Original article

Factors Influencing Women's Intention to Limit Child Bearing in Oromia, Ethiopia

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Abstract

Backgraound: The desire for large family size is one of the factors influencing fertility in Ethiopia. Thus, understanding factors that influence the fertility intentions of women is important for family planning program purposes and population policy.

Objective: The objective of this study was to examine factors which influence women's intentions to limit child bearing in Oromia Regional State, Ethiopia.

Methods: The 2005 Ethiopian Demographic and Health Survey was the data source. A weighted sub-sample of 3300 married women was drawn from the DHS women's dataset.

Results: A greater intention to limit childbearing is associated with older age, larger number of living sons and daughters, being wealthier, no previous child death, knowledge and use of family planning and exposure to media.

Conclusion: A high proportion of women desired to limit childbearing, but there was a large unmet need for contraceptives. Thus, improving access to family planning services to women who have achieved their fertility goals would be important. [*Ethiop.J.Health Dev.* 2008;22(3):28-33]

Introduction

With a population of about 77 million in mid 2007, Ethiopia is the second most populous country in Sub-Saharan Africa. The population is increasing at a rate of about 2.5% per annum while the fertility rate is 5.4 children per women (1,3). Like many other African countries, Ethiopia has so far shown little change in fertility. Between 1990 and 2005, the total fertility rate in Ethiopia declined steadily from 6.4 to 5.4 children per woman of reproductive age (1,2). Apart from the high fertility, the large variation in fertility between rural and urban areas and between the regional states in Ethiopia 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). Among the nine regional states and two city council administrations under the Federal Government of Ethiopia, Oromia Region has the highest fertility rate of about 6.2 children per woman while Addis Ababa (the capital) has a below replacement level of fertility of 1.4 children per woman (1).

Demographic research has shown that socio-economic and cultural factors influence fertility through biological and behavioral mechanisms such as the use of contraception, which has a direct effect on fertility (4). But contraceptive use, which plays the major role in influencing fertility, is very low in Ethiopia. As of 2005, only 14.7% of married women in the country and 13.6% in Oromia Regional State used any method of contraception (1). As a result of the low contraceptive prevalence, many women of reproductive age who want to stop or postpone child bearing are not able to do so; and hence there is a high unmet need for contraception in Oromia Regional State estimated at 41.5% in 2005 (1).

Changes in the demand for children and greater accessibility to contraception are important conditions for fertility transition (10,11). 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 (5,6). In the past few years, the proportion of women who desire to limit child bearing has been rising in Sub-Saharan Africa. Analysis of DHS data between 1990 and 2001 has shown that the proportion of women with the intention to limit child bearing ranged from a low of less than 10 percent in Niger and Chad to a high of 53 percent in Kenya in sub-Saharan Africa (18). The 2005 Ethiopian DHS also showed that 42% of married women reported that they want no more children.

Previous research has shown that the fertility intentions of women are influenced by various demographic, socio-economic and program factors. Using DHS data, Westoff and Bankole (1995) demonstrated that fertility intentions of women vary with the age of women, number of living children, place of residence, education and exposure to media (4). Fertility intentions are also shaped by couples' experiences with child mortality and their expectation about child survival conditions as well as their preferences for a single sex, usually son (13,16,17). Other studies have identified knowledge, approval and use of family planning as important factors influencing fertility intentions (9,13). In relation to knowledge and approval of family planning, many have posited that exposure to mass media, particularly those promoting family planning, is important in influencing fertility related behaviors of women (7,11,12).

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The analysis of fertility intentions is of fundamental importance for family planning program purposes and for population policy because it determines the demand for contraception and the potential impact on the rate of reproduction (4). Thus, understanding the factors which influence women's fertility intention is critical for countries like Ethiopia with a population policy aiming at reducing fertility. However, there has been no study so far to assess the factors that influence women's intention to limit childbearing in Oromia Region. The objective of this study is thus to identify factors that influence women's intention to limit childbearing in Oromia Regional State, Ethiopia.

Methods

The data used for this study come from the 2005 Ethiopian Demographic and Health Survey (EDHS). The DHS was conducted by the Central Statistical Authority of Ethiopia. It is nationally and regionally representative and thus permits the investigator to draw a sub-sample from the national data that is representative of Oromia Regional State. The survey covered a sample of 14,645 households and 14,070 women (available in the women's DHS dataset). Of these 5,010 women, 3,300 were married at the time of the survey and the analysis focused on this weighted sample of married women. The survey collected both retrospective and prospective information with regard to fertility preferences of women.

The outcome variable for this study is women's intention to limit childbearing; a dummy variable was created from the question of desire for more children. Desire for additional children refers to the proportion of women or couples of reproductive age who want to have a child or another child (14). The DHS asks whether a woman wants to have another child soon, after two years, or wants no more children. On the basis of responses to these questions, respondents are divided into two categories; those who 'desire to have more children' and those' desiring to limit childbearing'. The first category consists of those women who want a child within two years, after two years and those who want a child but were not sure of the timing. Those women who responded that they do not want any more children are considered as those with the 'intention to limit childbearing'. Women who reported that they are sterilized and declared in-fecund are excluded from the analysis.

Independent variables included in the analysis include demographic and socio-economic factors. Demographic variables such as age, number and sex composition of living children, previous child death, age at marriage, knowledge of contraception, and practice of contraception are included. Socio-economic variables included are education, place of residence, wealth index and exposure to media. The index of media exposure was constructed from data on whether a woman listens to radio, watches television or reads newspapers and magazines with some frequency. The index ranges from none, indicating no exposure to any of these media, to three if a woman reports exposure to all the three media. Similarly, the DHS wealth index is a composite variable constructed from household's type of flooring, water supply, sanitation facilities, access to electricity, ownership of telephone, refrigerator, type of vehicle and other items (1).

The data were analyzed using the SPSS version 12. Odds ratios, confidence intervals and a Chi-square test were used to assess the associations between independent variables with the outcome variable. The choice of explanatory variables was guided by review of the available literature. The variables were tested for statistical significance using chi-square tests and those variables which were significant in the bivariate setup ($P<0.05$) were included in the multivariate logistic regression.

Results

Analysis of the fertility intentions of currently married women shows that 13% of women wanted a child within two years, 34% of women wanted a child after two years (those wanting to space child birth) and about 47% of currently marred women wanted no more child, which are considered here after as those with the intention to limit childbearing (Figure 1).

Most women with intention to limit childbearing are older (ages 35-49), 802 (51.6%), have 4 or more living children 1126 (72.5%), have no formal education 1219(78.4%) and live in rural areas 1397 (89.9%). More than half, 792 (51%) have no exposure to any source of media. Almost all 1501 (96.6%) know some form of family planning methods (Table 1). Significantly higher proportions (83%) are not using family planning services. There were statistically significant differences between women who intend to limit childbearing and women who want more children in terms of age, number of living children, education, wealth, experiences of child death, exposure to media, and knowledge and use of family planning ($P<0.05$). A higher proportion of women who want more children are younger, have fewer children, are illiterate and live in rural areas (Table 1).

Logistic regression models were used to identify factors influencing the desire to limit childbearing. The regression result revealed that predictors of the desire to limit childbearing are age, education, wealth index, number of living sons, number of living daughters, experience of child death, knowledge and use of family planning services and exposure to media. Table 2 shows odds ratios and their confidence intervals obtained from the logistic regression model.

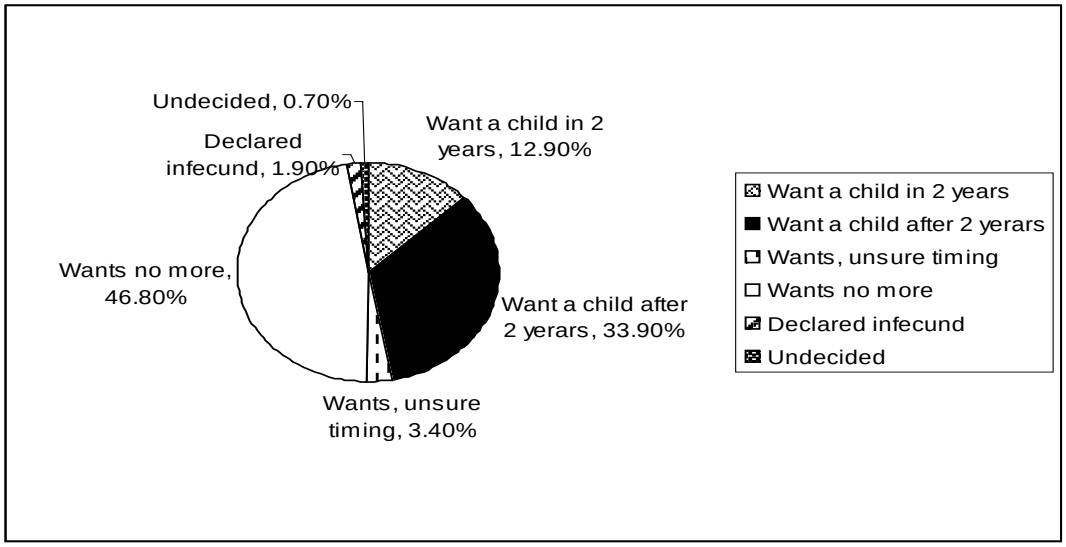

Figure 1: **Fertility intentions of currently married women, Oromia Regional State, 2005**

Table 1: **Socio-demographic characteristics of women with the intention to limit childbearing in Oromia Region, 2005**

Variables	Want no more children	Want more Children	Chi-square	P-value
Age				
15-24	175 (11.5)	682 (41.1)	573.3	0.000
25-34	574 (36.9)	709 (42.7)		
35-49	802 (51.6)	268 (16.2)		
Age of first marriage				
Below 15	453 (29.2)	381 (23)	20.64	0.000
15-19	855 (55.1)	945 (57)		
20+	245 (15.8)	333 (20.1)		
Number of living children				
0	19 (1.2)	231 (13.9)	657.4	0.000
1-3	409 (26.3)	952 (57.4)		
4+	1126 (72.5)	476 (28.7)		
Any previous child death				
No	847 (54.5)	1134 (68.4)	65.10	0.000
Yes	707 (45.5)	525 (31.6)		
Education				
No education	1219 (78.4)	1234 (74.4)	11.4	0.03
Primary	270 (17.4)	316 (19.0)		
Secondary and above	65 (4.2)	109 (6.6)		
Wealth index				
Poorest	258 (16.6)	359 (21.6)	28.8	0.000
Poorer	339 (21.8)	416 (25.1)		
Middle	332 (21.4)	347 (20.9)		
Rich	317 (20.4)	287 (17.3)		
Richest	309 (19.9)	251 (15.1)		
Place of residence				
Rural	1397 (89.9)	1519 (91.6)	2.6	0.06
Urban	157 (10.1)	140 (8.4)		
Knowledge of family planning				
No knowledge of family planning	53 (3.4)	94 (5.7)	9.35	0.001
Knows family planning	1501 (96.6)	1565 (94.3)		
Use of family planning				
Not using family planning	1292 (83.1)	1476 (89)	22.8	0.000
Using family planning	262 (16.9)	183 (11.0)		
Exposure to media (Radio, TV, Newspaper)				
None	792 (51.0)	908 (54.8)	14.16	0.003
Any one	629 (34.1)	511 (30.8)		
Any two	185 (11.9)	161(9.7)		
All three	47 (3.0)	78 (4.7)		

Table 2: **Odds Ratio from logistic regression analysis showing factors associated with women's desire to limit child bearing, Oromia State, Ethiopia 2005**

Variables	Want no more	Want more	OR (CI) Adjusted
Age			
15-24	175 (11.5)	682 (41.1)	1
25-34	574 (36.9)	709 (42.7)	1.21 (0.87-1.67)
35-49	802 (51.6)	268 (16.2)	2.15(1.50-3.08)***
Education			
No education	1219 (78.4)	1234 (74.4)	1
Primary	270 (17.4)	316(19.0)	0.87(0.72-1.05)
Secondary and above	65 (4.2)	109(6.6)	0.61 (0.44-0.84)**
Types of place of residence			
Urban	1397 (89.9)	1519 (91.6)	1
Rural	157 (10.1)	140 (8.4)	0.546 (0.464-0.738)
Wealth index			
Poorest	258 (16.6)	359 (21.6)	1
Poorer	339 (21.8)	416 (25.1)	1.46 (1.10-1.94)*
Middle	332 (21.4)	347 (20.9)	1.71 (1.32-2.21)**
Rich	317 (20.4)	287 (17.3)	1.79 (1.3602.35)**
Richest	309 (19.9)	251 (15.1)	2.56 (1.84-3.56)***
Number of living sons			
1	283 (19.4)	538 (49.5)	1
2	438 (30.1)	306 (28.2)	2.34 (1.79-2.92)***
3	331 (22.7)	134 (20.9)	3.81 (2.81-5.16)***
4+	404 (27.7)	109 (10.0)	4.80 (3.42-6.25)***
Number of living daughters			
1	342 (24.5)	489 (44.1)	1
2	426 (30.6)	318 (18.6)	1.42 (1.11-1.82)**
3	272 (19.5)	180 (16.2)	1.53 (1.15-2.05)**
4+	354 (25.4)	123 (11.1)	2.11 (1.54-2.88)***
Previous child death			
No	847 (54.5)	1134 (68.4)	1
Yes	707 (45.5)	525 (31.6)	0.55 (0.48-0.64)***
Knowledge of family planning			
No	53 (3.4)	94 (5.7)	1
Yes	1501 (96.6)	1565 (94.3)	1.80 (1.29-2.52)**
Current use of family planning			
No	1292 (83.1)	1476 (89)	1
Yes	262 (16.9)	183 (11.0)	1.51 (1.09-2.079)*
Exposure to media (radio, TV, newspaper)			
None	792 (51.0)	908 (54.8)	1
Any one	629 (34.1)	511 (30.8)	1.19 (1.02-1.39)*
Any two	185 (11.9)	161(9.7)	1.31 (1.04-1.65)*
All three	47 (3.0)	78 (4.7)	0.69 (0.50-1.05)

RC=Reference category *P < 0.05 ** P < 0.01 *** P < 0.001

Discussion

This study intended to examine factors that influence women's intention to limit childbearing in Oromia Regional State, Ethiopia, using data from the 2005 Ethiopian DHS. Women's responses to the question on the desire for more children (fertility intention) showed that 47% of women did not want any more children. The majority of the women with the intention to limit children belonged to the ages 35-49(51.6%), have 4 or more living children (72.5%), have no formal education (78.4%) and live in rural areas (89.9%).

The proportion of women who did not want any more children in Oromia Regional State was higher than the national average (42%) and other countries in sub-Saharan Africa. In Ethiopia, three of the eleven regions; Addis Ababa (47%), Amhara (47.5%) and Oromia (47%) have more than 45% of women desiring to limit childbearing (1). In sub-Saharan Africa, analysis of DHS data between 1990 and 2001 has shown that the proportion of women who want to limit childbearing ranged from 10% in Niger and Chad to 53% in Kenya (8). Compared with the previous Ethiopian DHS, the proportion of women who want to limit childbearing has increased from 30% in 2000 to 4.2 by 2005 (1,15). This may indicate that demand for children is changing among women, though unmet need for family planning is very high (41.5%) and jeopardizes their desire to space or limit pregnancies and achieve desired family size. The unmet need component shows the gaps between fertility intentions, specifically the desire to limit or space births

on the one hand and actual contraceptive behavior on the other hand (6,8).

In the logistic regression, the main factors associated with the desire to limit childbearing are age of women, education, number of living sons and daughters, knowledge of family planning, use of family planning, experiences of child death and exposure to media. Older women (ages 35-49 years) are two times more likely than younger women (15-24 years) to not want more children (OR: 2.15). Younger women (15-24 years) and those in the middle of their reproductive years (25-34 years) did not show significant difference in the odds of intending to limit child bearing. Household socio-economic status (Wealth Quintile) is another important variable associated with women's intention to limit childbearing. The odds of the desire to stop childbearing increased as wealth increased. Women from households in the richest wealth quintile are two and half times more likely to desire to limit childbearing than women of the poorest wealth category (OR 2.56). Wealth may indicate a greater exposure of people to new ideas and commodities, and may thus influence fertility intentions of people.

The results for education showed that women with no formal education are more likely to desire to limit childbearing. The odds of the desire to limit child bearing declined as education increased. This was also observed in previous studies in Guatemala (18) and Ethiopia (19), where the probability of wanting additional children increased as education of women increased. The uneducated or less educated women, who are more likely to want to limit childbearing, may already have more children than the educated ones and this effect of education may diminish when analysis is done by their number of living children.

The number and sex composition of living children (number of living sons and daughters) is a variable that is strongly associated with the desire to limit childbearing. Women with a large number of surviving sons and daughters are more likely to want to limit childbearing. Comparing the sex composition of children at the same number of living children, the number of living boys is a stronger predictor of the desire to limit childbearing than the number of living daughters. Women with two sons are two times more likely to desire to stop childbearing (OR 2.34) as compared to women with one son, while women with two daughters are only 42% higher than those with one daughter to desire to limit childbearing. The implication is that women with sons are more likely to desire to limit childbearing than women with the same number of daughters. Studies in Bangladesh (Bairagi and Langston, 1996), Botswana (Campbell and Campbell, 1997) observed that a stated desire to stop childbearing is generally more common among women with two sons than those with two daughters (16, 20).

With regards to child mortality, it is observed that women who have had at least one child death are less likely to intend to limit childbearing as compared to those who have not experienced any child death (OR 0.55). This supports the existing hypothesis that behavioral reaction to child mortality involves replacement of a child who has died, and adjustment of fertility to ensure the survival of some children to adulthood (17-19). Women who experienced child mortality may want more children to replace those who died and to achieve their desired fertility.

As expected, women's intentions to limit childbearing varied with their knowledge and use of family planning methods. Women who know at least one method of family planning are 80% more likely to desire to stop childbearing (OR 1.80) as women who do not know any method of family planning. Similarly, women who are using family planning are 51% more likely to desire to limit childbearing as women who are not using family planning. Previous studies in Ethiopia (Short & Kiros, 2002) and Pakistan (Mohammed & Ringheim, 1997) have shown that couple's knowledge, approval and use to family planning are correlated with the desire not to have additional children (9,13).

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

This analysis indicated that there is a high desire for limiting childbearing among women in Oromia Region, particularly among older women and those who have large family size. Thus, providing family planning services to women who have achieved their fertility goals would be important for reducing unwanted fertility. Family planning programs should focus on women with unmet need, particularly those who want to limit childbearing. Moreover, expanding information, education and communication about small family norms and the benefits of family planning to achieve the goals of wanted fertility is needed.

References

1. Central Statistical Authority and ORC Macro, Ethiopia Demographic and Health Survey 2005,

Addis Ababa, Ethiopia and Calverton, Maryland, USA, 2006.
2. Central Statistical Authority. The 1990 Family and Fertility Survey, Addis Ababa, Ethiopia, 1993.
3. Population Reference Bureau, World Population Data Sheet, 2007.
4. Bongaarts J. & Potter R.G.,(1983) Fertility, Biology and Behavior: An Analysis of the Proximate Determinants of Fertility, Academic Press, New York.
5. Bongaarts, J. Trends in unwanted childbearing in the developing world, Studies in Family Planning, 1997;28 (4):267-277.
6. Westoff, CF, Bankole A. (1995) Child bearing Attitudes and Intentions. DHS Comparative studies No. 17. Calverton, Marland: Macro International Inc.
7. Westoff, CF. Bankole A. (1997). Mass Media and Reproductive Behavior in Africa. DHS Analytical Reports, No. 2, Calverton, Maryland: ORC MACRO.
8. Westoff, CF, Bankole A (2002) Reproductive Preferences in Developing Countries at the turn of the century, DHS comparative Reports, No. 2, Calverton, Maryland: ORC MACRO.
9. Mohammod N and Ringheim K, Knowledge, Approval and Communication about family planning as correlates of desired fertility among spouses in Pakistan; International Family Planning perspective, 1997;23(3):122-129.
10. Cleland, J and Wilson C. Demand Theories of Fertility Transition: an Iconoclastic View, Population Studies, 1987;41:5-30.
11. Casterline, John B. 2001. Diffusion Processes and Fertility Transition, National Research Council, Committee on Population, National Academy Press, Wasgubgtibm D.C.
12. Gupta N, Katende C, Bessinger R. Association of Mass Media Exposure with Family Planning Attitudes and Practices in Uganda; Studies in Family Planning, 2003;34 (1):19-31.
13. Short E.S. and Kiros G. Husbands, Wives, sons and Daughters Fertility Preferences and the Demand for Contraception in Ethiopia, Population Research and Policy Review, 2002;21:377-402.
14. Bertrand J.T, Magnani RJ, Rutenberg N (1994). Handbook of Indicators for family planning programme Evaluation, The Evaluation Project, USAUD.
15. Central Statistical Authority and ORC Macro. Ethiopia Demographic and Health Survey 2000, Addis Ababa Ethiopia and Calverton, Maryland USA, 2001.
16. Campbell EK and Compbel PG, Family size and Sex Preferences and Eventual Fertility in Botswana, Journal of Biosocial Science 1997;29;191-204.
17. Pullum WT, Correlates of Family Size Desires', in Bulatao and Lee (eds), Determinants of Fertility in Developing countries, Supply and Demand for Children, 1983;1:344-368.
18. Pebley R, Delgado H, Brinemann E, Fertility Desires and Child Mortality among Guatemalan Women, studies in family Planning 1989;10(4):129-136.
19. Bhargava A, Desired Family Size, Family Planning and Fertility in Ethiopia, Journal of Biosocial Science, 2007;39:367-381.
20. Bairagi R, Langsten L. Sex Preference for Children and Its Implications for Fertility in Rural Bangladesh, Studies in Family Planning 1986;17(6):302-307