

Determinants of Fertility in rural Ethiopia: the case of the Butajira Demographic Surveillance System (DSS).

Abstract

Ethiopian women suffered from various problems including access to food and encounter to drought even at district level which has different effects in fertility that requisite assessment of its determinants.

Reproductive aged women of size 9996 were recruited from the Butajira Demographic Surveillance System database to administer demographic and health survey type maternity history questionnaire. Data quality was assured besides ensuring ethical clearance. Poisson regression crude and adjusted Incidence Rate Ratio with 95% Confidence Interval were used to identify fertility determinants.

Higher fertility was still the accepted norm in rural Ethiopia. Early marriage, low maternal education, child mortality and household food insecurity were significantly associated with fertility. Surprisingly, fertility was significantly higher among women with no child sex preference. Policy makers should focus on hoisting women's secondary school enrollment and age at first marriage. The community should also be thought on the negative consequences of uncontrolled population growth.

Table 1: The distribution of study participants by various socio-demographic characteristics in Butajira, Ethiopia, 2009

Characteristics	Number	Percent
Age at first Marriage	6289	100.0
20 and over	838	13.3
15-19	3155	50.2
Less than 15	2296	36.5
Mean (\pm SD)	16.9 (\pm 2.4)	
Educational status	9996	100.0
Secondary plus	1172	11.7
Primary	3906	39.1
Never	4918	49.2
Residential Ecology	9996	100.0
Urban	3593	35.9
Rural Lowland	2999	30.0
Rural highland	3404	34.1
Household size	9995	100.0
less or equal to 4	4065	40.7
Greater than 4	5930	59.3
Mean (\pm SD)	5.2 (\pm 2.2)	
Household livelihood	9996	100.0
Farming	6503	65.1
Trade/Service	1606	16.1
Civil service	463	4.6
Other	1424	14.3
Food shortage	9994	100
No	7185	71.9
Yes	2809	28.1
Birth place	9994	100.0
In migrant	3496	35.0
Study site	6498	65.0
Have a dead child	5929	100.0
No	3358	56.6
Yes	2571	43.4
Know pregnancy time	9994	100.0
Yes	2548	63.6
No	1459	36.4
Have child sex preference	9994	100.0
Yes	3798	38.0
No	6196	62.0

Table 2: Mean Actual and Desired Children ever born by age group of women in Butajira, Ethiopia, 2009

Age group	Actual mean children ever born				Desired mean children ever born			
	Highland	Lowland	Urban	Total	Highland	Lowland	Urban	Total
15-19	1.34	1.32	1.10	1.26	3.92	3.82	3.48	3.69
20-24	2.06	2.10	1.42	1.89	5.04	4.97	3.89	4.53
25-29	3.45	3.56	2.66	3.28	5.77	6.00	4.57	5.51
30-34	5.16	5.19	4.01	4.88	6.67	6.62	4.82	6.20
35-39	6.60	6.91	5.10	6.30	7.22	7.23	5.48	6.79
40-44	7.67	7.71	6.53	7.41	7.16	7.38	5.88	7.05
45-49	8.52	8.11	7.19	8.00	7.63	6.67	7.67	7.08
Total	4.97(±2.61)	4.82(±2.71)	3.73(±2.48)	4.59(±2.67)	5.18(±1.94)	5.34(±2.05)	3.90(±1.49)	4.74(±1.93)

Table 3: Crude and Adjusted Incidence Rate Ratio of the Associations between maternal and household characteristics with Fertility in Butajira, Ethiopia, 2009

Characteristics	Number	Crude IRR (95% CI)	Adjusted IRR (95% CI)
Age at first Marriage	6289		
20 and over	838	1.00	1.00
15-19	3155	1.33 (1.27, 1.39)*	1.11 (1.03, 1.20)*
Less than 15	2296	1.83 (1.75, 1.91)*	1.38 (1.27, 1.49)*
Educational status	9996		
Secondary plus	1172	1.00	1.00
Primary	3906	1.34 (1.24, 1.44)*	1.14 (1.02, 1.27)*
Never	4918	1.83 (1.70, 1.97)*	1.24 (1.10, 1.39)*
Residential ecology	9996		
Urban	3707	1.00	1.00
Rural Lowland	5746	1.29 (1.25, 1.33)*	0.88 (0.79, 0.98)*
Rural highland	543	1.33 (1.29, 1.38)*	0.92 (0.83, 1.03)
Household size	9995		
less or equal to 4	4065	1.00	1.00
Greater than 4	5930	2.08 (2.03, 2.15)*	1.95 (1.84, 2.06)*
Household livelihood	9996		
Farming	6503	1.00	1.00
Trade/Service	1606	0.79 (0.77, 0.82)*	0.86 (0.78, 0.96)*
Civil service	463	0.66 (0.62, 0.71)*	0.96 (0.83, 1.11)
Other	1424	0.67 (0.64, 0.71)*	0.90 (0.80, 1.01)
Food shortage	9994		
No	3496	1.00	1.00
Yes	6498	1.16 (1.14, 1.19)*	1.06 (1.01, 1.13)*
Migration status	9994		
In migrant	3496	1.00	1.00
None-migrant	6498	1.05 (1.02, 1.08)*	1.02 (0.97, 1.07)
Have a dead child	5929		
No	2571	1.00	1.00
Yes	3358	1.90 (1.86, 1.95)*	1.67 (1.59, 1.76)*
Know correct pregnancy time	9994		
Yes	2548	1.00	1.00
No	1459	1.35 (1.28, 1.41)*	1.09 (1.03, 1.15)*
Have sex preference	9994		
Yes	3798	1.00	1.00
No	6196	1.14 (1.11, 1.17)*	1.09 (1.04, 1.15)*

*Statistically significant at $\alpha = 5$ percent