PREDICTORS OF CONTRACEPTIVE DISCONTINUATION AMONG MALAWIAN WOMEN

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INTRODUCTION

Discontinuation has been documented to be a risk factor for unwanted pregnancy. Reducing population growth by improving family planning services creates significant economic growth and reduces poverty (Caldwell J, 2002).

Fertility control has been known to be a major determinant of fertility decline. Most developing countries like Malawi are yet to experience fertility decline which could result in sustainable population growth. With the country's resources being limited, improving socio-economic development lies in policies supporting controlled population growth. Promoting the use of modern contraceptives has been known to substantially contribute to slow population growth. However when women choose to refrain from using modern contraceptives, let alone discontinue after initial adoption, it becomes an issue of program evaluation. Use of modern contraceptives more than tripled for Malawi women, from 7.4 percent in 1992 to 26.1 percent in 2000. Recent 2004 Demographic Health Survey data shows that about 28 percent of the women are using modern contraceptives. These recent results however also show that about 35 percent of the women discontinue using contraception within the first year of its use. Consistent with other results from Demographic Health Surveys in the region, most discontinuations in Malawi are mostly as a result of concerns on the woman's health and side effects experienced from the use of contraceptive. The other most common reason cited for stopping the use of contraceptives is the intention to have more children and method failure.

Studies on discontinuation due to side effects from contraceptive use have been well documented. The side effects of contraceptives and the resulting discontinuation of use account for a large proportion of unplanned pregnancies. In the United States, for example, discontinuation of pill use due to its side effects is responsible for an estimated 20 percent of unplanned pregnancies each year (Ramstrom et al, 2002).

Other studies on family planning have focused on showing that contraceptive discontinuation is an important dimension in assessing disparities in availability and quality of family planning services. Contraceptive failure, side effects, health concerns and inconvenience of using a contraceptive method have been cited as some of reasons related to quality of care. The assumption is that if the women could get professional help, they should be able to adopt alternative methods than completely abandoning contraception. The women are also likely to continue using contraceptives if their health concerns are attended to especially by health personnel. A study on Bangladeshi women identified lack of visits from a health field worker as a strong predictor for contraceptive discontinuation (Khan M., 2003). In another related study, it was found that women obtaining contraceptives from health worker were at a lower risk of discontinuation.

Variation in family planning service delivery by region and location of residence i.e rural / urban can be reflected in differences in discontinuation rates over geographic locations. . It is not uncommon for poor services to be more pronounced in rural areas with people of lower socio-economic class. Poor women are characterized by low income, low education and rural residence among others. According to the "supply-side" school of

thought, lower contraceptive use by low-income populations is caused by financial constraints and geographic isolation that create greater difficulties for poor couples in obtaining contraceptives (Schoemaker, 2005). However, by isolating the reason for discontinuation, place of residence has been known to have no significant influence on the status of contraceptive use.

A study in Brazil found that less educated women were more likely to discontinue due to method failure (Leite et al, 2007). Even though there were no differences by rural and urban residence, there were significant differences by region. Access to reproductive health information has been known to have an impact on quality of these family planning services in terms of contraceptive discontinuation and switching. In the absence of relevant and timely information, women are likely to be misinformed on contraceptives. Exposing women at risk of unplanned and unwanted pregnancies should be avoided especially if information, education and education can be used as a strategy in maintaining those women who adopt contraception.

Increase in number of living children and age of the woman have also shown to be associated with lower contraceptive discontinuation rates. Women with more children that have been using contraceptives for a relatively long time are more likely to continue using than dropout so as to limit their family size. The same is true for older women who are more likely to continue using contraception. Several studies seem to confirm that younger women are more likely to stop using contraception especially due to accidental pregnancy. Related to influences within the family setting is the education level of the

spouse. It has been argued that more educated men encourage their partners to use contraception. The Bangladesh study also found that women with educated spouses were more likely to switch to another method than completely discontinue contraception.

As can be seen from the literature reviewed, different factors contribute differently to contraceptive use. Some studies even go further to analyze the different reasons for discontinuation while also looking at the method being discontinued. The aim of this paper is to use the recent information available from 2004 Malawi DHS to analyze the correlates of contraceptive discontinuation. The paper will look at the following factors: age of woman, number of living children, her education level and partner's education level, place of residence, ethnicity, access to media and access to health worker. In addition to presenting the results for discontinuations regardless of reason, analysis will be done for the following reasons separately: health concerns and side effects; desire to have a child; method failure.

DATA AND METHOD

DATA

Data used in this analysis is from the Demographic and Health Survey that was conducted in 2004.It was a comprehensive survey aimed at providing estimates on health and demographic indicators. The sample was drawn by using a stratified two-stage design. The total sample had 11,698 women aged between 15 and 49 years; 3261 males aged 15 to 54 years and 31,981 children aged 5 years or less. The data was collected through household interviews by administering a household level form, individual woman's form, individual man's form and an individual child's form.

Data used in the analysis was limited to 5160 women who comprised of 3004 current contraception users and 2156 women who discontinued in the five year period before the survey in 2004.

VARIABLES USED

The primary independent variable is the status of contraceptive use and discontinuation was the event of interest. The variable was computed from the variable "Are you currently using contraception". Current users consisted of those who answered "yes" to the question. Those who discontinued answered "no" to the question. Discontinuations

were limited to the five year period prior to the survey as this was the only readily computed indicator from the dataset.

There are several independent variables presented in Table 1 that were examined. One of them is the age of a woman. Age was presented in the following three categories: 15 to 29 years, 30 to 39 years and 40 to 49 years which were computed from single age data.

Education level of the woman was also used in analysis and had the following categories: no education; primary education and those with secondary education or higher. The same categories were used for the partner's education which has been identified in the literature as having influence on a woman's contraceptive use.

When predicting discontinuation, the number of living children that a woman has were considered. The mean number of living children is 3.3 children per woman. This variable is included in the analysis with the following categories: no children, one child, two children, three children or more.

Table 1: Percentage distribution of social and demographic characteristics of women who include those currently using and those who discontinued in the 5 year period preceding the survey

Characteristics	Number of women	Percent
Age of woman		
15-29	3030	58.7
30-30	1425	27.6
40-49	704	13.7
Number of living children		
0	207	4.0
1	863	16.7
2	1157	22.4
3+	2933	56.8
Place of residence		
Rural	4195	81.3
Urban	965	18.7
Region		
Northern	838	16.2
Central	2035	39.4
Southern	2286	44.3
Ethnicity		
Chewa	1715	33.2
Lomwe	892	17.3
Yao	572	11.1
Ngoni	612	11.9
Tumbuka/Nkhonde	772	15.0
Other	593	11.5
Access to media		
No media	769	14.9
Has good media	1882	36.5
Limited media	2505	48.6
Education of woman		
No education	1068	20.7
primary	3274	63.5
secondary+	818	15.8
		100.0
Partner's education		
No education	576	11.2
primary	2951	57.2
secondary+	1451	28.1
Missing		3.9
Access to family planning health worker		
No access	2906	56.3
With access	2253	43.7
Total	**5160**	

In order to examine whether access to information favours continued contraceptive use, access to media was as a proxy explanatory variables. This originated from a question on access to the following media: radio, newspapers, magazine or television. The first category is those without media who answered “no” to the question “how often do you listen to radio, newspaper, magazine or television”. The second category named limited media access was computed from those who answered “at least once a week” or “less than once a week”. Those categorized as having good media access answered “at least daily” to any of the three media types.

Another independent variable used is the usual place of residence with two categories namely urban and rural residence.

As from the literature review, one of the predictors for discontinuation is visits by a family planning health worker. For this analysis the variable had 2 categories: access to heath worker which came from the two questions: “were you visited by a family planning health worker” and “ did you visit and a health facility in the 12 months and were told anything on family planning. Those who agreed either of the questions were categorized into those having access to health worker. Those who disagreed to both questions were categorized as “not having access to health worker”

The last independent variable to be examined is ethnicity which had six categories namely: “Chewa”, “Lomwe”, “Yao”, “Ngoni”, “Tumbuka or Nkhonde” and “other ethnic groups”. These tribes generally are spread along regional boundaries.The “Chewa” group

is mostly found in the central region of Malawi while “Tumbuka or Nkhonde” group is found in the northern region. The rest are most likely to be found in the Southern region.

METHODS

Logistic regression was used to test models predicting whether contraception was discontinued. Three main for reasons for discontinuation were side effects and health concerns; desire to have a child and method failure. Logistic regression was used for each of the reasons cited above to study the relationship of the covariates and the status of contraceptive use in addition to looking at all the reasons aggregated . The reference category of the independent variable is “currently using”.

RESULTS

Most women discontinued due to side effects and health concerns (30 percent) while the same proportion stopped using in order to have another child as shown in Table 2. Method failure accounted for 8 percent. Looking at the various methods discontinued presented in Table 3, the majority were those who used injection (65 percent), followed by condom (10 percent) and pill (9 percent).

Table 2. Pecentage distribution of reasons for the last contraceptive discontinuation in the 5 year period preceding the survey

Reason for discontinuation	Percent
Became pregnant	8.0
Wanted to become pregnant	31.1
Husband disapproved	4.2
Side effects	29.8
Access, availability	3.4
Wanted more effective method	0.7
Inconvenient to use	2.2
Infrequent sex / husband away	5.3
Cost	0.2
Fatalistic	0.1
Menopause	0.7
Marital dissolution	3.6
Other	5.1
Don't know	0.5
Missing	5.0
Total	**100**

Table 3. Percentage distribution of the last method discontinued in the 5 year period preceding the survey

Method	Percent
Pill	9.30
IUD	0.06
Injections	65.41
Condom	10.81
Female Sterilization	0.06
Male Sterilization	0.05
Periodic Abstinence	1.53
Withdrawal	6.34
Other	5.96
Norplant	0.46
Female condom	0.02
Total	100.00

Of the 5160 women included in the analysis, 41.8 percent discontinued using contraception in the five year period preceding the survey.

The results from the regression presented in Table 4 show that age is a significant predictor of contraceptive discontinuation in all the classified models. Older women were less likely to discontinue using contraception than younger women. Looking at women in category 1 (Table 4), the odds of those aged 40 years or more are about 60 percent lower than are the odds for women aged less than 30 years. The odds for women aged between

30 and 39 years are only 10 percent lower than are the odds of women aged 30 years or less. For the reason of stopping contraception with intending to have a baby, the odds of discontinuation for women aged 40 years and older are 74 percent lower than are the odds of women aged less than 30 years. The number of living children was also a significant predictor for this group as well as category 1 which is presented for discontinuation for aggregated reasons and category 2 which is method failure. Women with three or more children were less likely to discontinue wit the intention of having another baby. Regional differences were also strong predictors of the discontinuation for each of the reasons but not for aggregated reasons. Place of residence was significant for aggregated reasons and for those intending to have a baby. The odds of discontinuation for women in urban areas were about a quarter of the women in rural areas for the two categories.

Woman's education was not significantly associated with discontinuation for those intending to have a child. However it was significant for the rest of the categories. The odds of discontinuation due to side effect for those with at least secondary education are 40 percent lower than are the odds of women with no education. In terms of the partner's education, it didn't show significant influence on the dependent variable.

In terms of the effect of access to information, the results were significant for those citing health concerns and side effects. The different categories show that women with good access to information are less likely to stop using contraception. Access to family planning health worker is not significant for the different categories except for those

women intending to have a child. Those with access to a family planning health worker have a higher likelihood of discontinuing use in order to have a baby. Ethnicity which was also taken into account is showing no significantly contributing to discontinuation.

Table 4: Odds ratios from logistic regression analysis of contraceptive discontinuation by social and demographic characteristics included in the model.

	Category 1		Category 2		Category 3		Category 4	
	Aggregated reasons		Method failure		Wanted a baby		Side effects/ Health concerns	
Variables		p<=0.5		p<=0.5		p<=0.5		p<=0.5
Age of woman								
15-29 (ref)		*0.000*		*0.008*		*0.000*		*0.000*
30-39	0.906	*0.209*	0.872	*0.505*	0.699	*0.004*	1.113	*0.347*
40-49	0.414	*0.000*	0.418	*0.002*	0.260	*0.000*	0.430	*0.000*
Number of living children								
0 (ref)		*0.000*		*0.095*		*0.000*		*0.308*
1	0.173	*0.000*	0.273	*0.055*	0.155	*0.000*	0.688	*0.471*
2	0.167	*0.000*	0.227	*0.027*	0.124	*0.000*	0.917	*0.865*
3+	0.136	*0.000*	0.339	*0.099*	0.096	*0.000*	0.854	*0.757*
Place of residence								
Rural								
Urban	0.764	*0.001*	1.020	*0.930*	0.769	*0.038*	0.895	*0.374*
Region								
Northern (ref)		*0.322*		*0.001*		*0.009*		*0.003*
Central	0.843	*0.171*	0.529	*0.039*	0.566	*0.002*	2.069	*0.002*
Southern	0.925	*0.540*	0.307	*0.000*	0.693	*0.042*	2.158	*0.001*
Ethnicity								
Chewa (ref)		*0.636*		*0.394*		*0.336*		*0.257*
Lomwe	0.925	*0.483*	0.821	*0.570*	0.885	*0.468*	1.266	*0.142*
Yao	1.002	*0.987*	1.299	*0.418*	0.950	*0.774*	1.193	*0.295*
Ngoni	1.001	*0.989*	0.579	*0.102*	1.137	*0.409*	1.120	*0.457*
Tumbuka/nkhonde	0.814	*0.120*	0.935	*0.835*	0.737	*0.129*	0.740	*0.194*
Other ethnic group	0.989	*0.928*	0.803	*0.538*	1.044	*0.807*	1.295	*0.140*
Access to media								
No media (ref)		*0.195*		*0.362*		*0.289*		*0.011*
Has good media	0.934	*0.455*	0.929	*0.770*	0.837	*0.184*	1.089	*0.552*
Limited media	1.052	*0.570*	1.193	*0.468*	0.816	*0.123*	1.395	*0.018*
Woman's education								
no education (ref)		*0.008*		*0.112*		*0.180*		*0.035*
primary	0.997	*0.968*	1.032	*0.886*	1.212	*0.139*	0.867	*0.215*
secondary+	0.730	*0.012*	0.519	*0.092*	1.021	*0.913*	0.605	*0.010*
Partner's education								
no education (ref)		*0.342*		*0.286*		*0.064*		*0.478*
primary	0.880	*0.183*	0.970	*0.906*	0.868	*0.347*	0.847	*0.226*
secondary+	0.851	*0.162*	0.683	*0.239*	0.686	*0.034*	0.876	*0.432*
Access to a family planning health worker								
No access								
Has access	1.047	*0.441*	1.143	*0.411*	1.193	0.052	0.989	*0.906*

ref= reference category

DISCUSSION

Most of the explanatory variables in the model seem to agree with findings from other studies elsewhere. Age, number of living children and woman's education attainment region are the strong predictors for all the reasons presented for discontinuation including the aggregated reasons. It was interesting how the explanatory variables were influencing discontinuation by controlling for reasons for discontinuation. It is clear that using aggregated reasons can mask other underlying differences. In this case, these came out after looking at specific reasons for discontinuation.

Age and number of living children have shown a strong prediction on discontinuation. The results clearly support findings that women with more children and have ever used contraception are more likely to continue controlling their family size. Older women are also likely to continue using contraception. As such , when looking at addressing unmet need for family planning, the government could target this group of women as they are likely to utilize the reproductive health service

The results also support the findings that place of residence is weakly associated with contraceptive discontinuation. However the results show that women in urban areas are less likely to discontinue due to any of the classified reasons except for method failure or health concerns category. This could be because the experience of side effects from contraception is not determined by an individual's characteristics but rather factors that are not endogenous. Discontinuations in urban areas due to method failure could be less

likely as the women are more likely to be better informed due to better reproductive health access and higher education. However the results show that women who have access to a family planning health worker are just as likely if not more likely to discontinue using contraception. This could suggest poor reproductive heath service where necessary advice is not offered to the women. As such, even those who have access to the health service are just as little informed as those who have do not access.

It is also interesting to find that ethnicity is not a significant predictor. With the fact that ethnicity is distributed along regional lines, it was to be expected that it would be significant like the regional differences. However, this could be due to internal migration resulting in redistribution of the ethnic groups across regions making their net effect on contraceptive use unfelt.

In summary, it is clear that various factors influence discontinuations differently based on the reason for non use of contraception. However, the study could have been more revealing if the various contraceptive methods that were discontinued could included in the analysis. Due to the few number of discontinuations , it was not possible to disaggregate the contraceptive methods discontinued.

Sustained increase in contraceptive use which would provide a potential for continued uptake in contraceptive prevalence with a challenge to maintain use among users should be a priority for a country's family planning program.

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