Factors Influencing Women's Intention to Limit Child Bearing in Malawi

Introduction

With a population of about 13 million in mid 2008, Malawi is one of the densely populated countries in Sub-Saharan Africa. The population is increasing at a rate of about 2.5% per annum while the fertility rate is still high with Total Fertility Rate (TFR) around 6.0 children per women (Malawi Government, 2006).

Like many other African countries, Malawi has so far shown little change in fertility. Up to mid 1980s fertility in Malawi was believed to be high and constant with TFR estimated to be 7.6 children per woman (Malawi Government, 1984, 1987). Though the actual date of on-set of fertility decline in Malawi is not known, it is estimated that TFR declined to 7.4 children per woman by 1987 and 6.4 children per woman in 1998 (Malawi Government, 19xx, 19xx, 19xx).

Apart from the high fertility, there exist large variations in fertility between rural and urban areas, regions and various ethnic and religious groups in Malawi. These differentials call for urgent attention among both researchers and policy and decision makers.

Available statistics indicate that fertility in rural Malawi is higher than in urban areas (6.0 versus 2.4), fertility is highest in the Central Region, followed by Northern Region and lowest in Southern Region and among the ethnic groups the Chewa and Sena exhibit high fertility whereas the Lomwe have low fertility levels (Palamuleni, 2009)

Demographic research has shown that socio-economic and cultural factors influence fertility through biological and behavioral mechanisms such as the use of contraception and marriage patterns which has a direct effect on fertility.

But contraceptive use, which plays the major role in influencing fertility, is very high in Malawi.

Contraceptive Prevalence Rate (CPR) in Malawi has increased from less than one percent in 1984 to 7%, 12%, 21% and 22% in 1992, 1996, 2000 and 2004, respectively (Malawi Government, 1987, 1994b, 1997, 2002, 2006). According to the 2007 Population Reference

Bureau Datasheet, Malawi, with an estimated contraceptive prevalence of 39%, has one of the highest contraceptive prevalence rates in Sub-Saharan Africa (Population Reference Bureau, 2007). The countries whose contraceptive prevalence rates are higher than that of Malawi are Mauritius (42), Lesotho (42), Namibia (43), Cape Verde (46), Zimbabwe (58) and South Africa (60).

Although contraceptive prevalence has increased tremendously during the past two decades, Total Fertility Rate (TFR) has not declined as much. A study commissioned by USAID noted the following "Although contraceptive use has increased more in Malawi and Zambia than in Ghana, it is in Ghana where the most significant decline in fertility has occurred".

In spite of high contraceptive prevalence, many women of reproductive age who want to stop or postpone child bearing are not able to do so; and hence there is a high unmet need for contraception in Malawi. Unmet need in Malawi has declined from 36% in 1992 to 30% in 2000 (Malawi Government, 19xx, 2002).

Changes in the demand for children and greater accessibility to contraception are important conditions for fertility transition (). The proportion of women who intend to limit child bearing is one of the most important conditions because it bears directly on population growth and designates a segment of the population that may be at risk of having an unwanted birth. This proportion of women of childbearing age who want no more children is also an important predictor of fertility levels and trends (). In the past few years, the proportion of women who desire to limit child bearing has been rising in Sub-Saharan Africa. Analysis of DHS data between 1990 and 2001 has shown that the proportion of women with the intention to limit child bearing ranged from a low of less than 10 percent in Niger and Chad to a high of 53 percent in Kenya in sub-Saharan Africa (18).

In Malawi, the proportion of women of childbearing age range (15-49) who desire to limit child bearing has increased from 29% in 1992 to 36% 2000 and 38% 2004 (Malawi Government, 199x, 2002, 2006). The increase in the proportion of women who desire to limit child bearing is also noticed by age and parity.

Figure 1: Percentage distribution of women by in five-year age grups who desire to limit child bearing in Malawi









The unmet need for family planning services in Malawi has declined from 36% in 1992 to 30% in 2000 ().

Furthermore, the 2000 MDHS also show that 38% of married women reported that they want no more children.

Previous research has shown that the fertility intentions of women are influenced by various demographic, socioeconomic and program factors(Westoff and Bankole, 1995, 1997, 2002; Zaky, 2004; Short and Kiros, 2002). Using DHS data, Westoff and Bankole (1995) demonstrated that fertility intentions of women vary with the age of women, number of living children, place of residence, education and exposure to media (). Fertility intentions are also shaped by couples' experiences with child mortality and their expectation about child survival conditions as well as their preferences for a single sex, usually son (). Other studies have identified knowledge, approval and use of family planning as important factors influencing fertility intentions (). In relation to knowledge and approval of family planning, many have posited that exposure to mass media, particularly those promoting family planning, is important in influencing fertility related behaviors of women ().

The analysis of fertility intentions is of fundamental importance for family planning program purposes and for population policy because it determines the demand for contraception and the potential impact on the rate of reproduction ().

The continuing high fertility rate in Malawi and related slow decline is of considerable concern among researchers and policy makers since the resulting high rate of population growth makes improvements in living standards difficult, if not impossible. Thus, understanding the factors which influence women's fertility intention is critical for countries like Malawi with a population policy aiming at reducing fertility. However, there has been no study so far to assess the factors that influence women's intention to limit childbearing in Malawi. The objective of this study is thus to identify factors that influence women's intention to limit childbearing in Malawi.

Data and Methods

Data

The study is based on the analysis of data obtained from the 2000 Demographic and Health surveys (Malawi Government, 2002). The DHS (now DHS+) program has conducted over 170 nationally representative surveys in about 70 countries throughout Africa, Asia, the Near East, Latin America, and the Caribbean. The DHS program is funded by USAID and implemented by Macro International, Inc. DHS typically have large sample sizes of between 5000 and 30,000 households. These surveys provide data for a wide range of monitoring and impact evaluation indicators in the areas of population, health, and nutrition.

The 2000 MDHS involved the use of three basic questionnaires. First, a questionnaire on households that recorded information on all household members. Second, a questionnaire on individual women that recorded detailed information on eligible women who were identified

from the household questionnaires. The 2000 MDHS collected data for 13220 women aged 15-49.

Total sample for this analysis comprises of 12197 women who reported that they either want to have more children or want no more children. Women who were declared in fecund or never had sex were removed from the analysis. The questionnaires on individuals collected information on the respondent's background characteristics, reproductive history, knowledge and practice of family planning, breast-feeding practices, marriage, fertility preferences etc., as well as on her husband's background characteristics. Third, a questionnaire for individual men aged 15-54 was administered and a total of 3092 men were interviewed in 2000. The male questionnaire was similar to that of the individual women questionnaire but excluded the birth history and maternal and child health sections. The analyses in this paper will use data from the individual women questionnaire only.

Variables

Dependent Variable

The dependent/outcome variable for this study is women's intention to limit childbearing. A dummy variable was created from the question of desire for more children. Desire for additional children refers to the proportion of women or couples of reproductive age who want to have a child or another child ().

The DHS asks whether a woman wants to have another child soon, after two years, or wants no more children. On the basis of responses to these questions, respondents are divided into two categories; those who 'desire to have more children' and those' desiring to limit childbearing'. The first category consists of those women who want a child within two years, after two years and those who want a child but were not sure of the timing. Those women who responded that they do not want any more children are considered as those with the 'intention to limit childbearing'. Women who reported that they are sterilized and declared infecund are excluded from the analysis.

Independent Variables

To explore the multi-factors associated with the desire for more children and based on the available data and literature review the study examine the following individual characteristics of women: age, education, marital status, number of living children, number of dead children, previous child death, age at marriage, knowledge of contraception, and practice of contraception

Independent variables included in the analysis include demographic and socio-economic factors. Demographic variables such as age, number and sex composition of living children, previous child death, age at marriage, knowledge of contraception, and practice of contraception are included.

Age of the respondent. Age of the respondent is measured as at the last birthday of the respondent at the time of the interview.

Region. The three categories of region are Northern Region, Central Region and Southern Region. Some region is referred to as North, Centre and South respectively. This variable is coded as "1" for North, "2" for Centre and "3" for South.

Type of place of residence. The two categories of place of residence are urban and rural areas. These are coded as "1" for urban areas and "2" for rural areas.

Highest educational level. For respondents' education, we have four categories as follows: 1 for no education, 2 for primary education, 3 for secondary education and 4 for higher education.

Religion. Religion is classified into three categories: Christians, Muslims and no religion. This variable is coded as "1" for Christians, "2" for Muslims and "3" no religion.

Ethnicity. The question asked about ethnicity in the DHS questionnaire was "what is your ethnic group/tribe?" and the following choices were provided: Chewa, Tumbuka, Lomwe, Tonga, Yao, Sena, Nkonde, Ngoni, Amanganja/Anyanja and others. However, in 2004 Amag'anja were not included in the list of choices. This variable was coded as "1" for Chewa, "2" for Tumbuka, "3" for Lomwe, "4" for Tonga, "5" for Yao, "6" for Sena, "7" for Nkonde, "8" for Ngoni, "9" for Amanganja/Anyanja and "10" others

Knowledge of any method. This variable is defined as whether or not a woman knows any method of preventing pregnancy and is coded as "0" for women who do not know a method and "1" for women who know a method.

Ever use of any method. We have used "ever use" of contraceptives as a measure of fertility limitation. This is simply the percent of women by ethnicity who said they used a modern method of contraception. This variable is classified as whether or not a woman has ever used any contraceptive method and is coded as "0" for never used and "2" for ever used.

Current marital status. Never married, currently married and formerly married (separated, divorced and widowed).

Parity is defined as the number of live births a woman has had to the date of the survey, which is the birth order of the child under study. The categories are women with only one child, with two, three, or four children, and women with five children or more.

Respondent working. The two categories of respondent's work status are "working" and "not working". These are coded as "1" for working and "2" for not working.

Media exposure

The index of media exposure was constructed from data on whether a woman listens to radio, watches television or reads newspapers and magazines with some frequency. The index ranges from none, indicating no exposure to any of these media, to 9 if a woman reports exposure to all the three media. Using a simple summation of frequency method the variable was coded as follows: 0 no exponsure, 1-2 low exponsure, 3-4 medium exposnure and above 5 high exponsure.

Wealth index

To measure household wealth, an index was created from household assets data: electricity, radio, TV, bicycle, motorbike and car. Each item was given a score and it was summed across items for each household. The score ranged from "0" indicating that household did not have any of the assets or amenities to "6" if the household had all of the above mentioned assets or amenities. Householl wealth status was ranked as poor (score 0-1); middle (score 2-3) and rich (score 4-6) based on the total score.

Methods

Three approaches were used in the analysis. Descriptive univariate analyses were performed to inspect the frequency distributions of the various factors. Bivariate analysis was employed to examine the relationships of the independent variables and age at first marriage. Chi-square test were used to assess the associations between independent variables with the outcome variable. The choice of explanatory variables was guided by review of the available literature. The variables were tested for statistical significance using chi-square tests and those variables that were significant in the bivariate setup (P<0.05) were included in the multivariate logistic regression. Logistic regression was used to examine the impact of social and economic factors on the desire for children in Malawi. The use of the logistic regression is based on the fact that the dependent variable is dichotomous (0=wants more children, 1=wants no more). The logistic regression model takes this form:

Logit $(p_i) = \ln [p_i / (1-p_i)] = a + b_i x_i$

With p_i being the probability that a woman desire to limit child bearing and $1 - p_i$ is the complement, a is the constant; b_i standing for the regression coefficient, x_i 's being the independent covariates and the ratio $[p_i/(1-p_i)]$ being the odds that a woman desires to limit child bearing. The data were analyzed using the SPSS version 12.

Results

Analysis of the fertility intentions of women shows that 16% of women wanted a child within two years, 34% of women wanted a child after two years (those wanting to space child birth), 1.6% wanted a child but are unsure about the timing, 1.7 are undecided and about 38% of women wanted no more child.



Figure 1: Fertility intentions of currently married women, Malawi 2000

Table 1 shows the basic individual characteristics of women who intend to limit child bearing.

The mean age of women who want more children is 26 years whereas the mean age of women who want no more children is 34 years. The age pattern reflects the general tendency for older women to limit childbearing than younger women.

Most women with intention to limit childbearing are older (ages 35-49), 802 (51.6%), have 4 or more living children 1126 (72.5%), have no formal education 1219(78.4%) and live in rural areas 1397 (89.9%).

Nearly 40% of the women who want no children have no exposure to any source of media.

Knowledge of family planning methods is almost universal among women who want no children. Almost all women who want no children (98.7%) know some form of family planning methods (Table 1). However, a high proportion (42%) have never used family planning services.

There were statistically significant differences between women who intend to limit childbearing and women who want more children in terms of age, number of living children, education, wealth, experiences of child death, exposure to media, and knowledge and use of family planning (P<0.05). A higher proportion of women who want more children are younger, have fewer children, are illiterate and live in rural areas (Table 1).

Table 1: Socio-demographic characteristics of women with the intention to limit childbearing in Malawi 2000

	Wants More				
Variables	Children	Wants no more	Number	Chi-square	p-value
Age Group					
15-19	89.1	10.9	2793	3002.0	0.0
20-24	80.3	19.7	2932		
25-29	66.8	33.2	2276		
30-34	47.1	52.9	1448		
35-39	37.4	62.6	1203		
40-44	22.6	77.4	828		
45-49	15.5	84.5	717		
Region of Residence					

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Yao 65.4 34.6 1759 Sena 77.1 22.9 428 Nkonde 71.5 28.5 414 Ngoni 58.0 42.0 1338 Amanganja/Anyanja 61.6 38.4 696 Other 70.9 29.1 460	Tonga	67.4	32.6	264		
Sena 77.1 22.9 428 Nkonde 71.5 28.5 414 Ngoni 58.0 42.0 1338 Amanganja/Anyanja 61.6 38.4 696 Other 70.9 29.1 460	Yao	65.4	34.6	1759		
Nkonde 71.5 28.5 414 Ngoni 58.0 42.0 1338 Amanganja/Anyanja 61.6 38.4 696 Other 70.9 29.1 460 Marital Status 6 6 6	Sena	77 1	22.9	428		
Ngoni 58.0 42.0 1338 Amanganja/Anyanja 61.6 38.4 696 Other 70.9 29.1 460 Marital Status 600 600 600	Nkonde	71.5	28.5	414		
Amanganja/Anyanja61.638.4696Other70.929.1460Marital Status	Ngoni	58.0	42 0	1338		
Other 70.9 29.1 460 Marital Status	Amanganja/Anvania	61.6	38.4	696		
Marital Status	Other	70.9	29.1	460		
	Marital Status					

Never married	89.7	10.3	2163	885.3	0.0
Currently married	60.5	39.5	8636		
Formerly married	44.9	55.1	1398		
Use of Family Planning					
Never Used	71.9	28.1	6872	443.1	0.0
Ever Used	53.5	46.5	5325		
Knowledge of Family Planning					
Knows no	81.7	18.3	438	62.7	0.0
Knows	63.2	36.8	11759		
Number of Living Children					
0	91.6	8.4	3120	3436.3	0.0
1-2	74.7	25.3	4498		
3-4	46.9	53.1	2582		
5-6	22.4	77.6	1437		
7+	7.3	92.7	560		
Total number of children					
0	92.3	7.7	2750	3447.4	0.0
1-2	78.6	21.4	3835		
3-4	57.1	42.9	2557		
5-6	35.0	65.0	1604		
7+	15.1	84.9	1451		
Total	63.9	36.1	12197		

Logistic regression

Logistic regression models were used to identify factors influencing the desire to limit childbearing. The regression result revealed that predictors of the desire to limit childbearing in Malawi are total number of children ever born, number of living children, ever use of family planning, age, region, place of residence, education and marital status.

The total number of children ever born is one of the variables that is strongly associated with the desire to limit childbearing. Women with no children are 0.20 times less likely to desire limiting childbearing than women with 7 or more children. Women with 1-2 children are 0.36 times less likely to desire limiting childbearing than women with 7 or more children. Women in with 3-4 children are 0.59 times less likely to desire limiting childbearing than women with 5-6 children are 0.76 times less likely to desire limiting childbearing than women with 7 or more children. Women in with 5-6 children are 0.76 times less likely to desire limiting childbearing than women with 7 or more children.

The number of living children is a variable that is strongly associated with the desire to limit childbearing. Women with a large number of living children are more likely to want to limit childbearing. Women with no children are 0.06 times less likely to desire limiting childbearing than women with 7 or more children. Women with 1-2 children are 0.14 times less likely to desire limiting childbearing than women with 7 or more children. Women with 7 or more children. Women in with 3-4 children are 0.26 times less likely to desire limiting childbearing than women with 7 or more children are 0.46 times less likely to desire limiting childbearing than women with 7 or more children. Women in with 5-6 children are 0.46 times less likely to desire limiting childbearing than women with 7 or more children.

Women who have never used family planning methods are 0.79 less likely than women who have used family planning to desire limiting childbearing.

The desire to limit childbearing is also significantly related with the age of the woman. Older women are more likely than younger women to desire limiting childbearing. Women belonging to age groups 15-19, 20-24, 25-29, 30-34, 35-39 and 40-44 are 0.17, 0.15, 0.17, 0.25, 0.30 and 0.57 times less likely to desire limiting childbearing than women in age group 45-49.

Region of residence is also significantly related to the desire to limit children. Women in Northern Region are 0.70 less likely than women in the Southern Region to desire limiting childbearing whereas women in the Central Region are 1.30 more likely than women in the Southern Region to desire limiting childbearing.

Place of residence is also significantly related to Women in residing in urban areas are 1.53 more likely than women residing in rural areas to desire limiting childbearing.

The desire to limit childbearing increases with educational level of women. The odds of the desire to limit child bearing increased as the level of education increased. Women with secondary education are 3.27 times more likely to desire limiting childbearing than women higher education. Women with primary education are 2.71 times more likely to desire

limiting childbearing than women higher education. Women with no education are 2.02 times more likely to desire limiting childbearing than women higher education.

Lastly women who are never married and are married are 0.70 and 0.47 times less likely to desire limiting childbearing than women who are formerly married.

Independent Variables	В	SE			Sig Oc	lds Ratio
Number of Children						
0	-1.60	0.25	41.56	1.00	0.00	0.20
1-2	-1.03	0.15	48.69	1.00	0.00	0.36
3-4	-0.53	0.12	18.45	1.00	0.00	0.59
5-6	-0.27	0.11	6.19	1.00	0.01	0.76
7+®						
Number of living children						
0	-2.75	0.26	108.59	1.00	0.00	0.06
1-2	-1.94	0.21	86.32	1.00	0.00	0.14
3-4	-1.35	0.20	46.41	1.00	0.00	0.26
5-6	-0.77	0.19	16.54	1.00	0.00	0.46
7+®						
Ever Use of FP						
Never Used FP	-0.23	0.05	21.21	1.00	0.00	0.79
Ever Used FP ®						
Age Group						
15-19	-1.78	0.16	130.60	1.00	0.00	0.17
20-24	-1.88	0.14	187.24	1.00	0.00	0.15
25-29	-1.78	0.13	180.74	1.00	0.00	0.17
30-34	-1.40	0.13	112.01	1.00	0.00	0.25
35-39	-1.21	0.13	81.11	1.00	0.00	0.30
40-44	-0.56	0.15	14.28	1.00	0.00	0.57
45-49 ®						
Region of Residence						
NR	-0.36	0.07	27.17	1.00	0.00	0.70
CR	0.26	0.05	25.69	1.00	0.00	1.30
SR ®						
Place of Residence						
Urban	0.43	0.06	50.47	1.00	0.00	1.53
Rural ®						
Education						
None	0.70	0.73	0.93	1.00	0.34	2.02
Primary	1 00	073	1 87	1 00	017	2 71

Table 2: Odds Ratio from logistic regression analysis showing factors associated with women's desire to limit child bearing, Malawi 2000

Secondary	1.18	0.73	2.62	1.00	0.11	3.27
Higher ®						
Marital Status						
Never Married	-0.36	0.13	7.30	1.00	0.01	0.70
Married	-0.75	0.07	110.77	1.00	0.00	0.47
Formerly Married						
Constant	3.06	0.76	16.39	1.00	0.00	21.27

This was also observed in previous studies in Guatemala (18) and Ethiopia (19), where the probability of wanting additional children increased as education of women increased.

The uneducated or less educated women, who are more likely to want to limit childbearing, may already have more children than the educated ones and this effect of education may diminish when analysis is done by their number of living children.

Comparing the sex composition of children at the same number of living children, the number of living boys is a stronger predictor of the desire to limit childbearing than the number of living daughters. Women with two sons are two times more likely to desire to stop childbearing (OR 2.34) as compared to women with one son, while women with two daughters are only 42% higher than those with one daughter to desire to limit childbearing.

The implication is that women with sons are more likely to desire to limit childbearing than women with the same number of daughters. Studies in Bangladesh (Bairagi and Langston, 1996), Botswana (Campbell and Campbell, 1997) observed that a stated desire to stop childbearing is generally more common among women with two sons than those with two daughters (16, 20).

With regards to child mortality, it is observed that women who have had at least one child death are less likely to intend to limit childbearing as compared to those who have not experienced any child death (OR 0.55).

This supports the existing hypothesis that behavioral reaction to child mortality involves replacement of a child who has died, and adjustment of fertility to ensure the survival of some children to adulthood (17-19).

Women who experienced child mortality may want more children to replace those who died and to achieve their desired fertility.

As expected, women's intentions to limit childbearing varied with their knowledge and use of family planning methods. Women who know at least one method of family planning are 80% more likely to desire to stop childbearing (OR 1.80) as women who do not know any method

of family planning. Similarly, women who are using family planning are 51% more likely to desire to limit childbearing as women who are not using family planning.

Previous studies in Ethiopia (Short & Kiros, 2002) and Pakistan (Mohammed & Ringheim, 1997) have shown that couple's knowledge, approval and use to family planning are correlated with the desire not to have additional children (9,13).

The desire to limit childbearing also varied with exposure to the mass media. Those women with exposure to at least one of the three media (radio, TV and news papers) are 19% more likely to desire to limit childbearing as compared to women who have no access to any kind of media. Those with exposure to at least two of the media are 31% more likely than those with no access to any of the media, but unexpectedly, this does not increase significantly with increase in exposure to all three forms of media. This may be due to the fact that the number of women in the analysis with exposure to all three media is small. But, the association between mass media (particularly those promoting family planning) and fertility desires and intentions has been reported by other studies (7,12).

Discussion

This study intended to examine factors that influence women's intention to limit childbearing in Malawi, using data from the 2000 MDHS. Women's responses to the question on the desire for more children (fertility intention) showed that 38% of women did not want any more children.

The majority of the women with the intention to limit children belonged to the ages 35-49(51.6%), have 4 or more living children (56%), have no formal education (78.4%) and live in rural areas (79%).

The proportion of women who did not want any more children was highest in the Southern Region (47%), followed by Central Region (28%) and lowest in the Northern Region (15%).

Overall the percentage of women who did not want any more children was lower than the percentage observed in other countries in sub- Saharan Africa (). In sub-Saharan Africa, analysis of DHS data between 1990 and 2001 has shown that the proportion of women who want to limit childbearing ranged from 10% in Niger and Chad to 53% in Kenya ().

Compared with the previous Malawian DHSs, the proportion of women who want to limit childbearing is increasing. the proportion of women of childbearing age range (15-49) who desire to limit child bearing increased from 29% in 1992 to 36% 2000 and 38% in 2004

This may indicate that demand for children is changing among women, though unmet need for family planning is very high (41.5%) and jeopardizes their desire to space or limit pregnancies and achieve desired family size.

The unmet need component shows the gaps between fertility intentions, specifically the desire to limit or space births on the one hand and actual contraceptive behavior on the other hand ().

This analysis indicated that there is a high desire for limiting childbearing among women in Malawi, particularly among older women and those who have large family size. Thus, providing family planning services to women who have achieved their fertility goals would be important for reducing unwanted fertility.

Family planning programs should focus on women with unmet need, particularly those who want to limit childbearing. Moreover, expanding information, education and communication about small family norms and the benefits of family planning to achieve the goals of wanted fertility is needed.

Another important finding of this study is that although a substantial number of women in Malawi would like to limit child bearing there are unable to do so. This finding raises some questions which should be answered by further research. Some of these questions are: what is preventing women in Malawi from limiting childbearing? Why are women in Malawi having more children (an average of 6 children per woman) than they would like to have (4 children per woman). Are women in Malawi having problems to access modern methods of family planning? What are these problems?

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