Adolescent use of family planning and sexual behavior in Uganda: Evidence from the African Youth Alliance (AYA) survey 2006

Rutaremwa, Gideon
Makerere University Department of Population Studies
Kampala, UGANDA
E-mail: grutaremwa@isae.mak.ac.ug

Abstract

This paper examines the impact of African Youth Alliance (AYA) program on the use of family planning methods of 17 to 22 year old youths in Uganda. Between 2000 and 2005, the comprehensive, multi-component AYA program implemented behavior change communication; youth-friendly clinical services; coordinated policy and advocacy; provided institutional capacity building; and established coordination mechanisms between youth program implementing agencies. Analyses of findings from 3049 individual adolescents interviewed suggest that AYA had a positive impact on sexual behaviors among youths. The results show that exposure to AYA led to substantially higher likelihood of contraceptive use and having fewer sexual partners among females, but not among males. Scaling-up programmes such as the AYA program in Uganda could therefore be expected to significantly improve the sexual and reproductive health of the female youth population of the country. There is need to identify effective strategies to promote safer sexual behaviors among male youths.

Key words: ***Adolescent; family planning; sexual behavior; Uganda***

Introduction

By nature, young people are more vulnerable to the adverse consequences of unsafe sexual relations, including unintended pregnancy and sexually transmitted infections, including HIV/AIDS, than any other age groups (Bearinger et al. 2007). Promoting safe sexual behavior among young people is therefore considered essential to curbing such adverse reproductive health outcomes (Bearinger et al. 2007, Tylee et al. 2007; UNAIDS and WHO 2007). The need of protecting the health of young people and encouraging and promoting safe sexual behavior is even greater in Uganda given that about half of all new HIV infections are occurring in that age group (Monasch and Mahy 2006).

About one-third of the population in Sub-Saharan Africa is between the ages 15 to 24 years (PRB 2006). Adolescents in Uganda represent a significant - almost one-fifth of the population and is a rapidly growing segment of the population. Uganda is experiencing a "youth bulge" in its population. More than half (56%) of the population is below the age of 18 and 34% are between the ages of 10-24 (Uganda Population and Housing Census 2002). The social economic

characteristics of these young adults are quite influential in shaping their development in terms of health, sexual and child bearing experiences (UNFPA 2007).

Traditionally, adolescents are still regarded as children and hence have been exploited in part due to the culture of silence imposed upon them as they lack a way to express their voice in family and community affairs. They are not regarded as adults because they are still under the care of their parents, most do not have property, and decisions are still made for them. Adolescents are seen as needing guidance and protection from their parents, relatives and community members. They are also sometimes seen as unruly and stubborn. Many adolescents are still living with their parents and have little or no power to exercise their sexual and reproductive rights. Adolescent girls are particularly disadvantaged as males are accorded higher value than females (Rutaremwa 2007).

AYA was a multi-component, comprehensive prevention program to encourage and promote healthy SRH behaviors among young people aged 10 to 24 years in four countries—Botswana, Ghana, Tanzania, and Uganda. The project was a partnership managed by the United Nations Population Fund (UNFPA), Pathfinder International, and the Program for Appropriate Technology in Health (PATH), to draw upon their unique expertise and experience in implementing different SRH program components for young people in developing countries. At the country level, AYA collaborated with public and private sector organizations to implement its six components which included innovative behavior change communication (BCC) programs; youth-friendly services (YFS) at clinics; integration of SRH interventions with livelihood skills training for youths; coordinate policy and advocacy activities for SRH for young people at local and national government levels; provide institutional capacity building among in-country implementing partners; and, establish coordination mechanism between implementing agencies.

HIV epidemic and preventive measures in Uganda

Uganda has faced a generalized HIV/AIDS epidemic with the predominant mode of transmission being heterosexual contact. The epidemic peaked in Uganda in the early 1990s, with HIV sero-prevalence among pregnant women in urban areas estimated as high as 25 to 30 percent. HIV sero-prevalence has since declined to recent levels of 10 percent in urban adult populations, with the national average currently estimated at 6 percent (Ministry of Health [Uganda] and ORC Macro 2006). Much of the decline in HIV sero-prevalence since the early 1990s has been attributed to behavioral changes, specifically the delay in sexual initiation and reduced number of partners (Asiimwe-Okiror et al. 1997; Kilian et al. 1999; Uganda AIDS Commission 2003, 2005). It has also been suggested that mortality itself among those infected in the early stages of the epidemic had an important influence on the overall decline in prevalence (Low-Beer 2002; Wawer et al. 1997). Some research suggests that condoms did not play a large role in the initial decline, although condom use has since steadily increased (Mukuria, Aboulafia, and Themme 2005).

The sexual behavioral change in response to the HIV epidemic in Uganda is attributed to the leadership the Ugandan government in promoting a national campaign to promote primary and secondary sexual abstinence, mutual faithfulness among married or cohabitating partners, and

condom use. This "ABC" strategy was further expanded to include voluntary counseling and testing, prevention of mother-to-child transmission, antiretroviral therapy, care, and support (Ministry of Health [Uganda] and ORC Macro 2006).

The government of Uganda has developed a number of policies that target youth. The policies focus on health, particularly sexual and reproductive health and HIV/AIDS; gender; and education (K2-Consult Uganda Limited 2001). Several programs and organizations support the government's prioritization of youth and implement various components of youth service interventions (African Medical and Research Foundation-Uganda and Uganda AIDS Commission Secretariat 2001). However, there are unresolved issues in the SRH of young people in Uganda that require attention. Currently, the HIV sero-prevalence among 15 to 24 year old young adults is estimated at 3 percent with young women nearly four times more likely than young men to be infected (Ministry of Health [Uganda] and ORC Macro 2006). Mass media exposure and other aspects of modernization have reportedly relaxed social controls over sexual behaviors for many Ugandan youths (Bohmer and Kirumira 1997). Out-of- school youth, surveys show, are less informed about sexual matters, have fewer resources available to them, and are more likely to engage in risky sex (Bohmer and Kirumira 1997; Ndyanabangi, Kipp, and Diesfeld 2004). Older men have sexual relations with younger women, and the latter are often powerless to insist on condom use (Luke 2005). Most Ugandan youths know about HIV/AIDS, but many do not perceive themselves to be at personal risk of contracting the disease (Hulton, Cullen, and Khalokho 2000). Even those youths with substantial knowledge about HIV and sexually transmitted diseases report engaging sometimes in risky sex (Sekirime et al. 2001).

African Youth Alliance (AYA) in Uganda

The AYA program in Uganda complemented and scaled-up many of the existing SRH interventions for young people implemented by the government, as well as other donors and stakeholders, thus expanding their scope and coverage. Accordingly, the AYA secretariat in Uganda partnered with 35 local implementing partners or agencies including public sector agencies, private sector organizations, community-based organizations, and religious groups to implement its different programmatic components. The policy and advocacy coordination component of AYA aimed at promoting an enabling environment for SRH programming at the national and local level which included mass media campaigns; reaching young people, community members and stakeholders through networking activities, workshops, student essay competitions and debates, among other activities.

The institutional capacity building component aimed at strengthening implementing partner's institutional capacity (both technical and organizational) to sustain SRH programming among young people through providing general and intensive technical assistance to the implementing partners to ensure sustainability of the activities beyond the life of the AYA program. The youth-friendly services component aimed at increasing the use of high-quality, youth-friendly SRH services through establishing youth-friendly health facilities, extending outreach service, establishing peer providers of services, and institutionalizing youth-friendly SRH service curriculum in the Ministry of Health in-service training (Tylee et al. 2007). The BCC component, including life-planning skills and enter-education (i.e., entertainment activities directed to youth that is also educational) component aimed at increasing knowledge, skills, norms, and positive attitudes toward adoption of safer sexual practices through in-school, and out-of-school activities

including a variety of peer group activities. The component of AYA that integrated SRH programs with livelihood skills training (i.e., vocational training) for youth was not implemented due to local priorities and context (see AYA 2005, 2005a, 2005b, 2007, and Daniels 2007 for further details).

Between 2001 and 2005, AYA expanded to 20 of Uganda's then 69 districts. While the coverage of some of the AYA activities, such as, BCC using mass media, was nationwide, the coverage of all the five components of the integrated, comprehensive AYA program was limited to eight districts.

Data and Methodology

Two variants of the posttest only evaluation designs are implemented for this study to assess the impact of AYA on youth sexual behaviors, mainly the self-reported exposure design and the intervention-control group comparison design. The self-reported exposure design measured the efficacy of the AYA program, i.e., the extent to which safe SRH behaviors improve among youths who participate in the comprehensive, multi-component AYA program by comparing the propensity of sexual behavioral outcomes between youths who reported exposure to AYA program and those who did not report exposure to AYA. The intervention-control group comparison design measured the effectiveness of the AYA program or the intention to treat effect, i.e., the extent to which safe SRH behaviors improve among youths who live in the geographical areas where the comprehensive, multi-component AYA program was implemented by comparing the propensity of safe sexual behaviors between the youths in the AYA program areas and the youths in control areas.

The intervention-control group comparison design is added to this study because it holds a different set of assumptions than the self-reported exposure design. The findings from the two posttest-only designs are synthesized to draw conclusion of the impact assessment. Intervention (or treatment) areas are the eight districts where all the components of the AYA were implemented. The intervention-control group design assumes that all the youths in the intervention areas had been exposed to the program; therefore, poor coverage of the program would potentially underestimate the impact of AYA. Due to ethnic (including language) diversities of the different regions of Uganda1, control areas were selected purposefully from the same regions as the intervention areas to ensure ethnic and socioeconomic similarities between the two groups. Consequently, the control areas could be contaminated due to their proximity to the intervention areas which would potentially underestimate program impact.

The study limited the target population among 17 to 22 year old youths who were unmarried or were married within the last two years; thereby reducing the sample size requirement to half of what would have been needed if AYA's impact had been evaluated according to the three age groups (i.e., 10–14, 15–19, and 20–24 year olds) targeted by the AYA interventions. The decision to limit the sample size among the unmarried or the recently married 17 to 22 year old youths is supported by the fact that the young and unmarried population reached by AYA during 2000 to 2005 had aged and some may have gotten married during the time interval between exposure to

AYA and this evaluation. The 17 to 22 years age group is also considered sufficiently homogeneous to be considered as a single age group.

Two-stage cluster sampling was implemented to get the required sample size. In the first-stage, 86 enumeration areas (EAs) from the intervention areas and 57 EAs from the control areas were randomly selected with the probability proportional to the size of the EA. In the second-stage, ten households with eligible males and ten household with eligible females were systematically and randomly selected from the selected EAs. All eligible youths from the selected households were interviewed using a structured questionnaire, translated into the local language. A household questionnaire was also completed if an eligible youth from a household was interviewed. All interviewers obtained informed consent from the heads of household to conduct the household interview, from the respondent to conduct individual interviews, and from parents of 17-year-old respondents. Respondents for all questionnaires were interviewed by same-sex interviewers. The survey took place between April and June 2006. Interviews were completed with 1,548 males (633 from control areas and 995 from intervention areas), 1,628 females (615 from control areas and 933 from intervention areas) and 2,732 household respondents.

The following two sexual behavioral outcomes among youths are considered in the current study: fewer sexual partners, defined as the propensity of sexually initiated youth to report having fewer than two partners in past 12 months and increased use of contraceptives, defined as the propensity of reporting use of a modern method of contraception during last sex.

Consequently, two logistic regression models corresponding to the two binary outcomes were estimated. The form of the regression model fitted to the data is as follows:

$$\text{logit}\,(\mathrm{p_i}) = \ln\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 x_{1,i} + ... + \beta_k x_{k,i.}$$

The interpretation of the β_j parameter estimates is as the additive effect on the log odds ratio for a unit change in the *j*th explanatory variable. In the case of a dichotomous explanatory variable, for instance study vs. control area, e^{β} is the estimate of the odds ratio of having the outcome for, say, intervention area compared with control area.

Results and Discussion

The characteristics of the study respondents according to intervention and control areas are provided in Table 1. The distribution of respondents show that 55 percent of the adolescents hailed from the study areas while 45 percent were from the control districts. The study population comprised 51 percent males and 49 percent females. The proportion of respondents who were 17-18 years (48 percent) is almost three times higher than the proportion of respondents who were 21-

22 years. A fairly large fraction of the respondents (64 percent) were single. Concerning educational level attainment, only 29 percent had at least a secondary and higher level, with 37 percent had a primary level education, while 33 percent had no education.

The distribution of the respondents by religion was 39 percent Anglican, 36 percent Catholic, 13 percent Muslim, 12 percent other religions, which is not very different from national levels of 35 percent, 42 percent, 11 percent, 11 percent for those religions, respectively (reported in *Uganda Demographic and Health Survey [UDHS] 2006* conducted by UBOS and Macro International 2007). Concerning the respondents living arrangements, only 5 percent stayed alone, while 34 percent lived with their parents, 26 percent stayed with their spouse/partner, and 34 percent stayed with other persons. The distribution by work status, for those adolescents who were employed, shows that 45 percent were not working for a wage while 55 percent did work for a wage.

--Table 1 about here--

The results from two logistic regression models estimated to predict the sexual behaviors of the respondents are given in Table 2. The findings in Model II suggest that the odds of contraceptive use at last sex were significantly higher in the AYA programme areas compared to the non-programme areas. The other key finding was that adolescents who were married at the time of the survey had the least odds of using a family planning method. This finding is expected given the high social demands on Young couples to bear children in their early years of marriage. Religious differences in use of family planning method at last sex were not evident among the major religious groupings: Catholics, Anglicans and Muslims. None of the other variables included in the model II turned out to be significant.

The findings in Model IV predicted the number of sexual partners during the past year preceding the survey. The findings show that Muslims were significantly less likely to have less than 2 sexual partners during the past year compared to other religious groups. This finding is consistent with expectation. In addition adolescents who stayed alone were less likely to have fewer than 2 sexual partners compared to those who lived with spouses, parents or other person. Finally, females were significantly more likely to have more than two sexual partners compared to male adolescents.

--Table 2 about here--

The intervention-control group design found negative impact of AYA on early sexual initiation for the males. Although it is possible that SRH programs for male youths may unintentionally encourage sexual activity due to high condom availability, perceived decreased risk of HIV, or both (see Gray et al. 2003 for details) the finding is only weakly supported by this study. Therefore, the synthesis of the two study designs suggests that AYA program had a significant impact on use of family planning methods at last sex.

Conclusions and Recommendations

The objective of the study was to determine whether exposure to the African Youth Alliance (AYA) program promoted safe sexual and reproductive health behaviors among young people between 17 to 22 years of age. The results show that exposure to AYA led to substantially higher likelihood of contraceptive use and having fewer sexual partners among females, but not among males.

AYA achieved impressive positive effects on several sexual and reproductive health (SRH) outcomes among the young female population in Uganda. The results suggest that a comprehensive, scaled-up, multi-component approach such as AYA's can be effective in improving certain key SRH behavioral outcomes, and that expanding such programs to other sites in Uganda could have similar effects. Additional research beyond the current evaluation could also illuminate the best approaches for future SRH programs for youths in Uganda. In particular, qualitative research is needed to determine the most acceptable and effective approaches for improving safe SRH behaviors among males. This research should include areas such as sexual debut, abstinence, partner reduction, and, in general, how best to influence males to adopt safe sex practices.

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Table 1: Percentage distribution of respondents by selected individual characteristics according to intervention and control areas

Independent Variable	Study/AYA programme Area		Control Area		TOTAL	
	Number	Percent	Number	Percent	Number	Percent
Working for a wage						
No	288	50.3	166	38.4	454	45.2
Yes	285	49.7	266	61.6	551	54.8
Age group						
17-18	958	50.0	563	45.3	1,521	48.1
19-20	645	33.6	455	36.6	1,100	34.8
21-22	315	16.4	224	18.0	539	17.1
Marital Status						
Single	1,224	65.5	762	61.8	1,986	64.0
Married	220	11.8	225	18.2	445	14.3
In a relationship	397	21.2	226	18.3	623	20.1
Previously married	28	1.5	21	1.7	49	1.6
Religious affiliation						
Catholic	677	35.1	453	36.3	1,130	35.5
Anglican	749	38.8	493	39.5	1,242	39.1
Muslim	302	15.6	115	9.2	417	13.1
Other	203	10.5	188	15.1	391	12.3
Education level attainment						
None	294	34.6	192	31.6	486	33.4
Primary	297	35.0	247	40.6	544	37.3
Secondary +	258	30.4	169	27.8	427	29.3
Living arrangements						
With spouse	186	23.9	136	30.1	322	26.2
With parents	262	33.6	163	36.1	425	34.5
Self	48	6.2	15	3.3	63	5.1
Other	283	36.3	138	30.5	421	34.2
Sex of Respondent						
Male	996	51.6	633	50.7	1,629	51.3
Female	934	48.4	615	49.3	1,549	48.7

Table 2: Analysis of the factors predicting selected sexual behaviours among adolescents

Independent Variable	Use of Family planning method at last sex	Number of sexual partners in past year
	Model 1	**Model 2**
Type of Area		
(AYA Intervention)	-	-
Control	****0.456**	0.958
Working for a wage		
(No)	-	-
Yes	1.046	0.579
Age group		
(17-18)	-	-
19-20	1.577	0.742
21-22	1.325	1.024
Marital Status		
(Single)	-	-
Married	****0.269**	-
In a relationship	0.589	-
Previously married	0.651	-
Religious affiliation		
(Catholic)	-	-
Anglican	1.044	1.715
Muslim	0.775	****0.353**
Other	****0.310**	1.140
Education level attainment		
(None)	-	-
Primary	0.653	0.658
Secondary +	1.692	0.820
Living arrangements		
(With spouse)	-	-
With parents	1.288	0.765
Self	1.273	****0.138**
Other	1.243	0.552
Sex of Respondent		
(Male)	-	-
Female	1.049	****4.129**

*Note: The reference category is given in parenthesis; ** implies p<0.05; * implies p<0.1*