

Understanding the Anomaly between High Level of Contraceptive Use and High Fertility Rate in Malawi

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Introduction

The use of contraceptives has been demonstrated to have a direct impact on fertility decline, particularly in developing countries where introduction of family planning programs led to marked fall in fertility rates (Robey B., Rutstein S.O., & Morris L., 1993). Use of modern family planning (FP) methods is by far the most important driver of large-scale declines in fertility, and there is strong negative association between contraceptive use and fertility levels (Ross J.A. & Frankenberg E., 1993). For instance, an analysis of 105 countries comparing fertility levels and contraceptive use levels found that 77% of the variation in fertility could be explained by variation in contraceptive use (Zlizar V. & Gardner R., 2001). A study that analyzed fertility trends in 23 sub-Saharan African (SSA) countries found that fertility rates had declined and that contraceptive use far exceeded the other proximate determinants in explaining these changes (Kirk & Pillet, 1998). Cleland et al (1994) concluded that the Bangladesh FP program was the main factor in fertility decline during the mid-1970s and 1980s (Cleland J., Phillips J., Amin S., & G.M. Kamal, 1994). The widely acknowledged correlation between Contraceptive Prevalence Rate (CPR) and Total Fertility Rate (TFR) indicates that an increase of 15 percentage points in CPR is expected to yield a decline of about one child in the TFR (Ross J.A. & Frankenberg E., 1993).

However, some researchers have argued against this proposition, claiming that while contraceptive use is one of the major factors affecting fertility, it is not the main factor that leads to fertility decline. For instance, Caldwell et al. (1999) refuted Cleland's findings, arguing the role played by social change in the observed fertility decline (Caldwell, Barkat-e-Khuda, Caldwell Bruce, Pieris Indrani, & Caldwell Pat, 1999). Pritchett (1994) on the other hand argued that desired fertility is also an important factor that can influence fertility in a population, and contraceptive use plays a minor role (Pritchett L.H., 1994). Becker (1991), concurs with Pritchett and asserts that the major change in fertility has not resulted from increased use of birth control, but rather from changes in the demand for children (Becker G. S., 1991).

In Malawi, modern contraceptive use increased from 7.4% in 1992 to 58.1% in 2014, while fertility decreased by less than 2 children, from 6.7 to 4.4 children during the same period (NSO, 2015). This inconsistency has raised concerns about the country's fertility dynamics and prospects for future fertility decline. These figures suggest that the family planning program has had little impact on fertility. Thus, it is of interest to understand the factors fuelling the high and slowly declining fertility despite the rapid increase in contraceptive use in Malawi.

This paper attempts to unravel this puzzle by assessing the extent to which patterns and dynamics of contraceptive use in Malawi compare to those in other three African countries (Kenya, Rwanda and Zimbabwe) that have recorded appreciably lower levels of fertility at similar levels of contraceptive use. The primary objective of this study will be to explore the contribution of the proximate determinants of fertility to the observed fertility rate and identify other factors that can explain the observed anomaly. The findings of this study will help to better understand fertility dynamics and the unique correlation

between contraceptive prevalence rate and total fertility rate in Malawi. This will inform development of policy and program interventions aimed at lowering fertility rates in Malawi.

Data and Methods

The study uses data from Demographic Health Survey (DHS) data sets to explore the fertility and contraceptive use dynamics. DHS data is used in this analysis because the surveys are nationally representative; they are conducted almost every five years in most countries and allow comparability among countries because the survey methodology is similar. Data for women of reproductive age (15–49 years) were used in the analysis. The study used both descriptive analysis and regression methods to describe the association between fertility and other fertility related indicators like fertility preferences and socio-economic characteristics. Further, the study attempts to unpack the possible mechanisms behind this unexpected finding, by proposing two hypotheses: 1) fertility intention and socioeconomic conditions offset the fertility inhibiting effect of modern contraceptives; and 2) modern contraceptive use is associated with stopping than limiting or spacing behaviour. The study employed the revised proximate determinants framework by Bongaarts (2015). All analyses were conducted using STATA 12.

Age specific fertility rates and contraceptive use in Malawi

Malawi shows an atypical relationship between contraceptive use and fertility in comparison to the other study countries. This implies that there are other factors that strongly influence fertility in Malawi and play a significant role in maintaining a high fertility rate despite the increasing use of contraceptives.

To explore fertility by age, we looked at the trend in age specific fertility rates and compared this with use of contraceptives by age. Table 1 show that fertility in all ages declined throughout the period, accelerating in the later period, from a decline rate of 9.5 percentage points during 2000-2010 to 22.8 percentage points during 2010-2016 time periods.

Table 1: Age-specific and total fertility rates Contraceptive use rate of change, 2000-2016

Age Group	Age Specific fertility rates			Rate of Change		Age Group	Contraceptive Prevalence Rates			Rate of Change	
	2016	2010	2000	2000-2010	2010-2016		2016	2010	2000	2000-2010	2010-2016
15-19	136	152	172	-11.6	-10.5	15-19	37.5	26.4	12.9	104.7	42.0
20-24	216	269	305	-11.8	-19.7	20-24	54.8	38	22.7	67.4	44.2
25-29	193	238	272	-12.5	-18.9	25-29	61.6	45	29.9	50.5	36.9
30-34	157	206	219	-5.9	-23.8	30-34	64	46	30.2	52.3	39.1
35-39	114	162	167	-3.0	-29.6	35-39	64.5	49.1	31.5	55.9	31.4
40-44	53	82	94	-12.8	-35.4	40-44	60.1	45	31.6	42.4	33.6
45-49	18	33	41	-19.5	-45.5	45-49	50.3	38.2	20.4	87.3	31.7
TFR	4.4	5.7	6.3	-9.5	-22.8	Total	58.1	42.2	26.1	61.7	37.7

Source: ICF StatCompiler, 2015

Notably, the rate of fertility decline shows a U-shape during the 2000-2010, while it increased from the youngest to the oldest age group during the 2010-2016 time periods. Although there was an increase in contraceptive use in all age groups, the rate of increase decelerated in the later period, declining from 61.7 to 37.7 percentage points during the 2000-2010 and 2010-2016 periods, respectively. As observed under the fertility decline, there is a U-shape in age distribution during the 2000-2010 period in

contraceptive use increase, while contraceptive decreased from the youngest to the oldest age group during the 2010-2016 period. Comparing the two variables, as there was a much higher increase in contraceptive use during the 2000-2010 period, the fertility rate decline is expected to have been higher during this period, but this was not the case, as the 2010-2016 period showed a faster fertility decline rate. These findings imply that there are other factors that are at play among women in Malawi to maintain the fertility rates at such a high level.

Sexual Behaviour and Fertility Preferences

According to the 2015 DHS, teenage pregnancies contributed significantly to the high fertility in Malawi, with about 26% of teenagers (15-19 years) being either mothers or pregnant with their first child. In addition, close to one fifth (18.5%) of women 25-49 years in Malawi had their sex debut at 15 years. This data implies that women in Malawi are sexually active for longer periods, and this increases the risk of pregnancy and child bearing. Coupled with this is the fact that use of contraceptives among adolescents is very low in Malawi, with only 9% of all women aged 15-19 using modern contraceptives.

Malawian women get married earlier and are more likely to remain married compared to other countries in the region. In 2016, the median age at first marriage among women aged 25-49 was 18.2 years. Evidence shows that girls who marry early are likely to have more children than those who marry later (Raj, Saggurti, Balaiah, & Silverman, 2009). Empirical data from countries around the world indicate that an acceleration of fertility decline can be achieved through a shift to more effective, modern, and long-term contraceptive methods. Although contraceptive use has increased in Malawi, injection is the predominant method of contraception, suggesting a tendency by women to use it for spacing rather than for limiting births. Only 28% of women with four or more children and who would like to stop child bearing altogether were using long term or permanent contraceptive methods. Another feature about contraceptive use in Malawi is that there is a very high discontinuation rate for pills and injectables, coupled with low levels of switching to other methods from these two methods. Although not very different from other countries, the percentage of women using modern contraception in Malawi increases with the number of living children, suggesting that women begin to space or limit the number of children once they reach their desired family size.

Interrogating the figures on number of children desired shows that women in Malawi, even at high parity, want to have more children. This is contrary to empirical evidence that shows an increase in the percentage of women who want no more children at high parities in some countries in sub-Saharan Africa.

Further analysis

1. Effects of proximate determinants based on revised Bongaarts model
2. Regression of fertility on fertility intentions and contraceptive use. This will characterise women who want 3-4, 5-6 or more children and those who want to stop altogether based on the contraceptive method used and level of use, taking into effect their sociodemographic characteristics

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