

# The Desire for last Birth among Ghanaian women: The Determinants

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## Abstract

This study examines the desire for last birth among Ghanaian women and the determining factors associated with such desire. The study used a data set based on a longitudinal study from the fourth round Multiple Indicators Cluster Survey (MICS). This was a national survey conducted by Ghana Statistical Service (GSS) in 2011 to monitor progress of women and children. A sample of 10,963 women within the reproductive age (15 – 49) years across the country between 2009 and 2011 were selected for the survey.

In this study, a multiple logistic regression and bootstrap techniques were used to determine the relationship of maternal factors and desire for more children. The estimated women who expressed no desire for the last birth was about 33.7% out of the 2873 women who gave birth within the survey period. This means that more than 3 in 10 women get pregnant when they are not prepared. The factors observed to be highly significantly associated with desire for more children among Ghanaian women included marital status (p-value = 0.000), parity (p-value = 0.000), mothers' age (p-value = 0.000) and region of residence (p-value = 0.000). The results show that childbearing among more advantaged women are better planned than less advantaged women. The findings further reveal that about 30.7% of married women have an unmet need for family planning (unmet need for family planning defined as the percentage of married women who want to space their next birth or stop childbearing entirely but are not using contraception).

**Keywords:** Desire for last birth, unmet need, maternal factors, determinants

## 1. Introduction

Several economists and sociologists have emphasized the value (role of the demand) for children as an important source of change in the reproductive behaviour of individuals. Children are perceived by parents as other durable goods and the changes in income and prices will predictably influence the demand of couples for children. Child-bearing and rearing involve a significant amount of time and money. Parents who choose to have more children weigh the rewards from having another child as against the rewards of other goods and services that could have been attained instead, thus making the demand for children change with the income and time costs (Becker, 1960 and 1965).

Demographic research has shown that socio-economic and cultural factors influence fertility through biological and behavioural mechanisms such as the use of contraception, which has a direct effect on fertility (Bongaarts & Potter, 1983). Changes in the demand for children and greater accessibility to contraception are important conditions for fertility transition (Cleland and Wilson, 1987 and Casterline, 2001) and it is generally argued that the traditional social and economic structure of certain societies keep the value of children relatively high and the demand for contraceptive relatively low, resulting in the persistence of high fertility in these countries (Mahmood, 1992).

From a reproductive health and rights-based perspective, all women should have access to methods that allow them to avoid unintended pregnancies (United Nations, 1995). Additionally, HIV-positive women have particular needs for contraception to avoid unintended pregnancy: to preserve their own health (Van der Paal et al. 2007). 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 (Bongaarts, 1997 and Westoff, 1995).

Female fertility declines with advancing age (Steril, 2008: Perheentupa and Huhtaniemi, 2009), and the reproductive phase in women is relatively short in comparison to their entire lifespan. To some degree, there is individual variation in female reproductive ageing, which is determined mainly by genetic factors (Alvaggi et al, 2009). However, all women show a natural decline in fertility by the age of 40 years. Furthermore, advanced maternal age can adversely affect the outcome of a desired pregnancy and cause health problems in both mother and child. The variation in fertility of women between rural and urban areas calls for attention. According to the

2005 Ethiopian Demographic and Health Survey (DHS), fertility in rural Ethiopia is nearly two and half times greater than in urban centres (6.0 versus 2.4).

### *1.1 Fertility Situation in Ghana*

In Ghana, childlessness is regarded as a tragedy. The value placed on children is evident in linguistic labels, especially those found in proverbs, names and tales. An example is the saying that “a delinquent child is better than childlessness” (Batse, 2010). As far back as 1950, Fortes stated that among the Ashantis, “prolific childbearing is honoured and a mother of ten boasts of her achievement and is given a public ceremony of congratulations, in contrast, a barren woman is looked upon with pity not unmixed with scorn”. Childlessness is felt by both men and women as the greatest of all personal tragedies and humiliation.

This stands to reason that women in Ghana attach so much importance to childbearing and will use all possible means to bear children. It is no surprise that total fertility rate (TFR) is high in Ghana compared with countries in the sub region especially in Democratic republic of Congo and Egypt (El-Zanaty and Way, 2009). The very few who are enlightened about the modern methods of contraceptives and would want to plan their childbearing have difficulty assessing these facilities whilst the greater majority may not have any knowledge at all. It is therefore no surprise that the various interventions initiated by Government of Ghana to address and contain high fertility are yet to produce the desired outcomes.

The 2008 Ghana Demographic and Health survey (GDHS) report by GSS indicates that about 35% of women still have unmet need for family planning. This has brought about an increase in total fertility rate (TFR) especially among rural and less privileged women in society. This is a serious challenge since women give birth to children they are not prepared for or did not desire or would have delayed if they had knowledge about access to modern family planning methods. The 2010 Population and Housing Census (PHC) and the 2011 MICS put the adjusted TFR based on Brass relational Gompertz model for Ghana as 4.57 and 4.3 respectively. The low contraceptive rate of 34.7% for any method for 2011 is however not commensurate with a TFR of 4.3. The role of induced abortion in the fertility decline in the country has become increasingly significant over the years. (Rockson 2010; Tutu 2008).

According to the 2008 GDHS, 13% of women age 15-19 are already mothers or are pregnant with their first child: women with no education are much likely to have begun childbearing at an earlier age than women with secondary or higher education (31% compared with 1%) (GSS, 2008).

In the same report, modern contraceptive use also increases with women’s education. Nineteen percent of married women with more than secondary or higher education use modern methods of contraceptives compared with 11% of women with no education. Use of modern methods also increases with household wealth. Twelve percent of women in the poorest households use a modern method of family planning compared with 21% of women in the wealthiest households.

Fertility also varies with mother’s education and economic status; Women who have more than secondary education have an average of 2.1 children, while women with no education have 6.0 children (GSS, 2008) and studies show that fertility is lower among better educated women and is often higher among women whose families own more land and assets (Schultz, 2005).

Appropriate family planning is important for the health of women and children through: 1) preventing pregnancies that are too early or too; 2) extending the period between births; and 3) limiting the number of children. Access by all couples to information and services to prevent pregnancies that are too early, too closely spaced, too late or too many is critical.

### *1.2 Contraceptive Use in Ghana*

Current use of contraception was reported by about one third (35%) of the women currently married or in union in Ghana (MICS, 2011). Contraceptive prevalence is highest in the Greater Accra Region at 44% and Eastern at 43%. In terms of modern methods however, 29% married women in Central Region, and 27% in both Greater Accra and Brong Ahafo recorded the highest use. In Volta and Northern regions, contraceptive use is lowest; only one in five married women (20%) reported using any method. Adolescent are far less likely to use contraception than older women. Only 17% of married or women in union aged 15-19 currently use a method of contraception compared to 37 % of women aged 20-24 year old and 38% of women aged 25-39 years (GSS, 2011).

Women’s educational level is strongly associated with contraceptive prevalence. The percentage of women using any method of contraception rise from 26% among those with no education to 34% among women with primary education, 39% among women with middle/ JSS education, and to 42% among women with secondary or higher education. Furthermore women with secondary or higher education are more likely to have higher negotiation power for abstinence compared with those with lower education (GSS, 2011).

The low contraceptive prevalence rate of 23.4% for any modern method for 2011 shows that the 1994 Revised Policy target of 28% by 2010 could not be achieved (GSS, 2011; Republic of Ghana, 1994). This study therefore seeks to examine the determinants for additional children among women in the reproductive age. How their desire for more children are affected by such factors as age, parity, education, region of residence, household wealth among others. This is influenced by the question whether a woman who gave birth within the survey period had a desire for that child then or not.

## 2. Data

The 2011 Multiple Indicator Cluster Survey (MICS) data was used in this study. This is a fourth round of the survey which is conducted every five years to monitor the situation of children and women in Ghana. In this survey about 10,963 women who were within the reproductive age (15 – 49 years) were selected across the ten Regions of Ghana. The subjects were interviewed reference to two years preceding the survey. The selection procedure was based on a representative probability sample of households nationwide from a frame of Ghana 2010 Population and Housing Census Enumeration Areas (EA's). For comparability, the MICS used an internationally standardized sampling of two-stage stratified sample design. At the first stage, a number of EA's were selected from the regions which were considered as clusters. The households in each region were then selected using systematic sampling with probability proportional to size in the second stage. Of the 12,150 households selected for the sample, 11, 925 households were contacted and duly interviewed. In the households interviewed, 10,963 women aged 15 – 49 years were identified for interview.

## 3. Methodology

This paper uses a data set based on the 2011 MICS. The survey was carried out on a sample of 11,925 households from a selected household of 11,970 in all the ten administrative regions of Ghana giving about 100% response rate. The households were selected due to the sizes of the regions. The survey used both qualitative and quantitative methods of data collection aimed at providing basic data for measuring the progress of children and women in the country. Data used for analysis in this paper was based on information on all births and deaths that had occurred two years prior to the survey period. Statistical package for social scientists (SPSS version 20) and SAS system version 9.1 were used for extraction and the eventual analysis of data. Descriptive statistics and frequencies of the background characteristics of the mothers and the respective households the children belong to were generated. The association between the independent and dependent variable was established using chi-square analysis procedures. The dependent variable selected was the outcome of a question asked whether a woman wanted that last child then. The independent variables include Wealth index quintiles, region, area of residence, religion and mothers' characteristics including; education, marital status, parity and age. A critical level of significance of 5 percent ( $p < 0.05$ ) was used to identify the most statistically significant determinants of desire for more children among the women.

The binary logistic regression model was used to study whether the independent factors affected a woman's desire for additional child or not. The parameters of the model were estimated using the maximum likelihood method as shown below in the formula;

$$P(\pi) = \frac{\ell^z}{1 + \ell^z} \quad (1)$$

Where  $P(\pi)$  = the probability of an event occurring

Z = is the linear combination of independent variables and is expressed as;

$$Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_j X_j \quad (2)$$

$\beta_i$  = are the coefficients

$X_s$  = are the independent variables 95% confidence interval and  $\ell$  = is the error term.

The odd of an event is the probability that it would happen to the probability that it would not occur and the likely number of times. In this paper it is the probability that a mother desires the last child to the probability that she does not desire that child. This means that the outcome variables in the logistic regression should be discrete and dichotomous. Logistic regression was found fit to be used because the outcome variable was in binary form that is a woman wanted that child then, or otherwise. In addition, there were no assumptions to be made about the distributions of the explanatory variables as they did not have to be linear or equal in variance within the group. The model suggests that the likelihood of a woman wanting additional child at the time of pregnancy or

otherwise varies across all the independent variables to be studied. After fitting the model, the outcomes were used to interpret the existing relationships between a woman's desire, household location and mothers' characteristics.

#### 4. Results

Table 1 shows the descriptive statistics about the households. Out of the 2,873 women who delivered during the survey period, more than one third (33.7%) indicated they were not ready for the pregnancy. This means that more than 3 in 10 women gave birth which they were not ready for. More women (69.1%) in rural areas than urban areas (30.9%) did not want their last birth. Women from central region are more likely to give birth to unplanned children (23%) and those from Greater Accra region the least likely to give birth to unplanned children (6%). Mothers from the northern sector of the country also have a higher proportion of not ready for the last birth. Women from rural households, those from the poorest households and those who have a maximum of Middle/JHS education are more likely than more advantaged mothers to give birth to unplanned children. For example, the proportion of unplanned birth among women who have a maximum of middle/JHS education is 87%, compared to 13% of mothers who have a minimum of secondary school education. Women from wealthiest households are more likely to have good plan of giving birth than women from poorest households. The possibility of giving birth to an unplanned or an unexpected child among women who have at most three children is higher than those who have more children (about 52% versus 48%). This means that women who have more children already tend to plan their next child birth than women who have few children. Again, as women age they tend to plan giving birth than when they are young. For instance about 60.2% of women within 20 – 34 age bracket said they were not ready for their last birth and 22% within the 25 – 29 age group alone also indicated they did not desire the last birth. However, only 3.8% of the mothers within the 44 – 49 group indicated they did not desire the last birth. Desire for last birth among mothers who are currently married or living with a man is quite alarming. More mothers in these categories never wanted the last birth (51.7 and 31.1% respectively). Tables 2 and 3 depict the results of multivariate logistic regression analysis of household and mothers' characteristics associated with the desire for more children among women within the reproductive age. The factors observed to be highly significantly associated with women's desire for more children included marital status (p-value = 0.000), parity (p-value = 0.000), mothers' age (p-value = 0.000) and region of residence (p-value = 0.000).

Confounder control by multiple logistic regression analysis revealed that significance factors (in ascending order of odds ratio) were marital status, parity, age, region, residence, educational level and economic status. The highly significant variables were however marital status, parity, age and region.

#### 5. Discussion

The descriptive statistics show that mothers in rural areas tend to give birth to unplanned children than women in urban areas. Women who have higher education plan giving birth to women who are not educated or have low levels of education. Here, we speculate that those educated women may have knowledge about modern methods of family planning. Women whose economic status is high also plan their pregnancies probably because they can afford modern family planning methods than those who live below the poverty line. Women who are currently married do not seem to take family planning seriously compared to those who are living with a man or in a relationship but not married. The association of children ever born, age and location with desire for more children observed in this study has also been reported from other developed and developing countries. Again, more than one-half of married Ghanaian women (51.7%) want no more children. The results further reveal that about 30.7% of married women have an unmet need for family planning (unmet need for family planning defined as the percentage of married women who want to space their next birth or stop childbearing entirely but are not using contraception). Even though this is a reduction from 35% in the (2008 GHDS) results it should still be a source of worry to the nation as it indicates a strong policy issue.

The desire for not wanting more children was higher among mothers who have higher education, high economic status, live in urban areas, between the 20 -34 age brackets, already have more children and are currently married or in a union. The bootstrap results (table 3) also confirm the model in table 2. By extension, it shows that childbearing among more advantaged women are better planned than less advantaged women.

## 6. Conclusion

The results of this study suggest that for reducing unmet need among married women, the strategy needs to focus attention on modern family planning methods to facilitate better understanding of contraceptive usage focussing more on sexually active population, intensify education on pre-marital sex, regular supply of contraceptives to accredited institutions and discouraging teenage and old pregnancies as well as formulating policies that will reduce poverty among rural women. Accessibility issues regarding modern contraceptives must be critically looked and address at as a country. The girl child education policy must also be given all the needed resources it requires to achieve the desired set targets. The whole issue of unmet need must be tackled holistically to reduce it to the barest minimum.

The low variability in desire for more children that was explained by independent variables used in all the regression models suggests that there were some confounding factors not accounted for. Within the limits of this research however, however marital status, parity, age and region of residence contributed significantly in predicting women's desire for last birth.

Table1. Characteristics of mothers' by desire for last birth

Variable	Wanted last birth		Total	
	Yes N (%)	No N (%)	N (%)	
<b>Residence</b>				
Urban	492 (25.8)	299 (30.9)	791 (27.5)	
Rural	1412 (74.2)	670 (69.1)	2082 (72.5)	
<b>Total</b>	<b>1904 (100)</b>	<b>969 (100)</b>	<b>2873 (100)</b>	
<b>Region</b>				
Western	101 (5.3)	72 (7.4)	173 (6.0)	
Central	162 (8.5)	223 (23.0)	385 (13.4)	
Greater Accra	97 (5.1)	58 (6.0)	155 (5.4)	
Volta	72 (3.8)	70 (7.2)	142 (4.9)	
Eastern	65 (3.4)	71 (7.3)	136 (4.7)	
Ashanti	83 (4.4)	93 (9.6)	176 (6.1)	
Brong Ahafo	84 (4.4)	69 (7.1)	153 (5.3)	
Northern	629 (33.0)	120 (12.4)	749 (26.1)	
Upper East	286 (15.0)	77 (7.9)	363 (12.6)	
Upper West	325 (17.1)	116 (12.0)	441 (15.3)	
<b>Total</b>	<b>1904 (100)</b>	<b>969 (100)</b>	<b>2873 (100)</b>	
<b>Wealth index quintiles (Economic status)</b>				
Poorest	988 (51.9)	332 (34.3)	1320 (45.9)	
Second	351 (18.4)	229 (23.6)	580 (20.2)	
Middle	194 (10.2)	199 (20.5)	393 (13.7)	
Fourth	191 (10.0)	130 (13.4)	321 (11.2)	
Richest	180 (9.5)	79 (8.2)	259 (9.0)	
<b>Total</b>	<b>1904 (100)</b>	<b>969 (100)</b>	<b>2873 (100)</b>	
<b>Marital status</b>				
Yes Currently married	1475 (77.5)	501 (51.7)	1976 (68.8)	

Yes, living with a man	336 (17.6)	301 (31.1)	637 (22.2)
No, not in union	93 (4.9)	167 (17.2)	260 (9.0)
<b>Total</b>	<b>1904 (100)</b>	<b>969 (100)</b>	<b>2873 (100)</b>
<b>Children ever born</b>			
1	280 (14.7)	216 (22.3)	496 (17.3)
2	322 (16.9)	144 (14.9)	466 (16.2)
3	332 (17.4)	141 (14.6)	473 (16.5)
≥4	970 (50.94)	468 (48.297)	1438 (50.05)
<b>Total</b>	<b>1904 (100)</b>	<b>969 (100)</b>	<b>2873 (100)</b>
<b>Age</b>			
15-19	49 (2.7)	106 (10.9)	155 (5.4)
20-24	272 (14.3)	191 (19.6)	463 (16.1)
25-29	487 (25.6)	213 (22.0)	700 (24.4)
30-34	508 (26.8)	180 (18.6)	688 (24.0)
35-39	357 (18.8)	163 (16.9)	520 (18.5)
40-44	177 (9.3)	78 (8.0)	255 (8.7)
45-49	54 (2.8)	38 (3.8)	92 (3.2)
<b>Total</b>	<b>1904 (100)</b>	<b>969 (100)</b>	<b>2873 (100)</b>
<b>Educational level</b>			
JHS and below	639 (80.3)	557 (87.0)	1196 (83.2)
Secondary school +	158 (19.9)	83 (13.0)	241 (16.8)
<b>Total</b>	<b>797 (100)</b>	<b>640 (100)</b>	<b>1437 (100)</b>

Table 2 Determinants for last birth – Multiple Logistic regression model

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	-1.269	.6420	-2.527	-.010	3.905	1	.048
Age	.102	.0166	.070	.134	37.949	1	.000
Parity	-.360	.0550	-.467	-.252	42.701	1	.000
Marital Status	-.739	.1018	-.938	-.539	52.708	1	.000
Area of Residence	.121	.1675	-.208	.449	.519	1	.471
Region	.127	.0250	.078	.176	26.001	1	.000
Wealth Index Quintiles	.003	.0687	-.131	.138	.002	1	.960
Educational Level	-.014	.0697	-.150	.123	.039	1	.842
(Scale)	1 <sup>a</sup>						



Table 3 Bootstrap for parameter estimates

Parameter	B	Bootstrap* <sup>a</sup>				
		Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval	
					Lower	Upper
(Intercept)	-1.269	.014	.655	.043	-2.583	-.073
Age	.102	.001	.018	.001	.070	.140
Parity	-.360	-.005	.061	.001	-.487	-.248
Marital Status	-.739	-.012	.108	.001	-.964	-.530
Area of Residence	.121	-.005	.164	.498	-.188	.427
Region	.127	.001	.025	.001	.082	.177
Wealth Index Quintiles	.003	-.002	.067	.958	-.129	.130
Educational Level	-.014	.000	.070	.829	-.149	.129
(Scale)	1	0	0		1	1

a. Bootstrap results are based on 1,000 bootstrap samples

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