Educational attainment and the transition to motherhood among young women in Ethiopia

Introduction

Increases in school enrollment are widely believed to be associated with delayed marriage and child bearing, and several studies identify education as important social determinants of changes in the timing of the transition to marriage and child bearing (Billari & Philipov,2003; Jejeebhoy 1995). In Ethiopia where the Fertility level is high, increases in age at marriage and delaying the first birth has huge implications for fertility level. Lack of education, poverty and gender inequality perpetuates early age at marriage and youth successful transition to adulthood. While the effect of education, unemployment and poverty on the sexual and reproductive health of youth is relatively well documented, few studies have assessed the influences of educational attainment on key aspects of youth transitions to adulthood in the Ethiopian context. The aim of this study is to examine how changes in educational attainment over the last decade in Ethiopia have influenced youth transitions to motherhood in Ethiopia.

Methods

The study uses data from the three rounds of Ethiopia Demographic and Health Survey (DHS) conducted in 2000, 2005 and 2011. The DHS is conducted by the Ethiopian Central Statistical Authority (CSA) along with ORC Macro / ICF International. The survey covered a sample of 15,367 women in 2000, 14,070 women in 2005 and 17,000 women age 15-49 in 2011 in Ethiopia. However, the present analysis is limited to a weighted subsample of women age 15-24 in all three surveys. The survey collected detailed information on education, fertility, fertility related behaviors including age at marriage, age at birth, number and timing of births, use of contraception, and related reproductive behaviors.

The main outcome variables of interest include timing of marriage and the first birth. Explanatory variables include education, wealth index, exposure to media and rural –urban residence. Data was analyzed using STATA software version 13, and appropriate statistical analysis were applied based on the nature of the dependent variable. Bivariate analysis including Kaplan _Meier survival curves and Chi-square tests were done to test the association between the

dependent and independent variables. Multivariate Cox regression analysis was done to identify the independent effects of explanatory variables on the outcomes of interest. Statistical tests for significance were done at the level of significance of 5%.

Results

There were a total of 6570, 5805 and 6940 young women of age 15-24 who participated in DHS 2000, 2005 and 2011 respectively. In all the three surveys, over 70% of them were rural residents. In 2000, the proportion of young women with no formal education constituted the majority (68%), but this proportion declined to 28% in 2011.During the same time, the proportion of young women with a primary and secondary education and higher education increased from 26% and 6% to 55% and 17% respectively. The proportion employed with cash income also increased during the same time (Table 1)

Table 1: Trends in educational attainment and age at first birth among young women, Ethiopia

year	2000	2005	2011	2005-2000	2011-2005	2011-2000
No education (%)	68	51	28.1	-17	-22.9	-39.9
Primary education (%)	26.4	40.2	55.4	13.8	15.2	29
Secondary and above (%)	5.6	8.8	16.5	3.2	7.7	10.9
Proportion employed with cash income	13.4	24.3	29.5	10.9	5.2	16.1
Median age at first marriage (20-24)	16	16	17	0	1	1
Proportion ever married by age 18 (15-24)	42.5	39.1	38.3	-3.4	-1	-4.2
Proportion with a first birth by age 18 (15-24)	21	23	20.1	-2	-3	-1
Median age at first birth (20-24)	18	18	19	0	1	1
No education	18	18	18	-	-	-
Primary	18	18	18	-	-	-
Secondary & above	19	19	20	-	1	1

Age at first marriage and age at first birth is relatively low in Ethiopia, particularly in rural areas. The median age at marriage among young women of age 20-24 increased from 16 years in 2000 to 17 years in 2011 while the median age at first birth increased from 18 to 19 years during the same time (Table 1). Figure 1 shows that the proportion of women who postpone first birth has changed from 2000 to 2011, particularly for young women with secondary and above education. This is partly due to the changes in age at marriage. Women with secondary and higher education have postponed marriage more than women with primary education or no education. The pattern of first marriage behavior is very similar to that of first birth, indicating the close relation between first marriage and first birth.
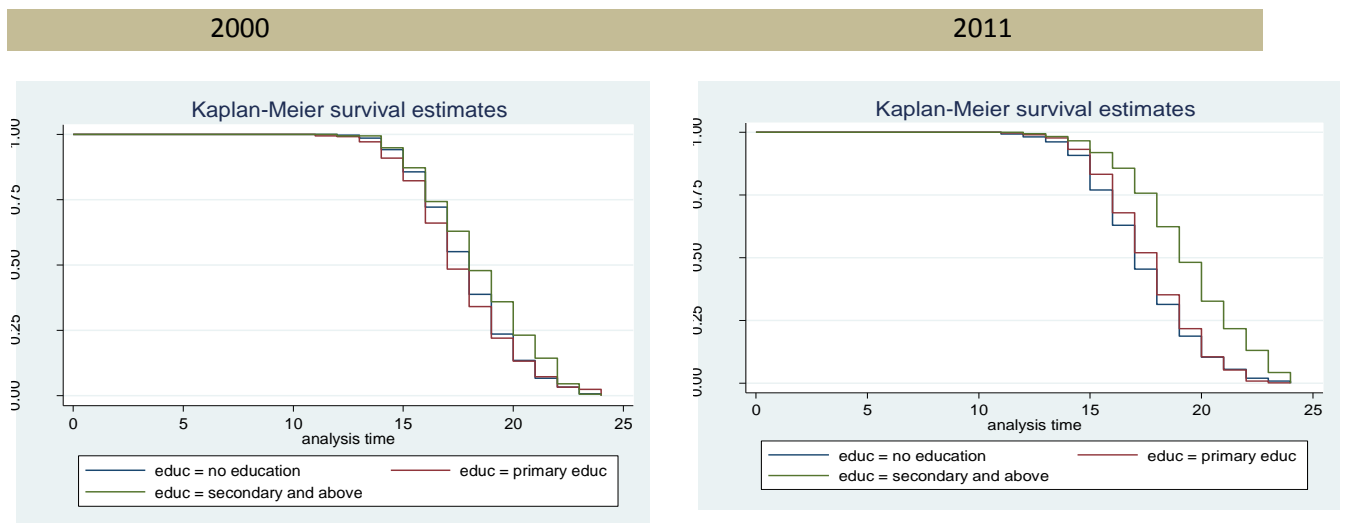
2000	2011

Fig 1: Proportion of young women with age at first birth by education in 2000 and 2011.

To a certain extent, the change in age at first birth has been influenced by the gains in educational status. In 2000, the patterns of age at first marriage did not vary significantly by educational attainment. The one difference observed was by cohorts of young women, older cohorts of age 20-24 showed lower probability of transition to the first birth. By 2011, the effects of educational attainment on transition to the first birth were significant. More importantly, the hazard ratio of having the first birth was 20% lower among young women with secondary and above education compared to women with no education.

Table 2: Cox proportional hazards model of the effects of education and other factors on young women's transition to motherhood

Variables	2000 (95% CI)	2011 (95% CI)
Education		
No education	1.00	1.00
Primary education	1.11(0.98-1.26)	1.08(0.98-1.20)
Secondary and above	1.15(0.92-1.44)	0.81(0.67-0.98)**
Current occupation		
Not working	1.00	1.00
Working but not paid	0.90(0.81-1.01)	0.83 (0.72-0.95)
Paid with cash income	1.06(0.94-1.19)	1.10 (0.99- 1.21)
Exposure to media		
No media exposure	1.00	1.00
Exposure to radio or TV	1.13(1.0 -1.28)	1.09(0.98-1.21)
Exposed to both radio & TV	0.94(0.79-1.12)	1.09(0.96-1.23)
Place of residence		1.00
Urban	1.00	1.05 (0.92-1.19)
Rural	0.99(0.85-1.15)	
Age		
15-19	1.00	1.00
20-24	0.54(0.48-0.61)**	0.54(0.48-0.62)**
Age at marriage or cohabitation	0.83(0.82-0.84)**	0.81 (0.80-0.82)**

Conclusion

Results show that young women's educational attainment improved from 2000 and 2011 in Ethiopia, and this was followed by increases in age at marriage although no significant declines in age at first birth was observed. As girl's educational attainment improved, the differences between those educated to secondary and higher and those with lower or no education increased in terms of age at first birth. Young women with secondary or above education were significantly less likely to have given birth before age 24 compared to those with no education in 2011, but this association was not significant in 2000. In countries with early age at marriage, improving girls education and more importantly access to secondary education will have several interrelated effects.