethnicity appear to be additional factors explaining the odds of experiencing unmet need for spacing for the five years prior to the 2003 period but not for the five years prior to 1998. For instance, as compared to women who have no living child, those with 3-5 children were 6.5 times more likely to experience unmet need for spacing in 1998.

Table 2: odds of experiencing unmet need for spacing by selected characteristics, KDHS 1998 & 2003

CHARACTERISTIC	Odds Ratio- Spacing 1998	2003
Age		
15-19 (Ref)	*1.000*	*1.000*
20-24	0.770	0.805
25-29	0.408*	0.366*
30-34	0.188*	0.249*
35-39	0.940*	0.112*
40-44	0.380*	0.038*
45-49	0.007*	0.007*
Region		
Central (Ref)	*1.000*	*1.000*
Nairobi	1.989*	2.267*
Coast	3.175*	1.973*
Eastern	1.690*	1.339
Nyanza	2.478*	2.528*
Rift Valley	3.028*	1.338
Western	4.036*	1.537
Place of Residence		
Urban (Ref)	*1.000*	*1.000*
Rural	1.628*	1.395*
Husband Approval of FP		
Approves (Ref)	*1.000*	*1.000*
Disapproves	1.731*	2.210*
Don't Know	1.799*	2.081*
Spousal Discussion about FP		
More often (Ref)	*n/a*	*1.000*
Once/twice	*n/a*	1.001*
Never	*n/a*	0.713
Ethnicity		
Kikuyu (Ref)	*n/a*	*1.000*
Kamba	*n/a*	1.501
Kalenjin	*n/a*	0.000
Kisii	*n/a*	0.751
Luhya	*n/a*	0.468*
Luo	*n/a*	1.481
Other	*n/a*	1.007
Educational Attainment		
Sec comp. + (Ref)	*n/a*	*1.000*
Prim Incomp.	*n/a*	1.917*
Prim comp.	*n/a*	1.585*
sec incomp.	*n/a*	1.220
None	*n/a*	1.199
No. of Living Children		
0 (Ref)	*1.000*	*1.000*
1-2	3.535*	3.139*
3-5	6.585*	4.051*
6+	8.182*	7.328*
Constant	***-3.53***	***-3.345***
2 log likelihood	***3492.100***	***2679.400***
Model Chi-Square	***580.4***	***557.0***
Overall % correctly predicted	***84.3***	***86.8***

*Notes: * Significant at 5 per cent level (<0.05) based on the Wald Statistic. n/a = not applicable implying that the variable was not significantly associated with unmet need.*

Source: Authors' primary analyses of the 1998 and 2003 KDHS

In addition, as compared to women in Central Province, women in Western Province are 4 times more likely to have unmet need for spacing in 1998 and 1.5 times more likely to have unmet need in 2003. As compared to women with secondary education and above, those with incomplete level of primary schooling were two times more likely to experience unmet need for spacing in 2003.

On the overall, the models estimate unmet need for spacing well given the fact that the overall p-value is 0.0000 (not shown) and that 84.3% and 86.8% of the respondents with or without unmet need for spacing are correctly predicted in the 1998 and 2003 surveys.

1.4.3 Correlates of unmet need for limiting

Table 3 shows that the respondents' age, number of living children, educational level, and husband approval of family planning were all significantly associated with unmet need for limiting further childbearing in 1998 and 2003. In addition, spousal communication about family planning was significant for the 1998 and not in 2003 while ethnicity was a predictor variable for limiting in 2003 but not in 1998.

Interestingly, although age was included as a determinant of limiting in 1998, as compared to women aged 15-19 years, none of the dummies for age were significantly associated with unmet need for limiting. As a matter of fact, apart from women aged 45-49 years, the rest were associated with a reduced risk of experiencing unmet need for limiting as compared to women aged 15-19 years. On the other hand, relative to women who had no children, those who had at least one living child were associated with a reduced risk of experiencing unmet need. For instance, as compared to having no living child at all, having 1-2 living children was associated with a 21% reduced risk of experiencing unmet need to limit in 1998. On the other hand, as compared to those who had no living children, having 3-5 or 6 and more living children was associated with a respective increased risk of 16 and 39 times of experiencing unmet need to limit in 2003 and this association was statistically significant (ρ-value<0.05).

Table 3: odds of experiencing unmet need for Limiting births by selected characteristics, KDHS 1998 & 2003

CHARACTERISTIC	Odds Ratio- Limiting 1998	2003
Age		
15-19 (Ref)	*1.000*	*1.000*
20-24	0.875	2.517*
25-29	0.648	1.595
30-34	0.695	2.305
35-39	0.584	2.390*
40-44	0.782	2.042*
45-49	2.064	1.295
Husband Approval of FP		
Approves (Ref)	*1.000*	*1.000*
Disapproves	0.648*	1.732*
Don't Know	0.983	2.239*
Spousal Discussion about FP		
More often (Ref)	*n/a*	*1.000*
Once/twice	*n/a*	1.127
Never	*n/a*	0.743*
Ethnicity		
Kikuyu (Ref)	*1.000*	*n/a*
Kamba	0.542*	*n/a*
Kalenjin	0.717	*n/a*
Kisii	1.089	*n/a*
Luhya	0.575*	*n/a*
Luo	0.438*	*n/a*
Other	0.797	*n/a*
Educational Attainment		
Sec comp. + (Ref)	*1.000*	*1.000*
Prim Incomplete.	0.717	2.851*
Prim complete.	0.927	2.838*
sec incomplete.	1.475	1.867*
None	0.658*	1.806*
No. of Living Children		
0 (Ref)	*1.000*	*1.000*
1-2	0.079*	3.24
3-5	0.027*	16.102*
6+	0.011*	38.902*
Constant	***6.682***	***-6.496***
2 log likelihood	***2756.400***	***2264.600***
Model Chi-Square	***394.5***	***381.9***
Overall % correctly predicted	***89.3***	***90.1***

Notes: Significant at 5 per cent level (<0.05) based on the Wald Statistic. n/a = not applicable implying that the variable was not significantly associated with unmet need.

Source: Authors' primary analyses of the 1998 and 2003 KDHS

Similarly, women whose husbands disapproved of family planning during 1998 experienced a 36% reduced risk of experiencing the odds of unmet need to limit as compared to women whose husbands

approved family planning. However, in 2003, women whose husbands disapproved of family planning had 73% increased risk of experiencing unmet need to limit as compared to women whose husbands approved family planning and this association was statistically significant (ρ-value<0.05).

The table reveals that as compared to spouses who discussed about family planning more often, those who never held such discussions were associated with a 26% reduced risk of experiencing unmet need to limit births and this association was statistically significant (ρ-value<0.05).

With regard to ethnicity, being Luo, Kamba, and Luhya are significantly associated with reduced risk of experiencing the odds of unmet need for limiting as compared to being Kikuyu in 1998. However, as compared to being a Kikuyu, being a Kisii is associated with almost a 9% increased risk of having unmet need for limiting though the association is not statistically significant (ρ-value>0.05).

Finally, as compared to having complete secondary education and above, all other dummies of education were associated with a reduced risk of experiencing unmet need for limiting in 1998 except having incomplete secondary schooling (exp β = 1.475). However, in 2003, all the dummies for education were significantly associated with odds of experiencing unmet need to limit when compared to women with complete secondary education and above.

1.4.4. Correlates of total unmet need for contraception

The results of the analysis on the total unmet need for contraception are presented in Table 4. These results indicate that the age of the mother, the number of living children, ethnicity, educational attainment, province, and husband approval of family planning were associated with total unmet need for contraception in 1998 and 2003. In addition, spousal communication was only associated with total unmet need in 2003 alone. For instance, compared to spouses who discussed about family planning more often, those who discussed only once or twice were 8% at an increased risk of experiencing unmet need.

Generally, the odds of having total unmet need increase with the age of the woman in 1998 and the inverse is true for 2003. For instance, as compared to respondents in the 15-19 ages, those in the 40-44 and 45-49 age groups were 8 and 25 times at an increased risk of experiencing total unmet need in 1998.

Table 4: Odds of experiencing total unmet need by selected characteristics, KDHS 1998 & 2003

	Odds Ratio-Total Unmet Need	
CHARACTERISTIC	**1998**	**2003**
Age		
15-19 (Ref)	*1.000*	*1.000*
20-24	1.201	0.897
25-29	1.894*	0.388
30-34	3.508*	0.356
35-39	4.579*	0.241
40-44	7.882*	0.154
45-49	25.046*	0.082
Region		
Central (Ref)	*1.000*	*1.000*
Nairobi	0.847	1.546*
Coast	0.390*	1.928*
Eastern	0.545*	1.467
Nyanza	0.450*	2.786*
Rift Valley	0.433*	1.517*
Western	0.370*	1.586
Husband Approval of FP		
Approves (Ref)	*1.000*	*1.000*
Disapproves	0.587*	2.200*
Don't Know	0.693*	2.383*
Spousal Discussion about FP		
More often (Ref)	*n/a*	*1.000*
Once/twice	n/a	1.083*
Never	n/a	0.705
Ethnicity		
Kikuyu (Ref)	*1.000*	*1.000*
Kamba	0.977	1.183
Kalenjin	0.939	0.126*
Kisii	1.639*	0.777
Luhya	0.791	0.487*
Luo	0.701	1.226
Other	1.119	0.804
Educational Attainment		
Sec comp. + (Ref)	*1.000*	*1.000*
Prim Incomp.	0.614*	2.447*
Prim comp.	0.755*	2.139*
sec incomp.	1.05	1.445*
None	0.611*	1.457*
No. of Living Children		
0 (Ref)	*1.000*	*1.000*
1-2	0.238*	3.393*
3-5	0.100*	7.597*
6+	0.046*	19.684*
Constant	***3.338***	***-3.243***
2 log likelihood	***4762.2***	***3846.7***
Model Chi-Square	***609.6***	***611.56***
Overall % correctly predicted	***74.5***	***77.5***

Notes: Significant at 5 per cent level (<0.05) based on the Wald Statistic
Source: Authors' primary analyses of the 1998 and 2003 KDHS

On the other hand, as compared to women aged 15-19, all the dummies for age are associated with a reduced risk of experiencing unmet need in 2003. For instance, being aged 20-24 was associated with an 11% reduced risk of having total unmet need as compared to our reference category.

Likewise, as compared to Central province, all the other provinces were associated with increased odds of experiencing total unmet need in 2003 and the inverse was true for 1998. for instance, while living in the Coastal province was associated with a 61% reduced risk of experiencing total unmet need as compared to living in Central province in 1998, it was associated with a 92% increased risk of experiencing total unmet need in 2003 and both of these associations were statistically significant (ρ-value>0.05).

Similarly, as compared to women whose husbands approved of family planning use, those whose husbands disapproved or did not know about their husbands' approval of family planning were 2.2 and 2.4 times at increased risk of experiencing unmet need in 2003 and the inverse was true for 1998 respectively.

Contrasting women with no living children, the rest were significantly at an increased risk of experiencing total unmet need for contraception in 2003. For instance, having 3-5 and 6 and above living children was associated with almost 8 and 20 times increased risk of experiencing total unmet need for contraception as compared to women who had no living children. However, as compared to women with no children, those who had were significantly at a reduced risk of experiencing total unmet need in 1998.

Looking at ethnicity, being Kisii is the only dummy that was significantly associated with an increased risk of experiencing the odds of total unmet need as compared to being Kikuyu in 1998 (exp $\beta = 1.64$). However, as compared to being a Kikuyu, being Luo or Kamba were the only dummies that were associated with an increased risk of experiencing total unmet need though this association was not statistically significant (ρ-value>0.05).

The table above also shows that as compared to women with complete secondary education and above, those with less were at a reduced risk of experiencing total unmet need in 1998 except those with incomplete secondary schooling (exp $\beta = 1.05$). However, for 2003, all the dummies for education were

consistently and significantly associated with a heightened risk of having total unmet need as compared to our reference category.

In general, the models are adequate in explaining total unmet need for contraception. This is because the standard error is below 0.5 and 74.5% and 77.5% of women included in the model for 1998 and 2003 respectively had their total unmet need status correctly predicted.

1.5. Conclusion

This study sought to establish trends, patterns and correlates of unmet need for contraception among currently married women in Kenya. The data drawn from the 1998 and 2003 Kenya Demographic and Health Surveys were used to achieve this objective. The results revealed only a marginal drop in the total levels of unmet need for contraception (26.8 per cent in 1998 and 24.0 per cent in 2003). The unmet need for contraception to space was 16.0 per cent and 13.4 per cent in 1998 and 2003 respectively while that to limit further childbearing was 10.7 per cent and 10.6 per cent in 1998 and 2003 respectively. Evidently most of the decline was observed among women who were in need for spacing while the levels seem to have remained unchanged among women in need for limiting births.

The age of the woman, number of living children, educational level, the type of place of residence, province of residence, partner's/husband's approval of family planning, spousal communication about family planning and ethnicity were found to be important explanatory variables for most components of unmet need for contraception. Findings revealed that unmet need for spacing exceeds that of limiting. There is therefore the need for family planning providers to intensify promotion pf temporary methods of family planning such as the pill, injectibles, IUD, foam/jelly/diaphragm and condom. This is critical given that a sizeable proportion of women who wish to limit their fertility use temporary contraceptive methods (Bongaarts and Bruce, 1995).

Information on the full range of available family planning methods should be provided to women so that they can choose the method that best matches their individual circumstances and fertility preferences. Similarly, women should be enabled to switch methods with ease whenever they need to do so. This will require widening the range of family planning methods available and provided in most service delivery points in the country. At the same time, women who are postpartum, breastfeeding, or approaching menopause should be provided with information about their likelihood of becoming pregnant and on the

most appropriate family planning methods for them.

Husband approval was an important factor in explaining all the three models of unmet need for contraception that were fitted in this study. In Kenya just like in the rest of sub Saharan Africa where reproductive decision making power often skew away from women (Dodoo and Landewijk, 1998), it is not surprising that husband approval appears to be significantly associated with all the three components of unmet need for contraception. There is therefore an urgent need for promotion of spousal communication especially by use of Information, Education, Communication (IEC) campaigns as well as behaviour change and communication (BCC) strategies. The use of these strategies is particularly important given the fact that spousal discussion can still occur in the absence of verbal communication (Dodoo et al., 2001). In doing so, emphasis should be placed on involving men in family planning programs since they are household decision makers on reproductive behaviour among other issues.

Significant variations in unmet need for contraception by place of residence and province were also evident. There is therefore need to increase service delivery points (SDP's) especially where they are lacking. These efforts could entail establishment of Community Based Delivery systems and improving the performance of some of the existing family planning delivery points. This would increase accessibility, availability of effective contraceptive services to women with unmet need. Similarly, the performance of existing contraceptive delivery outlets, especially public health facilities, should also be improved.

Finally, in terms of research, the measure of unmet need requires further refinement for the Kenyan case especially given the recent evidence that less that 50 percent of the women who were not sure whether they want any more children ended up having children (Becker and Sutradhar 2007) and thus it seems erroneous to classify all those who are uncertain of their fertility desires as having unmet need to space as is the case with the current measure.

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