Determinants of Contraceptive Choices in Malawi

Introduction

Malawi has experienced a dramatic increase in contraceptive use, unprecedented for a Sub-Saharan African country with such poor social and economic conditions. Contraceptive prevalence rate (CPR) has increased from 13 per cent in 1992 to 26% in 2004 (Malawi Government, 2002, 2006). The recent Demographic and Health Survey estimate contraceptive prevalence to be 46% placing Malawi as one of the highest contraceptive prevalence on the continent. According to the 2011 World Contraceptive Use data sheet, contraceptive prevalence rate in Malawi is estimated at 41%, which is nearly twice the estimate for Sub-Saharan Africa (). Such a high contraceptive prevalence is somewhat surprising given that Malawi is a relatively new comer in the area of family planning. In sub-Saharan Africa the national family planning programme was introduced in the late 1960s in Kenya, early 1970s in Ghana and mid 1970s in South Africa (). Partly based on the increase in CPR, the Malawi Family Planning Programme is now recognized as a success story in Sub-Saharan Africa ().

The increase in contraceptive use has not been accompanied by a proportional decline in fertility. Whereas CPR has increased six-fold, Total Fertility Rate (TFR) has marginally declined from 6.7 to 6.0 children per woman over the same period (Malawi Government, 1994d, 2006). The recent Demographic and Health survey estimate the TFR to be around 5.8 (Malawi Government, 2010). The persistence of high fertility implies that the country still has a high population growth rate and needs to continue strengthening its family planning programme in order to reach replacement-level fertility. This means that the national contraceptive prevalence rate of about 46 per cent should be raised to over 70 per cent to achieve replacement-level fertility.

One factor that could play a positive role in this regard would be the enhancement of the efficacy of family planning services by broadening the contraceptive options offered to the vast majority of the people especially those rural and underserved areas.

Since individual contraceptive preferences, beliefs and needs vary within populations, service programmes should accommodate the widest possible range of method preferences among the potential contraceptive users (Phillips and others, 1984). This does not necessarily mean that every family planning service would have to provide all methods, but the overall programme efforts should be sufficient so that the prospective users have reasonable, if not absolutely equal, access to a variety of methods (Bruce, 1990).

While the programmatic and socio-economic determinants of contraceptive use at the national and regional levels have been studied in Malawi, very little is known about the determinants of contraceptive method choice or method mix. The objectives of this study are two-fold: (a) to examine the contraceptive method mix during the twelve year period 1992-2004 and (b) to establish the determinants of contraceptive method choice.

Data and Methods

Sources of Data

The study is based on the analysis of data obtained from the 2000 and 2004 Malawi Demographic and Health surveys (). Both surveys were nationally representative surveys designed to provide information on levels and trends in fertility, family planning knowledge and use, and early childhood mortality and morbidity in Malawi. Full details of the sampling methodology employed in collecting the data are described in the appropriate survey reports[8, 9].

The MDHSs involved the use of three basic questionnaires: household, male and female questionnaires. First, the household questionnaire recorded information on all household members. Second, the individual men questionnaire was administered to men aged 15-54 years. A total of 3092 and 3261 men were interviewed in 2000 and 2004 respectively. The male questionnaire was similar to that of the individual women questionnaire but excluded the birth history and maternal and child health sections. Third, the individual women questionnaire recorded detailed information on eligible women who were identified from the household questionnaire. The 2000 MDHS collected data from 13220 women aged 15-49 whereas the 2004 MDHS

collected data from 11698 women of the same age range. 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. The analyses in this paper will use data from the individual women questionnaire only. The study population comprised a sub sample of currently married women aged 15-49 years old. Currently married included women who reported that they were married or living together at the time of the survey. The study population comprised of 9361 and 8385 women in 2000 and 2004 respectively.

Methods

Three approaches were used in the analysis. Descriptive univariate analyses were performed to inspect the frequency distributions of the variables. Bivariate analysis was employed to examine the relationships of the independent variables and contraceptive use. Chi-square tests of independence were conducted for categorical variables. Significant differences were determined using chi-square at $p<0.05$. Lastly logistic regression was used to examine the impact of social and economic factors on contraceptive use in Malawi. The use of the logistic regression is based on the fact the dependent variable is dichotomous.

Description of Variables

The dependent variable for this analysis, contraceptive use, was obtained from a question in the section on contraception in the individual woman's questionnaire. Women were asked the question: Are you currently doing something or using any method of contraception to delay or avoid getting pregnant? If a woman reported that she was using any method, she was coded 1 and 0 for otherwise.

The independent variables were selected for inclusion in the analysis based on their significance in previous studies of contraceptive behavior or on their hypothesized association with contraceptive use (). These variables were group into four areas: programmatic, demographic, socio-cultural, attitudinal and regional. All the independent variables were obtained from the various sections on the women questionnaire. To make analysis and interpretation simpler and more meaningful,

some variables were regrouped from their original categories in the dataset. The subsequent paragraphs describe the variables used in the analysis.

The programmatic factors included in the model were whether or not the individual heard family planning on the radio, whether or not the individual heard family planning on Television; whether or not the respondent heard family planning in the newspaper, whether or not the respondent was visited by a family planning worker and whether or not the respondent visited a health facility. These variables are strongly affected by the activities of the national family planning programmes especially its information, education and communication (IEC) component.

Five variables were included to capture attitudinal factors affecting contraceptive use. The attitudinal variables included husband's approval of family planning which was coded 1 if the husbands approve and 0 otherwise; respondents approval of family planning which was coded 1 if the respondent and 0 if the respondent does not approve family planning. Another attitudinal variable was discussion of family planning between spouses and this was coded 0 in cases where couples did not discuss family planning, 1 where couples only discussed once and 2 for couples who discussed family planning more than once. Furthermore couple's desire of children which was coded 1 if both want the same number of children, 2 if the husband wants more and 3 if the husbands want less. Fertility preference was coded 1 if the respondent wanted more children, 2 if the respondent was undecided and 3 if the respondent wanted no more children.

The demographic variables that were included in the study were age of the respondent, marital status, type of marriage, marital duration, number of children ever born and number of children living. Age regrouped into the standard five year age groups 15-19, 20-24, 25-29, 30-34, 35-39, 40-44 and 45-49; marriage were categorised into two: monogamous and polygamous marriage; marital duration was grouped into 0-4 years, 5-9, 10-14 years, 15-19 years, 20-24 years and 25-29 years; Number of children ever born which was originally a continuous variable was categorized into no children, 1-2 children, 3-4 children and 5 children and over.

The following three social-cultural variables were included in the model: maternal education, religion and wealth status. Education was also regrouped into no education, primary and Secondary and over. Religion was regrouped into Christian, Muslim and no religion/other. In this study wealth index was constructed using the following household assets data: electricity, radio, TV, bicycle, motorbike and car. Each item was given a score of 1 if it available and 0 if it is not available and it was summed across items for each household. Individual wealth was ranked as poor; middle-class and rich, based on the total score. In other words, an individual was categorized as Poor if the total score was in the rage 0 to 2; middle, if the total score was 3 to 4 and rich if the total score was 5 to 6. This process was followed because although the 2004 MDHS has a variable called wealth index, the 2000 MDHS does not have this variable. Wealth index variable was created by ORC Macro, a firm that provides technical assistance to governments in developing countries that participate in periodic surveys such as the DHS().

Lastly, the study included two geographical variables: region and type of place of residence. Region had three categories namely, Northern Region, Central Region and Southern Region and type of place of residence had two categories (rural and urban).

Study Limitation

Although our interest is in exploring the relationship between contraceptive use and socio-economic factors, our study has some limitations. First, the reporting of current contraceptive use might be inaccurate. This might arise from the fact that in traditional societies any discussion on sex and sex-related subjects is regarded as a taboo. This challenge might be more severe in remote rural areas where literacy levels are low and health centres that are a source of family planning may not be available. Also, in such societies use of contraceptives may be regarded being promiscuous, loose and immoral. Second, our study includes only currently married women. This may bias downward contraceptive prevalence because women who have never married or formerly married were excluded. Third, the study includes only women so there might be still much unknown about trends and determinants of contraceptive use among men.

Lastly, a detailed examination of contraceptive use also requires an understanding of the cultural changes in a society. In most national datasets, including MDHSs, cultural variables are not available since the focus is on structural variables. Data on cultural change are typically obtained from attitudinal studies. Shifts in people's attitudes on different issues generally reflect changes in cultural norms and values. However, DHSs, like many datasets does not as yet collect data on people's attitudes. This prevented us from understanding the cultural component of contraceptive use. Despite these limitations, we hope this study will shed some light on the factors influencing contraceptive use in Malawi.

Results

Characteristics of the Respondents

Table 1 gives the summary statistics of the study population. The majority of the respondents lived in rural areas (80% in 2000 and 88% in 2004). The 2008 population census suggests that the percentage of the population living in urban areas is 17% (Malawi Government, 2010b). This means that the urban population is over represented in the study population in 2000 and the opposite is true in 2004. The majority of the respondents were in the Southern Region (49% in 2000 and 51% in 2004), followed by Central Region and then Northern Region. The 2008 population census indicate that the highest population is in the Southern Region (45%), followed by Central Region (42%) and lowest in the Northern Region (13%) (Malawi Government, 2010b). This finding is consistent with the distribution of the population at the national level where the southern region is home to almost half of the population. The majority of the study population have primary education (61% in 2000 and 62% in 2004), followed by no education (30% in 2000 and 28% in 2004). Women with secondary and higher education comprised of 8.6% in 2000 and 10.6% in 2004.

Table 1: Socio-economic characteristics of currently married women and percentage using contraception: Malawi, 2000 and 2004

		2000		2004
	N	%	N	%
Age of respondent				
15-19	948	10.1	819.0	9.8
20-24	2351	25.1	2251.0	26.8
25-29	2041	21.8	1818.0	21.7
30-34	1308	14.0	1242.0	14.8
35-39	1181	12.6	928.0	11.1
40-44	837	8.9	754.0	9.0
45-49	695	7.4	573.0	6.8
Region				
Northern Region	1564	16.7	1109.0	13.2
Central Region	3287	35.1	3056.0	36.4
Southern Region	4510	48.2	4220.0	50.3
Place of residence				
Urban	1853	19.8	1063.0	12.7
Rural	7508	80.2	7322.0	87.3
Education				
None	2779	29.7	2234.0	26.6
Primary	5776	61.7	5261.0	62.7
Secondary & higher	806	8.6	890.0	10.6
No. of children ever born				
0	723	7.7	626.0	7.5
1-2	3191	34.1	2807.0	33.5
3-4	2355	25.2	2268.0	27.0
5+	3092	33.0	2684.0	32.0
No. of living children				
0	1020	10.9	816.0	9.7
1-2	3834	41.0	3277.0	39.1
3-4	2397	25.6	2373.0	28.3
5+	2110	22.5	1919.0	22.9
Type of marriage				
Monogamny	7770	83.1	7006.0	83.8
Polygamny	1575	16.9	1357.0	16.2
Marital duration				
0-4	2554	27.3	2115.0	25.2
5-9	2066	22.1	2157.0	25.7
10-14	1564	16.7	1409.0	16.8
15-19	1174	12.5	1010.0	12.0

20-24	951	10.2	831.0	9.9
25-29	709	7.6	576.0	6.9
30-34	343	3.7	287.0	3.4
Husband approval (FP)				
Disapprove	1595	18.9	1288.0	16.7
Approve	6863	81.1	6409.0	83.3
Respondents approval (FP)				
Disapprove	598	6.5	662.0	8.0
Approve	8652	93.5	7639.0	92.0
Discussion of FP				
Never	4253	59.3	2439.0	29.2
Once or twice	1484	20.7	2944.0	35.2
More than twice	1437	20.0	2976.0	35.6
Couple desire of children				
Both want the same	2787	29.8	4115.0	69.6
Husband wants more	3310	35.4	1133.0	19.2
Husband	3254	34.8	667.0	11.3
Religion				
Christian	7786	83.2	6917.0	82.5
Muslim	1425	15.2	1359.0	16.2
No Religion	147	1.6	69.0	0.8
Fertility preference				
wants more	5076	58.8	4528.0	58.2
Undecided	148	1.7	333.0	4.3
wants no more	3412	39.5	2919.0	37.5
Total	9361	100.0	8385.0	100.0

Contraceptive Method Mix

The 1992 MDHS indicate that the commonly used methods were pill, withdrawal, abstinence, other and condoms. In a way these statistics imply that apart from pills and condoms most users of family planning were using tradition methods. This is not surprising given that at that time government was just supporting child spacing programme. The notion of family planning became acceptable in 1994 following the approval of the population policy (). Since then the contraceptive method mix has changed tremendously. The 2000 MDHS indicate that method specific rates were 48.8% injectable users, 18% were using female sterilisation, The 2000 MDHS revealed that

20.9% of all women were using contraception (). The method-specific rates were 2.3% oral contraceptive pill users, 2.1% condom users, 3.9% permanent method (sterilization) users, 12.1% injectable users and 3.8% traditional method users.

The 1992 MDHS revealed that 12.3% of all women were using contraception (). The method-specific rates were 2.0% oral contraceptive pill users, 1.9% condom users, 1.9% permanent method (sterilization) users, 1.2% injectable users and 5.0% traditional method users.

The 2000 MDHS indicate that method specific rates ranged from 13% for the injectables, 3.8% for female sterilisation, 2.3% for pills. Similar rates for 2004 are 13.9%, 4.8% and 1.5% respectively.

Table 3: Contraceptive method mix, Malawi, 1992-2004

	1992	1996	2000	2004
Female Sterilization	1.7	2.3	3.8	4.8
Pill	2.2	2.7	2.3	1.5
IUD	0.3	0.3	0.1	0.0
Injectables	1.5	4.9	13.0	13.9
Implants	0.0	0.0	0.1	0.4
Male Condom	1.6	2.0	1.9	1.7
Traditional	0.0	0.0	0.0	0.0
Rhythm	2.2	0.0	0.7	0.4
Withdrawal	1.5	1.4	1.1	1.5
Other	2.0	1.6	1.6	1.3

Table 4: Preferred Future Contraceptive Method, Malawi 1992 – 2004

	1992	2000	2004
Pill	51.5	20.9	13.5
IUD	2.0	1.3	1.1
Injections	16.4	56.8	56.9

Diaphragm /Foam/Jelly	1.0	0.0	0.0
Condom	7.2	5.8	9.5
Female Sterilization	5.1	8.4	11.3
Male Sterilization	0.1	0.1	0.1
Periodic Abstinence	4.1	0.5	1.1
Withdrawal	2.3	0.7	0.7
Other	4.7	1.8	5.7
Don't know	5.6	3.9	0.0
Total	100.0	100.0	100.0

In 1992 the three most preferred future contraceptive method were pill, injectables and condom. The preferred methods were Injectables, Pill and female sterilisation in 2000 and 2004.

Determinants of contraceptive method choice

Table 2 presents the results of multinomial logistic regression analyses o contraceptive method choice in Malawi. All the variables tested for bivariate effects were entered in the multivariate treatment to examine whether they have net effects on method choice. A number of variables, such as religion, which were found to have a net effect on contraceptive use, were found to have no significant effect on contraceptive method choice.

Pill: Among pill users, age, region, wealth status, education, visited by family planning worker, number of living children, husbands approval and discussion with partner were found to have a significant effect on contraceptive method choice.

Compared with women aged 45-49, women aged 15-19, 20-24, 25-29, 30-34, 35-39 and 40-44 were 1.52, 2.2, 3.2, 2.5, 2.6 and 2.4 times more likely to use contraceptive pill. The reduced odds ratio for the women aged 30 years and above indicates decreasing need for contraceptives. The increased odds for women aged 20 to 30 is partly attributed to the fact that most of them had already achieved their desired family size and had taken the decision to stop childbearing or space the next childbirth. The women aged less than 25

years are relatively younger, newlywed, and have lower parity. As a result, they are reluctant to use contraceptive methods in the early years of their reproductive age.

Compared to women residing in Southern Region, women in the Central Region were 1.64 times less likely to use pills. Women in the Northern Region were 1.06 times less likely to use pills as compared to women in the Southern Region. This indicates that use of pills is highest in the Southern Region, followed by Northern Region and lowest in the Central Region.

Use of contraceptive pill also varied by wealth status. Poor women were 2.23 times less likely to use pills as compared to rich women. Women in the middle status category were 1.68 23 times less likely to use pills as compared to rich women. The results of poor women are statistically significant.

Use of pill also varied by educational level of the women. Women who had no formal education were 2.62 times less likely to use pills compared to women who had attained secondary or higher level of education whereas women who had primary education were 1.50 times less likely to use pills compared to women who had attained secondary or higher level of education.

Another variable that greatly influence the use of pills in Malawi is approval by husband. Women whose husbands disapproved the use of pills were 3.27 times less likely to use pills compared to women whose husbands approve.

Women who have never discussed family planning with their husbands were 4.09 times less likely to use pills compared to women who have discussed family planning with their husbands more than twice. Women who have discussed family planning with their husbands once or twice were 1.61 times less likely to use pills compared to women who have discussed family planning with their husbands more than twice.

Use of pills is also influenced by whether or not the respondent was visited by a health worker. Women who were not visited by a health worker were 1.55 times less likely to use pills compared to women who were visited by a health worker.

Use of contraceptive pills is also influenced by the number of living children. Women who have no living children were 8.46 times less likely to use pills compared to women with five or more children. Women with 1-2 living children were 1.77 times less likely to use pills compared to women with five or more children. Women with 3-4 living children were 1.53 times less likely to use pills compared to women with five or more children. The odds ratio increase with the increasing number of living children suggesting that use of contraceptive pill increases as the number of living children increase.

Injection: Among injection users, age, region, rural-urban residence, work status, education, heard family planning on TV, number of living children, husbands approval, respondent approval and discussion with partner were found to have a significant effect on contraceptive method choice.

Compared with women aged 45-49, women aged 15-19, 20-24, 25-29, 30-34, 35-39 and 40-44 were 3.28, 4.25, 3.4, 2.3, 1.8 and 1.5 and 2.4 times more likely to use injection. The reduced odds ratio for the women aged 25 years and above indicates decreasing need for injection. The increased odds for women aged 20 to 30 is partly attributed to the fact that most of them had already achieved their desired family size and had taken the decision to stop childbearing or space the next childbirth. The women aged less than 25 years are relatively younger, newlywed, and have lower parity. As a result, they are reluctant to use contraceptive methods in the early years of their reproductive age.

Compared to women residing in Southern Region, women in the Central Region were 1.23 times less likely to use injections. Women in the Northern Region were 2.21 times less likely to use inject as compared to women in the Southern Region. This indicates that

use of injection is highest in the Southern Region, followed by Central Region and lowest in the Northern Region.

Women in urban areas are 1.49 times more likely to use injection as compared to women in the rural areas.

Women who are not working are 1.19 times less likely to use injection as compared to women who are working.

Use of injection also varied by educational level of the women. Women who had no formal education were 1.54 times less likely to use injection compared to women who had attained secondary or higher level of education whereas women who had primary education were 1.62 times less likely to use injection compared to women who had attained secondary or higher level of education.

Another variable that greatly influence the use of injection in Malawi is approval by both respondent and husband. Women who disapproved the use of injection were 3.75 times less likely to use injection compared to women who approved family planning. Women whose husbands disapproved the use of pills were 3.14 times less likely to use injection compared to women whose husbands approve.

Women who have never discussed family planning with their husbands were 4.24 times less likely to use injection compared to women who have discussed family planning with their husbands more than twice. Women who have discussed family planning with their husbands once or twice were 1.58 times less likely to use pills compared to women who have discussed family planning with their husbands more than twice.

Use of injection is also influenced by whether or not the respondent visited a health facility in the last twelve months. Women who had not visited a health facility in the last 12 months were 1.32 times less likely to use injection compared to women who have visited a health facility.

Use of injection is also influenced by the number of living children. Women who have no living children were 197.08 times less likely to use injection compared to women with five or more children. Women with 1-2 living children were 4.05 times less likely to use pills compared to women with five or more children. Women with 3-4 living children were 1.85 times less likely to use injections compared to women with five or more children. The odds ratio increase with the increasing number of living children suggesting that use of injection increases as the number of living children increase.

Condom: Among condom users, age, region, wealth status, number of living children, husbands' approval, respondent approval and discussion with partner were found to have a significant effect on contraceptive method choice.

Compared with women aged 45-49, women aged 15-19, 20-24, 25-29, 30-34, 35-39 and 40-44 were 7.5, 5.2, 3.3, 1.7, 1.5 and 1.00 times more likely to use condom. The declining odds ratio by age indicates decreased condom use as women get older.

Compared to women residing in Southern Region, women in the Northern Region were 3.69 times more likely to use condoms. The results for Northern Region are statistically significant. Women in the Central Region were 1.04 times more likely to use condoms as compared to women in the Southern Region. This indicates that use of condom is highest in the Northern Region, followed by Central Region and lowest in the Southern Region.

Use of condoms varied by wealth status. Poor women were 3.63 times less likely to use condoms as compared to rich women. Women whose wealth status could be described as middle were 3.94 times less likely to use condoms as compared to rich women.

Another variable that greatly influence the use of condom in Malawi is approval by husband. Women whose husbands disapproved the use of family planning were 6.86 times less likely to use condoms compared to women whose husband approved family planning.

Women who have never discussed family planning with their husbands were 9.50 times less likely to use condoms compared to women who have discussed family planning with their husbands more than twice. Women who have discussed family planning with their husbands once or twice were 2.03 times less likely to use condoms compared to women who have discussed family planning with their husbands more than twice.

Use of condom is also influenced by the number of living children. Women who have no living children were 8.8 times less likely to use condoms compared to women with five or more children. Women with 1-2 living children were 2.11 times less likely to use condoms compared to women with five or more children. Women with 3-4 living children were 2.03 times less likely to use injections compared to women with five or more children. The odds ratio increase with the increasing number of living children suggesting that use of condo increases as the number of living children increase.

Female sterilisation: Among TL users, age, rural-urban residence, work status, wealth status, education, heard family planning on radio, number of living children, husbands approval and discussion with partner were found to have a significant effect on contraceptive method choice.

Compared with women aged 45-49, women aged 15-19, 20-24, 25-29, 30-34, 35-39 and 40-44 were 7.5, 5.2, 3.3, 1.7, 1.5 and 1.00 times more likely to use condom. The declining odds ratio by age indicates decreased condom use as women get older.

Women residing in urban areas were 1.64 times more likely to use female sterilisation that women residing in rural areas.

Women who are not working are 1.32 less likely to be sterilised than women who are working.

Female sterilisation also varied by wealth status. Poor women were 2.03 times less likely to be sterilised than rich women. Women whose wealth status could be described as middle were 1.68 times less likely to be sterile as compared to rich women.

Female sterilisation also varied by educational level of the women. Women who had no formal education were 2.39 times less likely to be sterilised compared to women who had attained secondary or higher level of education whereas women who had primary education were 1.51 times less likely to use injection compared to women who had attained secondary or higher level of education.

Another variable that greatly influence the use of female sterilization in Malawi is approval by husband. Women whose husbands disapproved the use of family planning were 2.89 times less likely to use condoms compared to women whose husband approved family planning.

Use of sterilisation is also influenced by whether or not the respondent heard family planning on radio in the past. Women who had not heard family planning on the radio

were 1.39 times less likely to be sterilised compared to women who have heard family planning on the radio.

Use of female sterilisation is also influenced by the number of living children. Women who have no living children were 7.96 times less likely to be sterilised compared to women with five or more children. Women with 1-2 living children were 5.70 times less likely to be sterilised compared to women with five or more children. Women with 3-4 living children were 2.00 times less likely to be sterilised compared to women with five or more children. The odds ratio increase with the increasing number of living children suggesting that female sterilisation increases as the number of living children increase.

Other methods: Among users of other methods, region, rural-urban residence, number of living children, husbands approval, respondent approval and discussion with partner were found to have a significant effect on contraceptive method choice.

Compared to women residing in Southern Region, women in the Northern Region were 2.63 times more likely to use other methods. The results for Northern Region are statistically significant. Women in the Central Region were 1.16 times more likely to use condoms as compared to women in the Southern Region. This indicates that use of other methods is highest in the Northern Region, followed by Central Region and lowest in the Southern Region.

Women who are not working are 1.46 less likely to use other methods than women who are working.

Use of other family planning methods is greatly influenced husband's and respondents approval of family and family planning discussion between husband and wife. Women whose husbands disapproved the use of family planning were 2.43 times less likely to

other methods compared to women whose husband approved family planning. Respondents who disapproved the use of family planning methods were 2.36 times less likely to use other methods compared to respondent who approved family planning.

Women who have never discussed family planning with their husbands were 3.88 times less likely to use other methods compared to women who have discussed family planning with their husbands more than twice. Women who have discussed family planning with their husbands once or twice were 1.51 times less likely to use other methods compared to women who have discussed family planning with their husbands more than twice.

Use of other method is also influenced by the number of living children. Women who have no living children were 12.59 times less likely to use other methods compared to women with five or more children. Women with 1-2 living children were 2.64 times less likely to use other methods compared to women with five or more children. Women with 3-4 living children were 1.65 times less likely to use other methods compared to women with five or more children. The odds ratio increase with the increasing number of living children suggesting that use of other methods increases as the number of living children increase.

Table 2: Multinominal logit regression coefficients of programmatic, demographic and socio-cultural factors that are associated with the use of contraception in Malawi

	Pill		injection		Condom		FS		Others	
	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004
Age of respondent										
15-19	1.52	2.17	3.28	5.34	7.51	18.97	0.00	0.00	1.50	1.22
20-24	2.24	1.86	4.25	4.56	5.25	9.04	0.16	0.01	1.51	1.22
25-29	3.26	2.37	3.43	4.02	3.34	5.60	0.33	0.12	1.25	0.91
30-34	2.53	2.20	2.33	2.78	1.73	2.93	0.60	0.46	1.22	0.76
35-39	2.67	2.32	1.83	1.85	1.56	2.11	1.24	0.79	1.29	0.76
40-44	2.37	1.71	1.55	1.88	1.00	1.83	1.51	1.14	1.10	0.79
45-49 ®										
Region										
Northern Region	0.94	2.36	0.45	0.62	3.69	9.06	0.98	1.33	2.63	3.85
Central Region	0.61	1.09	0.81	0.85	1.04	1.37	0.99	1.23	1.16	1.15
Southern Region ®										
Type of Residence										
Urban	1.15	1.37	1.49	1.43	1.49	0.39	1.08	1.23	0.81	0.93
Rural ®										

Work Satus										
No	0.89	0.72	0.84	0.88	0.76	1.22	0.76	0.86	0.68	0.73
Yes ®										
Wealth										
Poor	0.45	0.59	0.86	0.78	0.28	1.36	0.49	0.38	0.51	0.69
Middle	0.60	0.78	1.04	0.84	0.25	1.06	0.60	0.49	0.58	0.77
Rich ®										
Respondent Education										
None	0.38	0.29	0.65	0.58	0.59	0.19	0.42	0.61	0.72	0.66
Primary	0.67	0.47	0.62	0.72	0.63	0.42	0.66	0.77	0.71	0.82
Seco+ ®										
Discussed FP										
Never	0.24	0.27	0.24	0.34	0.11	0.28	1.31	1.23	0.26	0.35
Once or twice	0.62	0.77	0.63	0.62	0.49	0.35	0.69	0.65	0.66	0.83
> 2 ®										
Heard FP on Radio										
No	0.78	1.07	0.89	1.06	0.92	1.22	0.72	0.82	1.22	1.13
Yes ®										
Heard FP on TV										
No	0.84	0.53	0.70	0.83	1.26	0.91	0.71	0.69	0.69	0.87
Yes ®										
Heard FP newspaper										
No	0.77	0.99	1.06	0.92	0.96	0.69	0.83	0.84	1.04	0.90
Yes ®										
Visited by Fp worker										
No	0.65	0.98	1.07	1.27	0.87	0.99	0.81	1.35	0.91	1.26
Yes ®										
Visisted Clinic										
No	0.82	0.74	0.76	0.80	0.83	0.96	1.05	1.14	0.82	0.95
Yes ®										
Living Children										
0	0.12	0.04	0.01	0.01	0.11	0.18	0.13	0.03	0.08	0.02
1-2	0.57	0.62	0.25	0.34	0.47	0.79	0.18	0.28	0.38	0.31
3-4	0.66	0.91	0.54	0.67	0.49	1.09	0.50	0.59	0.60	0.69
5+ ®										
Husband Approves FP										
Disapproves	0.31	0.71	0.32	0.61	0.15	0.27	0.35	0.24	0.41	0.59
Approves ®										
Respondents Approves FP										
Disapproves	0.16	0.46	0.27	0.29	0.28	0.98	0.84	0.62	0.42	0.52
Approves ®										
Religion										
Christian	0.84	0.74	1.09	2.15	0.64	0.41	4.82	0.85	0.59	2.24
Muslim	0.66	0.65	0.79	1.50	1.06	0.66	2.66	0.41	0.84	2.33
Other ®										

Discussion and concluding remarks

Family planning is acknowledged in most developing countries to be an effective way of improving the health of mothers and children and plays leading roles in mortality and fertility transitions (). Family planning also influences women empowerment (). Multivariate analyses identified age, education, children ever born, number of living

children, husband's approval of family planning, respondents' approval of family planning, discussion of family planning with partner, partners occupation and respondent's work status as the most important explanatory variables of current contraceptive use in Malawi. The results of the analysis also show that contraceptive use increases with the age of the respondent. The low contraceptive prevalence among women aged 15-19 years may be due to the fact that most of these are newly married, and marriage is looked upon as an institution of producing children. Young mothers may also have problems with accessing family planning services. The reduced contraceptive use among older women may be related to the fact that they have reduced their coital frequency and most of them rely on other methods like string tie and are afraid to talk about them in an interview. However, a good number of older women might be not sexually active. This analysis shows that the educational level of the respondent is one the major factors influencing the issue of contraceptives in Malawi. This indicates that raising the level of education is one effective strategy of promoting contraceptive use in Malawi. Our findings are consistent with studies conducted in other countries and confirm the importance of women's economic empowerment (). Respondent's approval of family planning is the most important predictor of current use of contraception. This is to be expected because respondents who approve of family planning are more likely to ensure that their favorable attitude is translated into high use of contraception. The study's finding that spouse' approval of family planning and discussion of family planning with partner are important predictors of contraceptive use in Malawi are in agreement with findings from other countries().

Finally, the determinants of contraceptive use in Malawi, as presented in this study, have policy and programme implications for Malawi and for other African countries with similar social, cultural and economic conditions. First, the Malawi National Family Planning Programme should intensify not only its information, education and communication programmes on family planning to cover particularly the neglected rural areas but also, more importantly, adjust them to suit local conditions. In order to win more clients there is need for a continuous dialogue on the various contraceptive methods between service providers and clients so as to allay some of the clients' fears about

supposed side effects of contraception. Second, the family planning IEC should target both men and women. Special emphasis should be put on encouraging men to play a leading role in family planning.

The importance of husband–wife communication in relation to fertility decision making is also emphasized by these findings. Malawian society is largely male-dominated, even with regard to female reproductive health, so men's involvement in family planning can therefore hardly be over-emphasised. One of the crucial factors which have hindered successful implementation of the family planning programme in Malawi is minimal male involvement. This is perhaps not unrelated to male fertility preferences. The establishment of more family planning programmes for the men at work-places should help to improve communication between spouses and thereby promote more discussion on family planning and other health related issues.

Furthermore, it is crucial to continue improving girls and young women access to education in the country, as this is important avenue for increasing the women's use of modern contraceptives and for empowering women so as to enhance their active participation in market economy. Similarly, it is advisable to target young women, particularly those with no or little education, with information on reproductive health and to provide them with basic life skills to enable them to avoid early sexual activity and ultimately early marriage.

With regard to increasing the use of modern contraceptive methods, there are a number of conclusions and strategic implications that flow from these findings. Teenagers should be given priority. All opportunities, namely, the school system, youth associations, religious organisations, traditional leaders, communities and families should be sensitised and educated about contraception. Mass communication should be thought of and organized to increase knowledge of available options and access, while interpersonal communication should be considered at the community level to induce changes in contraceptive use.

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