

Fertility Analysis of Oromia Regional State*

Abstract

In this report we use data from the 2000 Ethiopia Demographic and Health Survey (ETDHS) to assess the levels and age patterns of fertility according to selected characteristics in the Oromia region. We compute fertility rates using births within the last five years preceding the survey. Approximately half of the women (52%) had at least one live birth within the last five years, and 27 percent had two or more births during the same period. The analysis shows a total fertility rate of 6.4 children per woman in Oromia. The urban-rural fertility differential is very large - rural total fertility is almost twice that of urban (6.8 versus 3.8). Educational differences in fertility are also important, but not as large as the urban-rural differential. Women with some education have an average of 1.5 fewer children than women with no education (5.2 versus 6.7). The total fertility rate for Christian women is 0.7 lower than for Muslim women (6.0 versus 6.7), but the age pattern of fertility is very similar for the two major religious groups. Women who follow traditional religions have fertility above that of Christians and Muslims (TFR=7.2), but they constitute a relatively small proportion of the population. Fertility outside of marriage is low in Oromia, especially at younger ages.

Background

As the largest regional state in Ethiopia, Oromia accounts for about 35 percent of the approximately 68 million people in Ethiopia (MOH 1997, PRB 2002). The region is relatively diverse in terms of

ethnic, religious, and sociocultural composition (CSA 1999). It is also one of the least developed regions in Ethiopia. Only 10% of the population lives in urban areas, and less than a quarter (22%) of the population age 10 years and above is literate. Female literacy is particularly low (15% of women age 10 and above). The vast majority of the population is engaged in subsistence agriculture. In this report we present current levels and age patterns of fertility according to selected background variables.

Data and Methods

The data come from the 2000 Ethiopia Demographic and Health Survey (ETDHS). This survey provides detailed data on births and reproductive health that is representative at the regional and national levels. The national sample contains information for 15,367 women of reproductive age (age 15-49 years) of whom 2,578 or 16.8% were interviewed in the Oromia region. The results presented in this report are based on weighted data using sample weights provided with the ETDHS data set.

The current age patterns of fertility and the total fertility rate (TFR) are estimated using the number of births in the last five years. The TFR indicates the average number of live births a woman would have if she experienced the current age-specific pattern of fertility during her entire reproductive years. We compute total and age-specific fertility rates by place of residence, education, religion, and marital status.

Close to 50% of women of reproductive age in the Oromia sample are between the ages of 15 and 24. Consistent with census figures, about 85% of the respondents in the survey are from rural areas and 76% have no education. Half of respondents are Christian (Orthodox, Protestant, or Catholic), 45% are Muslim, and 5.5% follow traditional religions. Slightly over a quarter of the respondents (27%) have never been married and 63% were currently married at the time of the survey.

Table 1.
Background Characteristics of Women
Age 15-49, Oromia Region, Ethiopian DHS, 2000.

Background Characteristics	Percent (%)
Age	
15-19	26.9
20-24	19.9
25-29	15.7
30-34	11.9
35-39	9.7
40-44	8.8
45-49	7.2
Place of Residence	
Rural	84.6
Urban	15.4
Highest Education Level	
No education	75.9
Primary	16.4
Secondary	7.4
Higher	0.4
Religion	
Orthodox	35.6
Catholic	1.1
Protestant	12.9
Muslim	44.9
Traditional	5.2
Other	0.3
Current Marital Status	
Never married	27.6
Married	62.9
Living together	0.6
Widowed	2.9
Divorced	2.5
Not living together	2.5
Number of women = 5,938	

Results

Birth in the last five years:

Table 2 reports the percentage distribution of women by the number of births in the last five years. Around half of the women reported having at least one live birth during the last five years, and slightly over a quarter had two or more births. Births were least common among women age 15-19, and most common among women in their late twenties and early thirties.

The 2000 ETDHS recorded the timing of all births in the last five years. We used this information to assign births to the mother's age at which they occurred. We also calculated the number of years that a woman spent in each age group during the last five years. These life years represent the years of exposure to the risk of a birth that a woman spent in each age group. When we sum the total number of births that occur to women in a specific age category and divide by the total number of life years of exposure spent by women in that age category, the result is the age-specific fertility rate.

Table 3 reports exposure years, number of births, and fertility rates for five year age groups. The age-specific fertility rates can be interpreted as the probability of a live birth at a given age within a five year age group. The total fertility rate is the sum of these age-specific fertility rates multiplied by 5.

The age-specific fertility rates reported in Table 3 indicate that between the ages of 20 and 34 roughly one in four women will have a birth during a given year. Fertility begins to decline after age 34. By age 45-49 the probability of a birth in a given year is only 0.02. These age-specific fertility rates cumulated across the reproductive age-span produce a total fertility rate of 6.4 children.

Table 2.
Percentage Distribution women by age and number of births within five years, Oromia, 2000

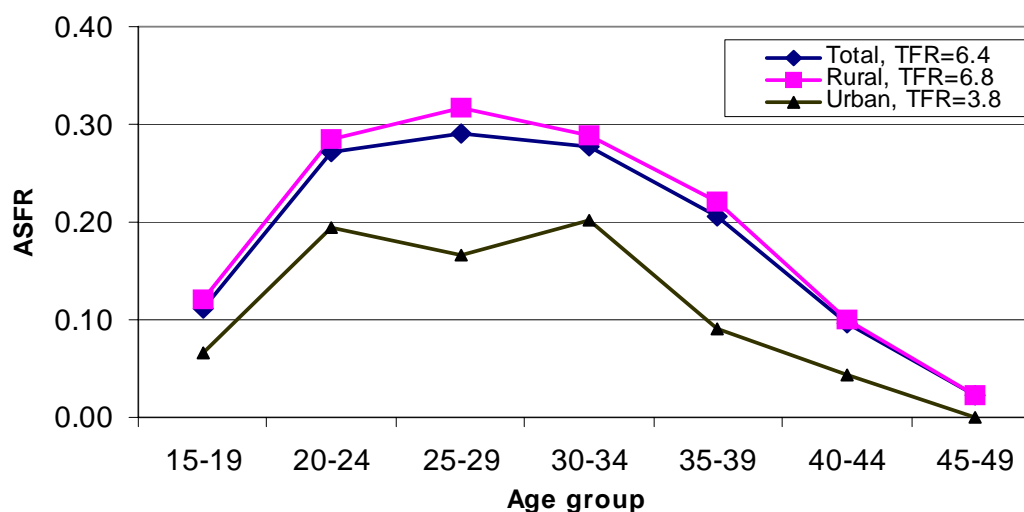
Age group	Number of births during 5 years			%	Number of women (Weighted)
	0	1	2 or more		
15 – 19	88.7%	9.2%	2.1%	100.0	1,595
20 – 24	37.4	27.4	35.2	100.0	1,180
25 – 29	17.6	34.2	48.2	100.0	931
30 – 34	18.1	31.8	50.1	100.0	708
35 – 39	25.8	35.0	39.2	100.0	574
40 – 44	49.2	30.6	20.2	100.0	520
45 – 49	76.2	18.0	5.8	100.0	428
Total	48.5	24.4	27.1	100.0	5,936

Table 3. Age pattern of fertility, Oromia, 2000

Age group	Woman-years of exposure	Births in the last 5 years	Age-Specific Fertility Rates
15-19	6,717	745	0.11
20-24	5,404	1,465	0.27
25-29	3,915	1,141	0.29
30-34	3,028	837	0.28
35-39	2,728	561	0.21
40-44	2,335	226	0.10
45-49	971	21	0.02
TFR = 6.4			

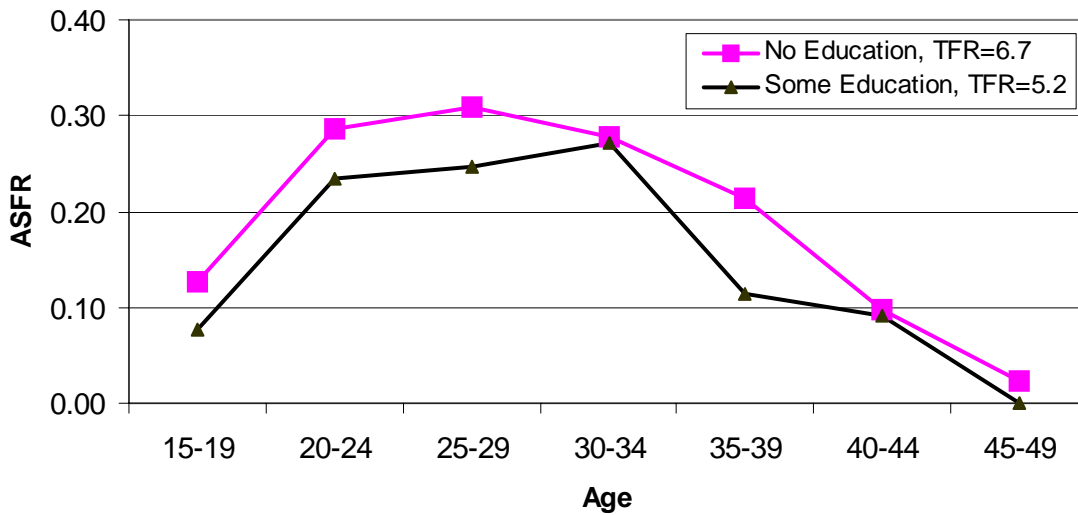
Figure 1 presents total and age-specific fertility rates by place of residence. The total fertility rate for rural areas is substantially higher than in urban areas (6.8 children per woman compared to 3.8). Fertility in rural areas rises rapidly from the adolescent years (15-19) to early adulthood (20-24), and then stays at a relatively high and constant rate until women enter into their forties. In contrast, fertility in urban areas rises more gradually, reflecting the older age at marriage in urban areas, and remains at significantly lower levels than in rural areas throughout the reproductive ages.

Figure 1. Age-Specific Fertility Rates by Rural-Urban Residence, Oromia, 2000



Differences in fertility by level of education are also significant, but not nearly as dramatic as the differences by place of residence (Figure 2). The TFR for women with no education is 6.7 compared to 5.2 for women with some education. The overall age pattern of fertility is similar for the two education groups, although fertility appears to peak at an older age for women with some education compared to women with no schooling.

Figure 2. Age-Specific Fertility Rates by Educational Status of Women, Oromia, 2000



The total fertility rate in Oromia is lowest among Christians (Orthodox, Catholic, and Protestants) and highest among women who practice traditional religions (Figure 3). Muslim women have intermediate fertility levels between Christians and traditionalist. While the age pattern of fertility is very similar for Christians and Muslims, it is significantly different among followers of traditional religions. Fertility rises more rapidly and to higher levels at the early ages among traditionalists than among Christians and Muslims. However, by age 30-34 religious differences in fertility are relatively minor. These differences at earlier ages likely reflect differences in age at marriage.

Figure 3. Age-Specific Fertility Rates by Women's Religion, Oromia, 2000

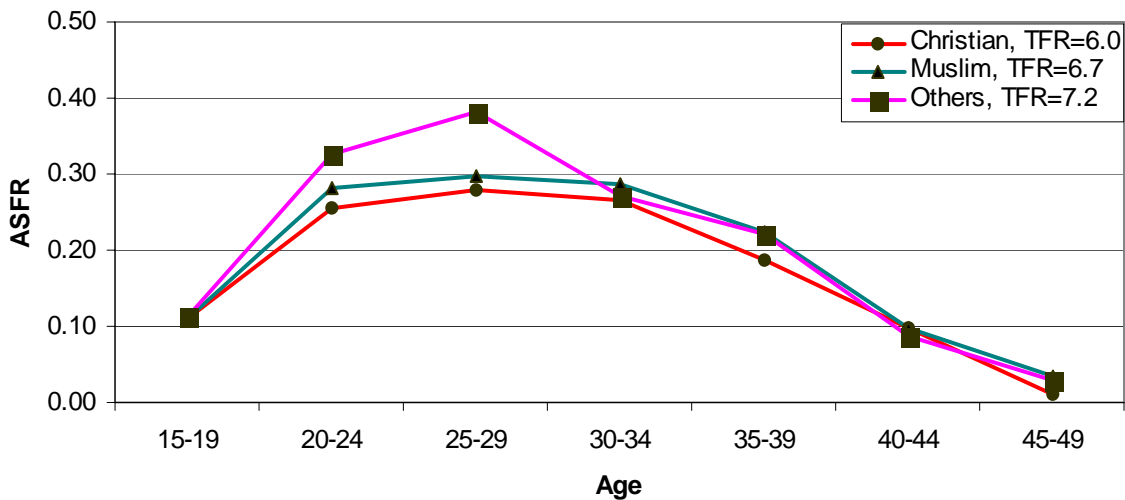
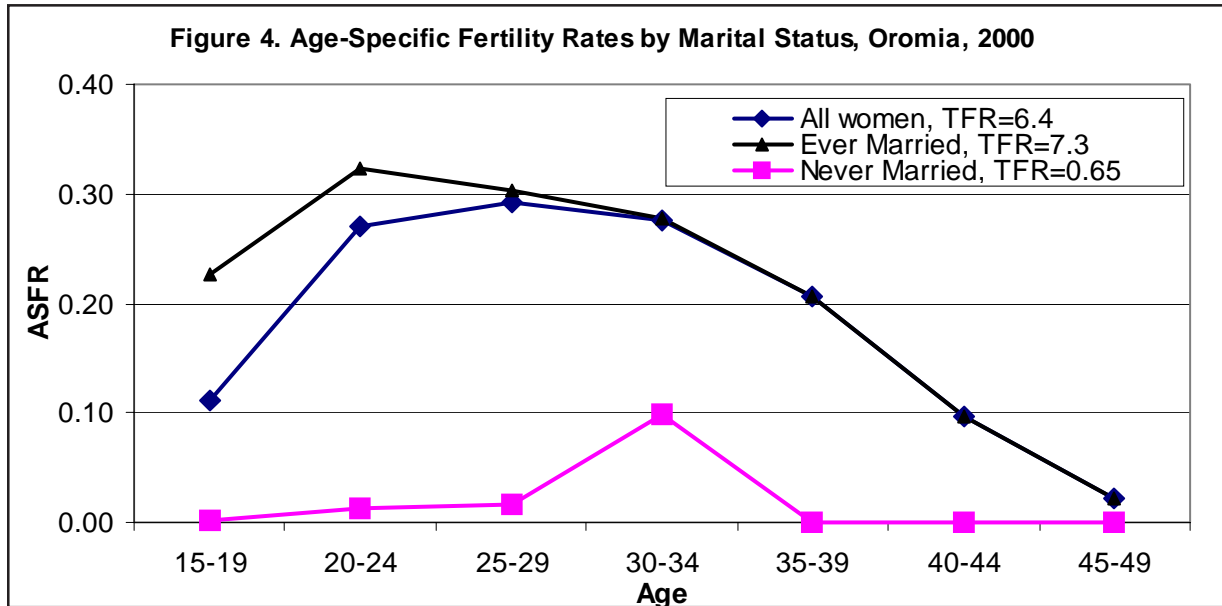


Figure 4 presents fertility by marital status. Births outside of marriage are not common in Oromia and occur primarily among women in the age range 30-34. The TFR for never married women is 0.65. In contrast the TFR among ever married women is 7.3 children per women. Based on the very low rates of non-marital fertility and the high rates of marital fertility, especially at younger ages, delayed marriage can play a large role in bringing fertility levels down in Ethiopia.



Discussion

The mean number of children ever born to women by the end of their reproductive period, age 40-49, is a measure of the average completed fertility. If fertility remained constant in the recent past and the reported data on both children ever born and births during the five years preceding the survey are reasonably accurate, average completed fertility should be equal to the total fertility rate. The mean number of children ever born to women aged 45-49 in Oromia region was found to be 7.6. Similarly, the 1994 census estimated a total fertility rate of 7.3 for the region, whereas the total fertility rate in this study is found to be 6.4. This suggests a recent decline in fertility by about one child per woman. In spite of a modest decline, fertility in Oromia remains higher than the national TFR, estimated at 5.9 children per woman (MOH 1997, ETDHS 2001). Fertility in urban areas of Oromia is significantly lower than in rural areas. Women living in urban areas tend to have more education and are more likely to participate in the formal labor market. Consequently, these women are more likely to appreciate the advantages of having a smaller family. Urban women are also assumed to have better knowledge of and access to modern contraception than women in rural areas (Kaba 2000, Kebede 2000, Berhane et al 1999).

Regardless of place of residence, increases in women’s education are associated with lower fertility. The data for Oromia indicate that having even some education (compared to no education) can reduce fertility.

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The *Partnership in Improving Reproductive Health Background Reports* present findings from work in progress on the dimensions and determinants of fertility and reproductive health in Ethiopia. This work is being conducted by faculty and advanced graduate students at the following institutions:

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