Socio-demographic factors associated with contraceptive use among young women in comparison with older women in Uganda

John Bosco Asiimwe[1] Kampala, Uganda , Patricia Ndugga , Kampala, Uganda, [1]John Mushomi[1] ,Kampala , Uganda

Corresponding author: John Mushomi, School of Statistics and Planning, Makerere University, Kampala, Uganda; Email: mushojohn@yahoo.com

[1] School of Statistics and Planning, Makerere University, Kampala, Uganda

Much of the research literature about the use of family planning generalizes contraceptive use among all women, using age as a covariate. In Uganda, a country with divergent trends in modern family planning use among younger and older married women, we hypothesize that factors associated with contraceptive use operate in a fundamentally different way among married women in two age groups: 15-24 and 25-34. We tested this hypothesis using data from the Uganda Demographic and Health Survey (UDHS) in 2006 and 2011.

We used logistic regression to model the relationship between selected independent variables and the outcome variable (current use of modern contraception) for each group of women in each year. We found that the key factors associated with current use of modern contraceptives among younger married women age 15-24 in both 2006 and 2011 were residence and desire for children, while among women age 25-34, the significant factors associated with contraceptive use in both rounds were education level, household wealth and desire for children.

The findings suggest that increasing secondary education for women and improving the livelihood of the population overall is important. Family planning programs should be intensified to meet the needs of young married women in rural areas of the country.

Keywords: Family planning, modern contraception, young women

INTRODUCTION

For countries that have achieved Millennium Development Goal 5 on improving maternal health, meeting women's contraceptive needs has played an important role. MDG 5a aims to reduce the maternal mortality ratio by three-quarters between 1990 and 2015, and MDG 5b aims to achieve universal access to reproductive health, including family planning (United Nations 2012). According to the World Health Organization in 2012, satisfying the unmet need for family planning alone could cut the number of maternal deaths by almost a third. However, an estimated 215 million women who would prefer to delay or avoid pregnancy continue to lack access to safe and effective contraception (WHO, 2012). Thus along with providing skilled maternal care, offering family planning is crucial to averting maternal deaths.

Globally, the maternal mortality ratio remains high, at 287 maternal deaths per 100,000 births; a large proportion of these deaths occur among young women (WHO, UNICEF, UNFPA, and The World Bank, 2010). In Uganda, the maternal mortality ratio was estimated to be much higher than the worldwide average in 2011, at 438 per 100,000

births (UBOS and ICF International, 2012). An estimated one-third of women who give birth in developing countries are below age 20, which exposes them to greater risk of illness and death related to maternal causes (WHO, 2010).

In Uganda as in many other countries, major factors associated with contraceptive use are women's age, education, and socioeconomic status. Ugandan women who are more educated and wealthier are more likely to use contraception compared with illiterate and less wealthy women (UBOS and Macro International, 2007). Similarly, women who use contraceptives tend to have a better quality of life, higher social status, and greater autonomy. This association has been highlighted in a study in Nigeria by Osemwenkha, who emphasized that contraceptive use has the power to reduce fertility considerably and ultimately to improve maternal and child health .

Understanding the key factors influencing contraceptive use among young married women who are at risk of unwanted pregnancies is key to the development of effective family planning programs. Given the context of high fertility in Uganda, our study seeks to explore the socio-demographic factors associated with contraceptive use among young married women age 15-24 compared with older women age 25-34 in Uganda. The study focuses on married women because, in Uganda, the majority of births occur within marriage.

DATA AND METHODS

Data source and data description

The paper used secondary data from the 2006 and 2011 Uganda Demographic and Health Surveys (UDHS). In both surveys, two-stage cluster sampling was used to generate a nationally representative sample of households. In the 2006 UDHS, some areas of the north (especially Karamoja region) were oversampled, including some refugee camps, to obtain specific indicators for these areas due to insecurity and the after-effect of Lord's Resistance Army insurgency. Sampling methods are detailed in each final report (UBOS and ICF International, 2007 and 2012). The first stage involved selecting clusters from sampling frames used in recent nationwide surveys, followed by the second stage, which selected households in each cluster. Stratification of urban and rural areas was taken into account. A total of 8,531 women age 15-49 were interviewed in 2006, and 8,674 women in 2011.

Methods

The paper starts with descriptive exploration of both dependent and independent variables. At the multivariate level, the relationship between selected variables of interest and the dependent variable (current use of modern contraception) was estimated using a multiple logistic regression model. Given that the core analytical strategy in this paper focuses on two age groups of women, young and older, the models are run separately by age groups within each survey year.

Dummy variables were created and used to select socioeconomic and demographic variables in the logistic regression model. Results were accepted at the 95% confidence level. The full regression model was also tested for goodness of fit using the Archer-Lemeshow goodness-of-fit test in Stata (2006). This model is based on the earlier Hosmer-Lemeshow test (1980) but adjusts for complex survey samples. The null hypothesis under the goodness of fit is that the model is a good fit, implying that

probabilities greater than 0.05 using the 95% level of confidence were taken to be a good fit.

RESULTS

This study provides descriptive statistics about sexually active, fecund, non-pregnant married women age 15-24 (young) and age 25-34 (older). Table 1 shows the composition of women in each age group by year characteristics from the conceptual framework, including women's education, wealth index, region of the country, residence (urban or rural), and exposure to family planning messages. Statistically significant differences were tested using the chi-square test between the two groups of women in each survey year.

Table 1 shows that in 2006 and 2011, younger women were better educated than women age 25-34. For example, in 2006, 87% of women age 15-24 compared with 79% of women age 25-34 reported primary, secondary, or higher education. Between the two surveys, education attainment seems dramatically improved in both groups.

In regard to household wealth status, younger women seem to be more financially disadvantaged than older women in our sample, both in 2006 and 2011. In 2006, 46% of women age 15-24 were in the bottom 40% wealth group compared with37% of women age 25-34. Young women's situation (relative to others) improved slightly in 2011.

In 2006, distributions of the two age groups across administrative regions were similar. In 2011, younger women were more likely than older women to live in the Eastern administrative region and less likely to live in the Western region.

The majority of women studied wanted to have the next child two years later. In both surveys, younger women showed stronger fertility desire than older women. A smaller percentage of women age 15-24 than age 25-34 wanted to limit or delay childbearing at least two years. In 2011, 26% of women age 15-24 wanted a child within two years compared with 16% among women age 25-34.

Table 1: Composition of Sexually Active Married Women by Age Group, 2006 and 2011

Background Characteristics	2006 Age Group 15-24	2006 Age Group 25-34	2006 Total	2011 Age Group 15-24	2011 Age Group 25-34	2011 Total
Education Attainment						
No education	12.8	21.0	17.7	5.0	13.3	10.1
Primary	67.8	60.6	63.6	66.9	59.4	62.3
Secondary+	19.4	18.4	18.8	28.1	27.3	27.6
p-value	0.0000			0.0000		
Wealth Index						
Lowest 40%	*45.9*	*36.8*	*40.5*	*43.0*	*36.5*	*39.0*
Middle 40%	*33.3*	*40.9*	*37.8*	*34.5*	*36.5*	*35.7*
Highest 20%	*20.9*	*22.3*	*21.7*	*22.5*	*27.0*	*25.3*

p-value	0.0002			*0.0130*		
Administrative Region						
Central	25.9	28.2	27.3	29.9	31.0	30.6
Eastern	24.4	23.7	24.0	30.3	24.1	26.5
Northern	22.1	20.9	21.4	17.6	17.9	17.8
Western	27.6	27.2	27.4	22.3	27.0	25.2
p-value	*0.7393*			*0.0093*		
Residence						
Urban	16.8	14.8	15.6	19.5	20.1	19.9
Rural	83.2	85.2	84.4	80.5	79.9	80.1
p-value	*0.2681*			*0.7339*		
Family Planning Messages						
Did not hear family planning message in past few months	40.4	37.0	38.4	23.9	24.1	24.0
Heard family planning message on radio, TV, or newspaper in past few months	59.6	63.0	61.6	76.1	75.9	76.0
p-value	*0.0838*			*0.9124*		
Desire for children						
Wants within 2 years	30.2	18.1	23.0	25.7	16.4	20.0
Wants after 2 years	65.8	74.6	71.0	72.4	78.0	75.8
Do not want any more	4.0	7.4	6.0	2.0	5.6	4.2
p-value	*0.0000*			*0.0000*		

Our study carried out further analysis to find factors that might be associated with modern contraceptive use (outcome variables), regressed over a number of independent factors. Table 3 shows the details of the regression results. The regression analysis indicated that in 2006, after controlling for other covariates, contraceptive use among women age 15-24 is significantly associated with educational attainment, household wealth, urban-rural residence, and number of living children. Among women age 25-34, the significant variables are educational attainment, household wealth, and desire for children. In 2011, the significant variables for younger women were only residence and desire for children while for older women education attainment, household wealth, exposure to family planning message, desire for children, and perceived ability to refuse sex.

In 2006, educational attainment has a strong positive relationship with modern contraceptive use among both younger women and older women. For women age 15-24, the odds of using a modern method are 2.8 times higher for women with primary education and 3.5 times higher for women with secondary education compared with women with no education. The effect of education is slightly weaker for women age 25-34, reflected by smaller odds ratios. In contrast, education in 2011 was not significantly associated with contraceptive use, except for older women with secondary education.

Table 3. Results from logistic regression for factors associated with use of contraception among sexually active married women, using UDHS 2006 and 2011 data

	2006				2011			
	15-24		25-34		15-24		25-34	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Education level (Reference=None)								
Primary	2.86**	1.29-6.36	1.70**	1.11-2.60	1.20	0.44-3.28	1.29	0.77-2.17
Secondary+	3.57**	1.35-9.47	2.28**	1.34-3.90	1.80	0.60-5.36	1.97**	1.02-3.80
Wealth Index (Reference=Lowest40%)								
Middle 40%	0.74	0.45-1.22	1.57**	1.08-2.27	1.16	0.74-1.84	1.47**	1.08-2.00
Highest 20%	2.06	0.33-1.31	2.18**	1.32-3.61	1.38	0.72-2.64	2.20**	1.35-3.57
Administrative Region (Reference = Central)								
Eastern	1.42	0.61-2.04	0.63**	0.44-0.89	0.84	0.52-1.36	0.97	0.67-1.40
Northern	0.65	0.31-1.31	0.38**	0.24-0.62	0.62	0.32-1.22	1.29	0.83-2.01
Western	1.11	0.61-2.04	0.62**	0.43-0.89	1.01	0.62-1.65	1.07	0.75-1.52
Residence (Reference=Rural)								
Urban	2.51**	1.46-4.31	1.41	0.94-2.12	1.76**	1.06-2.93	1.09	0.76-1.55

DISCUSSION AND CONCLUSIONS

This study analyzed the socio-economic and demographic factors associated with contraceptive use in Uganda among young women (age 15-24) and older women (age 25-34) in 2006 and 2011 who were married, fecund, non-pregnant, and sexually active in the last year before the survey. There was a large disparity in modern contraceptive use between the two age groups in both years.

We ran separate regression models for each age group in each year. Results showed that more socio-economic and demographic factors were found to be associated with contraceptive use among older women compared to the younger ones. In 2006, contraceptive use among older women was uniquely associated with wealth, region, and empowerment. In 2011, exposure to family planning messages, ability to refuse sex and wealth index were significant unique factors associated with contraceptive use among older women.

Overall, the only consistently significant factor associated with contraceptive use after controlling for related factors in all four models was the desire for more children. This finding echoes that from, for example, a longitudinal study in Bangladesh which

concluded that contraceptive use and desire for additional children are significant predictors of subsequent contraceptive use (Chowdhury and Phillips, 1989). An earlier study in Pakistan revealed that women who had more children than their ideal number of children and who did not want any more children were four times more likely to have used contraceptives compared with women who had fewer children than their ideal and who wanted more children (Shah and Palmore, 1979).

The findings suggest that improving the livelihood of the population is important. Family planning programs should be intensified to meet the needs of young and married women. Programs intended to improve contraceptive use among married women should consider increased outreach to younger married women who are less likely to use modern family planning methods. Finally, making longer-term modern contraceptives, especially injections, available to more women would help reduce the level of unmet need for family planning in Uganda.

REFERENCES

Cleland J., Bernstein S., Ezeh A., Faundes A. and Glasier A. 2006. Family planning: the unfinished agenda. *Lancet,* 368(9549):1810–1827.

Gorgen R., Yansane M., Marx M. and Millimounou D. 1998. Sexual behavior and attitudes among unmarried urban youths in Guinea. *International Family Planning Perspectives*, 10.2307/2991927.

Haberland N., Chong E., Bracken H. and Parker C. 2005. Early marriage and adolescent girls. YouthLens on Reproductive Health and HIV/AIDS, Research Triangle Park, NC, USA: YouthNet, 2005, No. 15.

Healthy Action. 2011. Health budgeting in Uganda: a reality check. http://www.dsw-online.org/fileadmin/user_upload_en/PDF/Budget_Studies/HealthyAction_BudgetStudy_Uganda_2011.pdf. Accessed on 14 January 2013.

Henshaw S. 1998. Unintended pregnancy in the United States, *Family Planning Perspectives*, 30(1):24-29 and 46.

Hosmer, D. and Lemeshow S. 1980. Goodness-of-fit tests for the multiple logistic regression model.*Communications in Statistics:Theory and Methods* **9**(10), 1043–1069.

ICF International. 2012. MEASURE DHS STATcompiler. http://www.statcompiler.com. Accessed on 19 September 2012.

Kane T., DeBuysscher R., Thomas T. et al. 1993. Sexual activity, family life education and contraceptive practice among young adults in greater Banjul, The Gambia. *Studies in Family Planning*, 24(1):50-61.

Mensch B., Bruce J. and Greene M. 1998. The Uncharted Passage: Girls' Adolescence in the Developing World, New York: Population Council, 1998.

Osemwenkha S. 2004. Gender issues in contraceptive use among educated women in Edo state, Nigeria. *African Health Sciences*, 4(1), 40–9.