DETERMINANTS OF UNMET NEED FOR CONTRACEPTION TO SPACE AND LIMIT BIRTHS AMONG VARIOUS GROUPS OF CURRENTLY MARRIED WOMEN IN UGANDA

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Abstract:
Introduction: In Uganda, fertility remains high at 6.2 births per woman (UDHS, 2011) and is currently stalling. Contraceptive use is low and women have an unmet need for family planning.
The unmet need for family planning is defined as the proportion of married women or those living in consensual unions of reproductive age, presumed to be sexually active, but are not using any method of contraception. These women would either like to postpone the next pregnancy (unmet need for spacing), or do not want any more children (unmet need for limiting), (Westoff 1988). In other words, the concept of unmet need for family planning refers to the discrepancy between individuals' contraceptive use and their stated fertility intentions.
Objective: The study examines the levels of unmet need for contraception in Uganda among various groups of currently married and cohabiting women as well as the determinants of unmet need for contraception among these Ugandan women of ages 15-49 years.
Method: The study uses data from the 2011 Uganda Demographic and Health Survey (UDHS). The data were filtered to yield 5418 women of age 15-49 years old who are currently married or cohabiting. Data analyses were conducted using the statistical software package SPSS. Analyses were done in three-fold to include univariate descriptive statistics, bivariate relationships and multivariate analysis.
Result: Women's age is very significant in determining unmet need particularly for spacing births (OR=0.873, $p<0.01$). Women with low autonomy are more likely to have had higher unmet need for family planning than women with medium or high autonomy. The odds of having unmet need for spacing and limiting births increase as the number of living children increases. Richest women were about 42% ($p<0.01$) less likely to have unmet need compared to the poorest women. Women who knew only traditional methods of contraception were 97% more likely to have unmet need for spacing births compared to women who did not know any method.
Conclusion: There is need to improve women's knowledge and access to modern methods of contraception. Lack of knowledge on the modern methods of contraception could explain the high unmet need among currently married women in Uganda. There is also need to provide income generating activities to currently married women in a bid to increase their disposable income which would make them access and utilize family planning services. The strategies could help to bring the high fertility levels down.

Key Words: Unmet need, contraception, Married women, Uganda

Introduction

The indicator unmet need for contraception is defined as the proportion of currently married women who do not want any more children but are not using any form of family planning (unmet need for contraception for limiting) or currently married women who want to postpone their next birth but are not using any form of family planning (unmet need for contraception for spacing) (Westoff, 1988). In other words, the concept of unmet need for family planning refers to the discrepancy between individuals' contraceptive use and their stated fertility intentions.

It is estimated that 41% of all pregnancies globally are unintended and 39% occur in Africa. The level of unmet need is particularly prevalent in sub-Saharan Africa (Ross and Winfrey 2002), where the ratio is nearly one in four (UNFPA 2004). In contrast, in the rest of the developing world,

less than one in seven of all married women are considered to be potentially at risk of unwanted pregnancy or have an unmet need for contraception (Maki 2007).

In practice, however, some women fail to use contraception and are at risk of having mistimed or unwanted births, induced abortion, or maternal death (Sedgh et al. 2007). Unmet need for contraception is one of several frequently used indicators for monitoring of family planning programs, and was recently added to the Millennium Development Goal (MDG) of improving maternal health (Bernstein and Edouard 2007). Some other indicators that are used in combination with unmet need are the contraceptive prevalence rate (CPR), the method mix, sources of contraceptive supplies, and reasons for not using contraception. Women who are using contraceptives are said to have a met need for family planning. Thus, the elimination of unmet need would significantly reduce fertility and improve maternal and child health (Sinding et al. 1994; Westoff and Bankole 1995). In addition, meeting women's unmet need offers a host of health and socio-economic benefits. For instance, family planning can assure the wellbeing of mothers and women by preventing unwanted pregnancies (Sedgh et al. 2007). It can reduce maternal mortality by reducing the number of pregnancies, the number of abortions, and the proportion of births at risk (UNFPA, 2008).

Uganda has the highest unmet need for contraception in East Africa but lacks the resources. According to the 2011 Uganda Demographic and Health Survey, about 30% of currently married women are using some method of contraception. The government sector remains the major provider of contraceptive methods for nearly half of the users of modern contraceptive methods (47 percent), UDHS, 2011. Uganda's health sector strategic plan for 2010-2015 addresses its policy on the procurement and distribution of contraception to all males and females but specially focuses on adolescents. Surprisingly, young people face refusal or restrictions when they request contraceptives from providers. Nearly one-third of the providers said that they will not supply contraceptives to individuals who are younger than 18, unmarried, still in school, and those without children, although the policy guidelines of Uganda have no such requirements. Therefore, the unwillingness to provide contraceptives due to cultural or individual biases illustrate the urgency of prioritizing young people's contraceptive needs.

In Uganda, where desired family size has been declining and couples want to space or limit the number of children they have, the unmet need frequently increases yet information on contraceptive methods, or where to obtain them is incomplete, or family planning services do not cover the entire population. However, this is somehow different for countries such as Zimbabwe, Namibia whose declining desired family size is in line with a decline in unmet need. Thus in such countries, respective governments have been able to improve supply of contraceptives and improve information on method availability and safety leading to an increase in contraceptive use and a decline in unmet need.

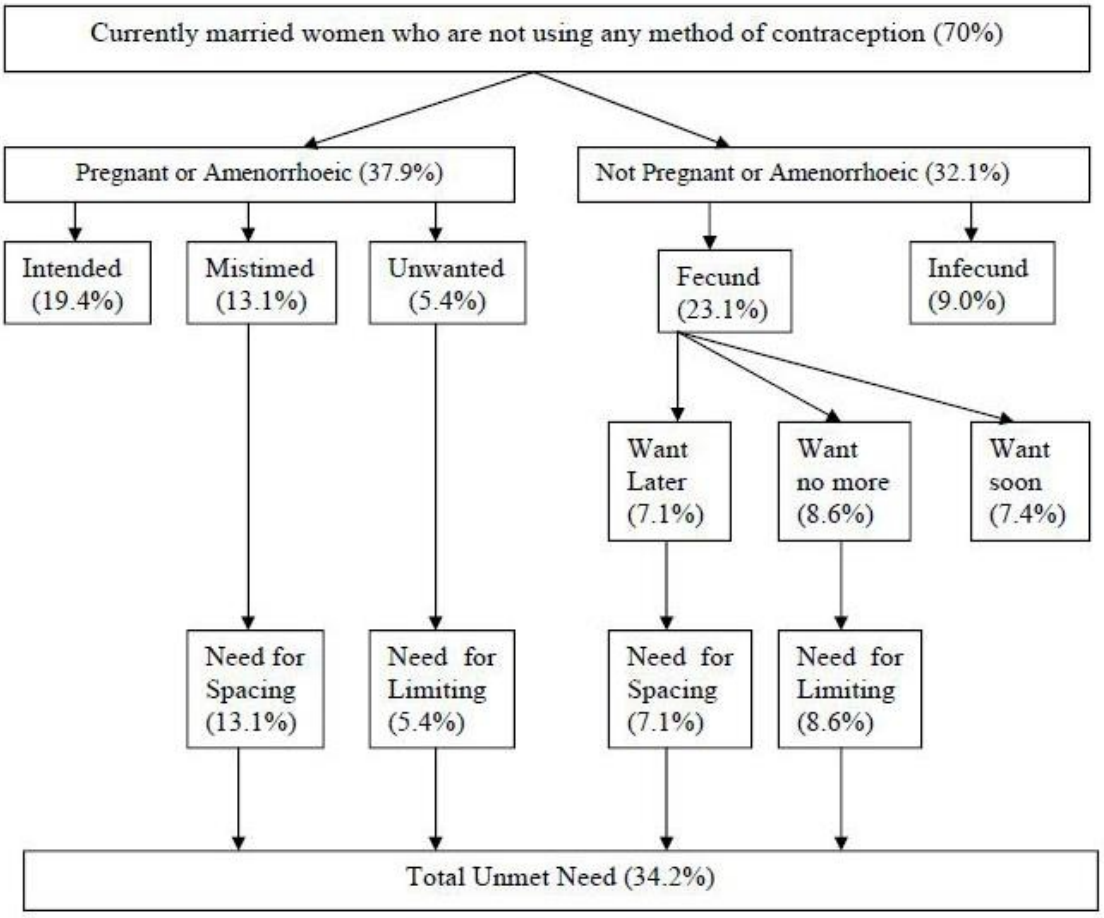
Results from the UDHS, 2011, show that the use of modern methods of family planning has consistently increased over the past decade, growing from 14 percent of currently married women in 2000-01 (excluding LAM) to 26 percent in 2011. About one-third (34 percent) of currently married women have an unmet need for family planning services, with 21 percent in need of spacing and 14 percent in need of limiting births. The government's target in the Health Sector Strategic and Investment Plan is to reduce the unmet need for family planning in Uganda to 20 percent by 2015. However, there is a slight decline in unmet need for family planning from 38 percent in 2006 (UDHS, 2006) to 34 percent in 2011 (UDHS, 2011). Important to note is the fact that the unmet need for Uganda in the year 2000-01, was 35 percent (UDHS, 2001). One would expect it to decline further but it rather increased slightly in the year 2006. This trend therefore makes it hard to be certain about whether the unmet need will further decline thereafter. In addition, the high unmet need in Uganda may contribute to the high fertility levels in Uganda. It is therefore a challenge to the government of Uganda to come up with measures to improve supply of contraceptives as well as information on contraceptive availability.

Measurement of unmet need.

Unmet need for contraception is generally measured using data obtained from married women of reproductive age group 15-49 years. The information used to calculate unmet need is from these sexually active married women who are not using any contraception and thus have a need to limit or space their births. A woman is first asked whether she is using any method of contraception, whether

for the purpose of limiting or spacing births. If she is using contraception, including traditional methods, she is considered not to have unmet need for contraception. Women who are not using contraception are then asked whether they are pregnant or amenorrheic (not menstruating, often due to a recent pregnancy or lactation). In the calculation of unmet need, pregnant or amenorrheic women whose pregnancy was mistimed or unwanted are added to the proportion with unmet need, even though they do not at the time of the survey have an immediate need for contraception, given their pregnancy. Women who are not pregnant or amenorrheic and are infecund do not have unmet need, nor do women who want to become pregnant soon. Note that the measurement of unmet need does not include an assessment of whether women want or intend to use contraception. Therefore the variable used in this study is definition 3 from the UDHS data set which measures unmet need for contraception. The chart below shows that the unmet need for contraception for currently married women in Uganda is 34.2%

Figure 1: Categories of unmet need among currently married women aged 15-49 years of Uganda, 2011



Source: Based on Westoff C.F and L. H. Ochoa (1991)

Data and Methodology

The study uses data from the 2011 Uganda Demographic and Health Survey (UDHS). The data are filtered to yield 5418 women between ages 15 and 49 who are currently married or living together in consensual unions. For this study, both currently married women and women who reported to be living with their partners will be referred to as married women. Data were analyzed using the statistical software package SPSS.

Analysis was undertaken in three ways to include univariate, bivariate and multivariate analyses.

The univariate level of analysis includes descriptive statistics of the variables used in the study. The bivariate level of analysis consists of cross tabulations to determine the variation between the independent variables and unmet need for contraception. Finally, multivariate analysis includes two logistic regression models, one with unmet need for spacing as the dependent variable, and the other with unmet need for limiting as the dependent variable.

The Independent Variable

The independent variables include demographic variables (age of women and number of living children), socio-economic factors (wealth index, women's autonomy, women's educational attainment, place of residence, and region of residence, respondent currently working and knowledge of any contraceptive method). All selected variables have been significantly associated with unmet need in other studies. (See Westoff et al., 1995).

The Intermediate Variable

Previous studies have documented the effects of five aspects of women's autonomy on various reproductive health-related outcomes (Bloom et al. 2001; Jejeebhoy and Sathar 2001; Ghuman 2003; as cited in Woldemicael , 2011).

The intermediate variable for this study is the women's decision making autonomy in a home. Having the final say in the decision making processes is the highest degree of autonomy. As other studies indicate, the decision-making process, the type of decisions a person makes, and the person who makes the decisions, are important factors which can affect family processes. Thus, for this study, women's decision making is measured using five decision-making aspects. Questions asked in the survey included; a) Who usually decides how to spend respondent's earnings? b) Who usually decides on respondent's health care? c) Who usually decides on large household purchases? d) Who usually decides on visits to family or relatives? e) Who usually decides what to do with money husband earns? To all of these questions the responses are respondent, spouse/partner, respondent and spouse/partner jointly or someone else. A composite variable was computed from these five decision making aspects to measure autonomy. Respondents who mentioned that they or their spouse/partner jointly made any of the decisions were coded as 1, those who mentioned spouse or partner only or someone else were coded as 0. Results for the five decisions were summed and the autonomy variable with scores ranging from 0 to 5 was obtained. This variable was then categorised as low autonomy (0-1), medium autonomy (2-3) and high autonomy (4-5). It is inferred that if a woman has autonomy in any of these decisions then she has autonomy in the child bearing sphere as well.

Results

The largest proportion of currently married women were in the age group 25-29 accounting for 23.9% while the highest age group 45-49 had the least number of currently married women (6.7%). Respondents with no child comprised of the least proportion of women (6.3%) while just over one-quarter of women had children. The richest category had the highest proportion of women accounting for 22.4% while the richer category had the lowest proportion of women. Half of the respondents had incomplete primary educational attainment while those with higher educational attainment constituted the lowest proportion of currently married women (4.4%). Three-quarters of the women reported to be currently working. Results also show that rural areas had the highest number of currently married women, close to four-fifths. Central one, Central two, and East Central regions had almost the same proportions of women accounting for about 10%. The Eastern region had the highest proportion of women (15.9%) while the Karamoja region had the lowest proportion of women (4.0%). Finally, in terms of religious affiliation, Catholics had the highest proportion of respondents (41.4%) while other religions, comprising of Buddhism, Baptists, Greek Orthodox, Jehovah's Witnesses, Latter-day Saints (Mormons), and Presbyterians had the lowest proportion of respondents (1.4%).

Decision making and unmet need for contraception

Table 1 shows a relationship between decision making in a household and unmet needs for spacing and limiting. Results show that unmet need is strongly related to measures of the woman's

position within the household. Women with low autonomy are more likely to have had higher unmet need for spacing than women with medium or high autonomy. However, the reverse occurred for those who wanted to stop child bearing altogether. A higher proportion of women with high autonomy had an unmet need for limiting births than those with medium and low autonomy.

Further, responses from women about the final decision maker for the five decisions were also compiled. Table 1 indicates that unmet need for spacing was low in situations where the woman made a decision in a house and much higher in cases where the husband made a decision. However, similar to the autonomy variable, unmet need for limiting was lower when a husband makes a decision compared to when a woman makes a decision.

Table 1: Decision making and unmet need for contraception

Decision making	Percent unmet need	
	Unmet need for spacing	Unmet need for limiting
Women's autonomy		
Low	24.6	12.2
Medium	20.3	12.6
High	18.5	15.3
Decision Maker		
Respondent	25.9	24.9
Respondent and Husband	31.7	20.1
Husband	34.8	19.2
Someone else	38.8	22.8

Source: Computed from Uganda Demographic and Health Survey (UDHS), 2011
Note: The results corresponding to decision maker are based on multiple responses.

Unmet need for spacing and limiting births

Unmet need for spacing reduced with an increase in women's age. Women of age group (2024) had the highest unmet need for spacing (32.6%) while the women of older age group (45-49) had the lowest unmet need for spacing (0.3%). However, unmet need for limiting increased with an increase in the woman's age. Age group (15-19) had the lowest unmet need for limiting (0.5%) while age group had the highest unmet need for limiting (23.8%). The same trend followed with the number of living children a woman had. There was a very low unmet need for limiting births to women with no children (0.6%) while it was very high for women with more than 7 children (37.1%). Women with low autonomy had the highest unmet need for spacing births. The poorest had the highest unmet need for both spacing and limiting births, 26.1% and 16.3% respectively. Educational attainment did not really have an effect on unmet need for spacing. However, women with no education had the highest unmet need for limiting births (21.2%) while those with higher education had the lowest unmet need for limiting births (5.9%). Karamoja region had the lowest unmet need for spacing births (11.2%) while Kampala region had the lowest unmet need for limiting births (4.8%). Surprisingly, women with no knowledge of any contraceptive method had the lowest unmet need for spacing. Further to note is the fact that women with knowledge of only traditional methods did not have an unmet need for limiting births. Overall, results in Table 2 below show that age groups 15-19, had the highest proportion of currently married women with no unmet need compared to all other age groups. In addition, women in the poorest category with no education had the highest proportion of women with no unmet need in the survey. The same trend followed for women who did not have any living children and at the same time for those not currently working at the time of the survey. Significant variables in the model at this bivariate level are age, number of living children, women's autonomy, wealth index, educational attainment, region of residence and type of place of residence, respondent currently working.

Table 2: Unmet need for spacing and limiting births among currently married women by selected sociodemographic variables, Uganda 2011

Variables	Unmet need for Spacing and limiting births		Total unmet need	No unmet need
	spacing	Limiting		
Age**				
15-19	30.8	0.5	31.3	68.7
20-24	32.6	2.9	35.5	64.5
25-29	28.2	7.6	35.8	64.2
30-34	17.7	18.9	36.6	63.4
35-39	12.1	23.4	35.5	64.5
40-44	4.0	27.8	31.8	68.1
45-49	0.3	23.8	24.1	75.8
Number of living children**				
0	12.9	0.6	13.5	86.5
1-2	27.8	1.8	29.6	70.4
3-4	25.2	8.5	33.7	66.3
5-6	16.8	21.1	37.9	62.2
7+	9.6	37.1	46.7	53.3
Women's autonomy**				
Low	24.6	12.2	36.8	63.2
Medium	20.3	12.6	32.9	67.1
High	18.5	15.3	33.8	66.2
Wealth index**				
Poorest	26.1	16.3	42.4	57.7
Poorer	22.8	16.3	39.1	60.9
Middle	20.7	13.5	34.2	65.8
Richer	20.4	13.9	34.3	65.7
Richest	14.8	8.1	22.9	77.1
Educational attainment**				
No education	12.9	21.2	34.1	65.9
Incomplete primary	23.4	15.5	38.9	61.2
Complete primary	25.4	8.9	34.3	65.7
Incomplete secondary	19.4	6.4	25.8	74.2
Complete secondary	23.5	2.0	25.5	75.0
Higher	13.1	5.9	19.0	81.0
Type of place of residence**				
Urban	15.8	6.8	22.6	77.4
Rural	21.8	14.8	36.6	63.5
Respondent currently working**				
No	23.3	11.4	34.7	65.4
Yes	20.0	14.2	34.2	65.9
Region of residence**				
Kampala	12.1	4.8	16.9	83.2
Central 1	15.4	11.1	26.5	73.5
Central 2	22.3	13.1	35.4	64.6
East Central	24.7	17.2	41.9	58.1
Eastern	22.4	15.9	38.3	61.6
North	27.5	15.0	42.5	57.5
Karamoja	11.2	9.3	20.5	79.5
West-Nile	27.9	14.8	42.7	57.1
Western	18.3	12.1	30.4	69.6
Southwest	21.0	15.9	36.9	63.1
Knowledge of any method				
Knows no method	12.7	9.9	22.6	77.5
Knows only traditional method	20.0	0.0	20.0	80.0
Knows only modern method	20.9	13.6	34.5	65.6
Total	**19.6**	**12.6**	**32.2**	**67.8**

*Source: Computed from Uganda Demographic and Health Survey (UDHS), 2011; **p<0.05*

Table 3 below displays results from a multinomial logistic regression model. Results suggest that women's age is very significant in determining unmet need particularly for spacing births (OR=0.873, p<0.01). However, women's age was not significant in determining unmet need for limiting. Number of living children and wealth index of a woman were strong indicators of the likelihood of having unmet need for both spacing and limiting births. The odds of having unmet need for spacing and limiting births increase as the number of living children increases. This means that women with a higher number of living children (5-6 children) have a higher unmet need than women with no living children. Richest women were about 42% (p<0.01) less likely to have an unmet need compared to the poorest women. The poorer women were 31% less likely to have unmet need for spacing compared to the poorest women. Respondents who did not complete primary education were about 34% more likely to have an unmet need for spacing compared to women with no education. Although women's

autonomy was not significant in either of the models, results do show that women with high autonomy were 4% less likely to have an unmet need for spacing compared to women with low autonomy. Kampala, Central 1, Eastern, Karamoja, West Nile and Western, are the only regions in the country that were significant in the model. Worthy to note is the fact that Karamoja region had the lowest odds for unmet need. Women in Karamoja region were 68% ($p<0.01$) less likely to have unmet need for spacing births compared to women in the South West region. Likewise the same women were 62% ($p<0.01$) less likely to have unmet need for limiting births compared to women in the South West region.

Table 3: A Multinomial logistic regression model of some socio-demographic variables of currently married women and unmet need for contraception, Uganda 2011

Variables	Unmet need for spacing		Unmet need for limiting	
	β	Exp(β)	β	Exp(β)
Age	-0.135	0.873***	-0.007	0.993
Number of living children				
0	-2.625	0.072***	-4.930	0.007***
1-2	-1.171	0.310***	-3.312	0.036***
3-4	-0.600	0.549***	-1.703	0.182***
5-6	-0.242	0.785	-0.740	0.477***
7+ (RC)	0.000	1.000	0.000	1.000
Women's autonomy				
Low (RC)	0.000	1.000	0.000	1.000
Medium	-0.114	0.892	-0.163	0.850
High	-0.042	0.959	0.004	1.004
Wealth Index				
Poorest (RC)	0.000	1.000	0.000	1.000
Poorer	-0.373	0.688***	-0.130	0.878
Middle	-0.412	0.662***	-0.553	0.575***
Richer	-0.235	0.790*	-0.504	0.604***
Richest	-0.540	0.582***	-0.552	0.576***
Educational attainment				
No education (RC)	0.000	1.000	0.000	1.000
Incomplete primary	0.295	1.343**	0.036	1.037
Complete primary	0.340	1.405**	-0.247	0.781
Incomplete secondary	0.135	1.145	-0.250	0.779
Complete secondary	0.848	2.334**	-0.756	0.470
Higher	0.303	1.354	0.052	1.053
Type of place of residence				
Urban	-0.053	0.949	-0.009	0.991
Rural (RC)	0.000	1.000	0.000	1.000
Respondent currently working				
No (RC)	0.000	1.000	0.000	1.000
Yes	-0.041	0.960	-0.077	0.926
Region				
Kampala	-0.717	0.488***	-0.557	0.573*
Central 1	-0.589	0.555***	-0.477	0.621**
Central 2	-0.149	0.862	-0.137	0.872
East Central	-0.052	0.949	-0.004	0.996
Eastern	-0.323	0.724**	-0.203	0.816
North	0.066	1.068	-0.277	0.758
Karamoja	-1.146	0.318***	-0.979	0.376***
West Nile	0.285	1.329*	-0.156	0.856
Western	-0.357	0.700**	-0.364	0.695**
South West (RC)	0.000	1.000	0.000	1.000
Knowledge of any method				
Knows no method (RC)	0.000	1.000	0.000	1.000
Knows only traditional method	0.679	1.972	-19.518	3.338E-009
Knows only modern method	0.250	1.284	0.319	1.375

Source: Computed from Uganda Demographic and Health Survey (UDHS), 2011
Nagelkerke R Square=0.274; Chi-square ($\chi 2$)=1391.222; df=54; N=5418
*RC=Reference Category; *p<0.1; **p<0.05; ***p<0.01*
Note: The reference category is "No unmet need"

Discussion

Uganda is one of the countries in East Africa with the highest Total Fertility Rate (TFR) at 6.2 births per woman (UDHS, 2011). Low contraceptive use may contribute to the high fertility. Three in ten currently married women are using a method of contraception, with most women using a modern method (26 percent), (UDHS, 2011). Results reveal that unmet need for spacing reduced with an increase in women's age. Such a finding correlate with findings in Nortman (1982) and Westoff (1988) who both found a negative relationship between age and unmet need for contraception. Women in rural areas had higher proportions of unmet need for contraception compared with women in urban areas as was observed by Westoff and Pebly (1981) and Westoff (1988). This could probably be due to easier access to health facilities and health providers for contraceptives, easy access to media and information, and the high cost of living in urban areas which motivates them to space or limit births. Results also show that women with a higher number of living children say 5-6 had a higher unmet need for contraception compared to women who had less number of living children. This is expected since those with fewer children would want to have more children because they may not have achieved their desired family size yet.

It can be therefore concluded from the analysis that the main strong factors responsible for likelihood of unmet need for contraception are, woman's age, number of living children and wealth index. The study further shows that unmet need is lower for the richest women. This finding suggests that wealth is important for utilization of family planning services, and concurs with other studies (Khan et al. 2008; Ojakaa 2008 as cited in Woldemicael and Beaujot, 2011) which show that women who are poorer tend to have a higher unmet need. There were higher proportions of unmet need among poorer women than the richest women. In addition, those who responded as currently working at the time of the survey had less proportions of women with unmet need for contraception compared to those who were not working. An implication is that a working mother would have better income which translates into her ability to afford contraception. Furthermore, women with more autonomy in the household had a lower unmet need for contraception. Based on the analysis, there is need to improve women's knowledge and access to modern methods of contraception. Lack of knowledge on the modern methods of contraception could explain the high unmet need among currently married women in Uganda. There is also need to provide income generating activities to currently married women in a bid to increase their disposable income which would make them access and utilize family planning services. These strategies could aid in bringing down the high fertility levels in Uganda.

Study Limitations

The main limitation of such a study lies in the definition used to measure unmet need. For this study, the definition used incorporates women who are not using any method of contraception but would want to space or limit births. However, this definition does not tell us whether these women would like to use contraceptives or not. For some who may not want to use contraceptives, argue that the contraceptives presently on market may pose side effects to their health. Such an argument introduces another concept of 'unmet demand' which has to be dealt with together with unmet need in future studies. Secondly, the study could not add more information about men apart from their role in decision making yet reproductive decisions are not made by women alone, but are dyadic in nature. Men have a major role they play in contraceptive usage with their spouses. Their decisions on this may influence unmet need, (see Dodoo et. al., 1998). I also recognize the limitation in measuring women's autonomy as the questions used to measure autonomy are not directly linked to reproduction but rather used as a proxy measure of autonomy in the child bearing sphere.

Acknowledgements

I gratefully acknowledge the William and Flora Hewlett Foundation for the funding extended to me through a fellowship. I am thankful to Professor S. K. Gaise for the support and guidance to carry out this study. I would also like to thank Ms. A. Biney for her mentorship and helping in the conceptualization of this work.

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