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CONTRACEPTIVE USE AMONG IN AND OUT-OF SCHOOL ADOLESCENTS IN RURAL SOUTHWEST UGANDA

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CONTRACEPTIVE USE AMONG IN AND OUT-OF SCHOOL ADOLESCENTS IN RURAL SOUTHWEST UGANDA

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ABSTRACT

Objective: To compare the level of contraceptive use among in and out-of school rural Ugandan adolescents.

Design: Cross sectional survey.

Setting: Mbarara district.

Subjects: Five hundred in-school and 220 out-of school adolescents aged 15-19 years.

Main outcome measure: Contraceptive use.

Results: Contraceptive prevalence was 171 (23.8%), with 99 (19.8%) among in-school and 72 (32.7%) in out-of school (OR=0.8, 95% CI=0.5-1.3). Of the 286 who had had sexual intercourse, 171 (59.8%) were current users with 99 (57.9%) in-school and 72 (42.1%) out-of school. The predominant method was the male condom with 80 (56.7%) in-school and 61 (43.3%) out-of-school (p=0.3). Sixty five (67%) of in-school aged 18-19 used contraceptives compared to those less than 18 years (OR=0.4, 95% CI=0.2-0.8). The out-of school who were urban residents 51(75%) were more likely to use contraceptives (OR=0.3, 95% CI=0.1-0.6). Out-of school with secondary education 37(84.1%) were more likely to use contraceptives (OR=0.2, 95% CI=0.1-0.5). Cost was a barrier for contraceptive use among in-school users 37(77.1%) (OR=2.6, 95% CI=1.7-5.4). Stigma surrounding their sexual activity was a barrier to out-of school 25 (58.1%) (OR=0.4, 95% CI=0.2-0.8).

Conclusion: Contraceptive use among rural sexually active adolescents is low although the prevalence is higher in out-of school. Reorientation of contraceptive services to make them more accessible through strengthening of school health programme and establishment of out-of school adolescent health programme are urgently needed.

INTRODUCTION

Despite the expansion of national health infrastructures, the reproductive health profile of many developing countries populations remain poor. Expansion of family planning services and contraceptive method choice has yet to meet existing contraceptive needs. About 75 million of the estimated 180-200 million pregnancies that occur in the world annually are reportedly unintended, and a high proportion of these occur in adolescence (1).

The steadily decreasing age of menarche and increasing age at marriage have created an ever-widening window of time for premarital sexual intercourse and pregnancies. Even in countries where age at first intercourse has risen, age at marriage has risen faster. For married youth, contraception remains rare in many countries, and social norms pressure

young couples to start childbearing immediately, with little subsequent spacing of births. Information about how to prevent pregnancy and sexually transmitted infections (STIs), including Human Immunodeficiency Virus (HIV) should emphasise the importance of abstinence as the only way to eliminate the risk of pregnancy and contracting an STI.

For avoiding STIs, they especially need condoms(2). The actual use of contraceptive services is a function of motivation and access to these services regardless of the age group involved, but majority of teenage women living in developing countries have unmet need for family planning (3).

Uganda with the total fertility rate of 6.9 births per woman is one of the highest among countries in Eastern and Southern Africa. Childbearing starts early with a mean number of children ever born among adolescents aged 15-19 years being 0.3 live births per

woman(4). Teenage pregnancy(5) and motherhood has been a major health and social concern in Uganda. Teenage pregnancy is singled out because of its association with higher morbidity and mortality for both the mother and the child. In addition, with the current school practice, pregnant girls have to terminate their education, which affects the health of the mother and the child through loss of socio-economic opportunities.

In Uganda, 96.2% of currently married adolescent females and 100% males know of at least one modern contraceptive method, and 21.5% of married adolescent females aged 15-19 have used a contraceptive method with 18.4% being a modern contraceptive (4). Information on contraceptive use by single-sexually experienced adolescents is sparse. Information distinguishing the use of contraceptives by the in-school and the out-of-school Ugandan adolescents is also lacking. This article compares the level of contraceptive use among rural in-school and out-of school adolescents in southwestern Uganda.

MATERIALS AND METHODS

Study design and setting: This was a cross sectional study conducted in Mbarara district located in southwest Uganda. The district has a total population of 1,089,051. An estimated 92% of the population inhabit rural areas. The smallest unit of social organisation from colonial times is a village (300-500 people).

The national health policy created the Health Sub-Districts as the health service zones within each district. They are functional sub-divisions of the district health system aimed at improving the quality and management of routine health service delivery, increasing equity of access to essential health services and to foster community involvement in planning, management and delivery of basic health care. Communities' owned resource persons attached to health centres provide community related health (promotive and preventive) services. Health sub-districts conduct school health outreaches where adolescent health is discussed including reproductive health. The leadership of the health sub-district is based at an existing hospital or up graded health centre.

The Uganda government advocates for complete sexual abstinence before marriage. The goal is to effectively protect young people against both pregnancy and HIV infection. However, those who cannot abstain are free to use contraceptives while having sexual intercourse. About half of contraceptives come from public health facilities that constitute 90% of health units within the district. Private for profit health facilities including hospitals, clinics and drug shops also provide contraceptive services. Faith-based health facilities excluding those under the Catholic Church also provide contraceptive services. Stand-alone organisations such as the Family Planning Association of Uganda and the acquired Immunodeficiency Syndrome (AIDS) information centre also provide contraceptive services. The latter provides condoms to clients as part of the strategy to prevent the spread of HIV/AIDS among sexually active individuals. Traditional birth attendants (TBAs) provide antenatal services as well as pregnancy related counselling to rural women who visit their establishments. The Uganda Health Policy recognises TBAs as members of the private sector involved in the provision of health care in the country. To

this effect, the government supports improved delivery of TBA services through training programmes and provision of basic delivery kits (mackintosh, gloves, etc).

Mbarara District has one Youth Centre (Family Planning Association of Uganda Youth Centre) providing Adolescents Friendly Reproductive Health Services. The centre is situated within Mbarara Municipality. The centre provides family planning counselling - methods and their side effects. It primarily advocates abstinence, but also provides oral contraceptives (pills) and condoms. However, currently no policy exists for condom dispensing at youth clubs. Other static services provided include: laboratory testing (sexually transmitted diseases, malaria, typhoid, and other common infections), voluntary counselling and testing for HIV, treatment of minor illnesses, antenatal and postnatal care, immunisation for children born to adolescents, and youth recreation activities including music, library services and in- and out-door games. The Youth Centre outreach activities for in-school within the district include music, dance and drama to create awareness of the services provided by the centre. The "Transect Trade Programme" - an outreach programme currently piloted in two villages within the municipality provides services to out-of school adolescents (targets bar maids and commuter motorcyclists).

Ethical considerations: The study was approved by Mbarara University of Science and Technology Faculty of Medicine Research and Ethics Committee, and Mbarara University Institutional Review Board in 2004. It was also cleared by Mbarara District Education Department and the Local Councils of the selected villages. In schools, permission to conduct the study was sought from the school authorities. Adolescents below 18 years of age were given consent forms to take to their parents. Only those who returned signed forms were enrolled into the study. In the villages, consent was sought from the parents at home as well as the out-of school adolescents. None of the study participants were obliged to participate in the study. Participants' names were not required on the questionnaire.

Data collection and analysis: The study was implemented in 2004. Seven secondary schools were randomly selected from five of the ten Health Sub-Districts in Mbarara district. These included two boarding schools (one male and the other female single sex school) and five dual sex, mixed day and boarding-schools. An average of 71 adolescents aged 15-19 years in each school were randomly enrolled through use of random numbers and class lists as sampling frame. A sub-total of 500 in-school adolescents was enrolled.

Two hundred and twenty out-of school adolescents in the same age group residing in the villages surrounding the selected schools were also enrolled. Lists of households with out-of school were obtained from the village local leaders and adolescents enrolled using random numbers. Only one adolescent was interviewed per household. Where a household had two or more eligible adolescents, only one was randomly selected and interviewed. Therefore a total of 720 adolescents constituted the study sample.

Information was collected by use of pretested self-administered questionnaire but with guidance of the investigators. For the out-of school adolescents who were unable to read and write, the interviewer-administered technique was employed. Social, demographic and contraceptive data on both modern and traditional methods were collected. The contraceptives included the following: calendar/rhythm, withdrawal, male and female condom, spermicide, diaphragm, oral contraceptive/pill, injectable, female/male sterilisation,

and any other methods they considered a contraceptive that they used.

The questionnaire was pre-coded prior to data entry. Data were cleaned and errors checked and all missing data coded and excluded in the final analysis. Analysis was done using the Statistical Package for Social Sciences programme version 10. Logistic regression was applied and Odds Ratios (OR) and the 95% Confidence Intervals (95% CI) were calculated. The t-test was used to compare the mean age and the age at first sexual encounter. The Chi-square test was used to compare proportions with p-value set at 0.05 level of significance.

RESULTS

Socio-demographic characteristics: Males and females were almost equally represented in the sample (361 or 50.1% vs. 359 or 49.9% respectively). Four hundred and twenty four (58.9%) of the sample had never had sexual intercourse and ten adolescents among out-of school were married. The two categories ("never had sex" and "married") were excluded from further analysis leaving 286(39.7%) in the final sample of whom 171(59.8%) were in-school and 115(40.2%) were out-of school. The overall mean age was 17.6 (± 1.2 SD) years, but it was slightly lower (17.5 years) for in-school than out-of school (17.7 years) ($p=0.16$, t-test). The mean age was slightly higher for male (17.6 years) than female (17.5 years) ($p=0.4$). The mean age at first sexual intercourse was 15.2 (± 2.4 SD) years, lower (15.0 years) among in-school than in out-of school (15.5 years) ($p=0.13$, t-test). Males initiated sex at an earlier age (15.1 years) than females (15.6 years)

($p=0.06$). For the out-of school, the median duration while not in school was 2.8 (± 2 SD) years. Table 1 shows the socio-demographic profile of adolescents who were single, but had had sex.

The in-school 106(69.7%) significantly resided in rural area while the out-of school 68(51.5%) were more concentrated in urban areas (OR=2.5, 95%CI=1.5-4). Adolescents living with guardians were about eight times more likely to be out-of school 60(69%) (OR=7.7, 95%CI=4.3-13.6).

Whereas all in-school were attending secondary schools, the composition of the out-of school adolescents was as follows: 10(8.7%) never went to school, 61(53.0%) attained primary education and only 44(38.3%) attended up to secondary level. The out-of school were 2.4 times more likely to have multiple sexual partners compared to in-school (OR=2.4, 95%CI=1.4-4.1).

Ever-used and current use of contraceptives: The overall contraceptive prevalence was 171(23.8%), with 99(19.8%) among in-school and 72(32.7%) among out-of school (OR=0.8, 95%CI=0.5-1.3). Of those who had ever had sex, 178(62.2%) had ever used some form of contraception; while 171(59.8%) were current users. Of those who had ever used contraceptives, 102(57.3%) were in-school and 76(42.7%) were out-of school (OR=0.8, 95%CI=0.5-1.2). For current users, 99(57.9%) were in-school and 72(42.1%) were out-of school (OR=0.8, 95%CI=0.5-1.3). There was no statistically significant difference between ever-used and current users when the in-school and out-of school groups were compared.

Table 1

Socio-demographic profile of study participants (n=286)

Predictor	In-school No. (%)	Out of school No. (%)	Odds Ratio (95% CI)
Gender			
Male	118(58.7)	83(41.3)	
Female	53(62.4)	32(37.6)	0.9(0.5-1.4)
Age-group (years)			
<18	73(62.9)	43(37.1)	
18-19	97(57.7)	71(43.2)	1.2(0.8-2.0)
Age at first sexual intercourse (years)			
<18	130(57.5)	96(42.5)	
18-19	28(62.2)	17(38.8)	0.8(0.4-1.6)
Residence			
Rural	106(69.7)	46(30.3)	
Urban	64(48.5)	68(51.5)	2.5(1.5-4.0)*
Parent/guardian			
Biological parents	144(77.6)	41(22.4)	
Guardian	27(31.0)	60(69.0)	7.7(4.3-13.6)*
Religion			
Catholic	79(70.5)	33(29.5)	
Other	92(53.2)	88(46.8)	2.1(1.3-3.5)*
Education level			
None/primary	-	67(100)	
Secondary	171(79.5)	44(20.5)	§
Two or more life sexual partners	77(49.0)	80(51.0)	2.4(1.4-4.1)*

*Statistically significant

§Not calculated

Table 2 shows the contraceptive methods that adolescents in our study were using. The methods included: calendar/rhythm, withdrawal, condom, oral contraceptive (pill) and injectable (Depo-Provera). Majority were using the male condom with 80(56.7%) in-school and 61(43.3%) out-of school. The calendar and withdrawal methods were mostly used by the in-school 11(84.6%) and 8(72.4%) respectively. There was no statistically significant difference between the in-school and the out-of school with regard to use of any of the above methods. Only one adolescent in the out-of school category was using a diaphragm. None of the adolescents used spermicide and female condom.

Table 2

Contraceptive methods of current users (in-school n=99, out-of school n=72)

Method	In-school No. (%)	Out-of school No. (%)	P-value* (two-tailed)
Calendar	11(84.6)	2(15.4)	0.1
Withdrawal	8(72.4)	3(27.3)	0.5
Condom	80(56.7)	61(43.3)	0.3
Pill	1(20)	4(80)	0.2
Injection	2(50)	2(50)	1.0
Other ψ	None	1(100)	§

*Fisher's Exact Test, ψ Diaphragm and Spermicide

Table 3 and 4 show the predictors examined for influence on use of contraceptives by adolescents - stratified by in and out-of school categories. The predictors included gender, age-group, age at first sexual intercourse, parent/guardian, place of residence, religion, life sexual partners, and for the out-of school - level of education and duration while out of school.

For the in-school, only age was significant predictor of contraceptive use. In-school adolescents in the 18-19 year age-group 65(67%) used contraceptives more than those less than 18 years of age 33(45.2%) (OR=0.4, 95% CI=0.2-0.8). There was no statistically significant difference between in-school users and non-users when other predictors were entered into the logistic regression model.

For the out-of school, place of usual residence and level of education were significant predictors of contraceptive use. Fifty one (75%) of adolescents living in urban areas were contraceptive users compared to 20(43.5%) who resided in rural areas (OR=0.3, 95% CI=0.1-0.6). Those who attained secondary education 37(84.1%) were more likely to use contraceptives compared to those who had never gone to school or had only attained primary education (OR=0.2, 95% CI=0.1-0.5). There was no statistically significant difference between out-of school users and non-users when other predictors were considered.

Table 3

Current contraceptive use among rural Uganda in-school adolescents (Using n=99, Not using n=72)

Predictor	Using No. (%)	Not using No. (%)	Odds Ratio (95% CI)
Gender			
Male	71(60.2)	47(39.8)	
Female	28(52.8)	25(47.2)	1.4(0.7-2.6)
Age-group (years)			
<18	33(45.2)	40(54.8)	
18-19	65(67.0)	32(33.0)	0.4(0.2-0.8)*
Age at first sexual intercourse (years)			
<18	72(55.4)	58(44.6)	
18-19	18(64.3)	10(35.7)	0.7(0.3-1.6)
Parent/guardian			
Biological parent(s)	82(57.7)	60(42.3)	
Guardian	15(56.6)	12(44.4)	1.2(0.5-2.5)
Place of residence			
Rural	59(55.7)	47(44.3)	
Urban	39(60.9)	25(39.1)	0.8(0.4-1.5)
Religion			
Catholic	41(51.9)	38(48.1)	
Other	58(63.0)	34(37.0)	0.6(0.3-1.2)
Two or more life sexual partners	45(58.4)	32(41.6)	0.8(0.4-1.6)

*Statistically significant

Table 4*Current contraceptive use among rural Uganda out-of school adolescents (Using n=72, Not using n=43)*

Predictor	Using No. (%)	Not using No. (%)	Odds Ratio (95% CI)
Gender			
Male	50(60.2)	33(39.8)	
Female	22(68.8)	10(31.2)	0.7(0.3-1.6)
Age-group (years)			
<18	24(55.8)	19(44.2)	
18-19	47(66.2)	24(33.8)	0.7(0.3-1.4)
Age at first sexual intercourse (years)			
<18	61(63.5)	35(36.5)	
18-19	10(58.8)	7(41.2)	1.2(0.4-3.5)
Parent/guardian			
Biological parent(s)	25(61.0)	16(39.1)	
Guardian	37(61.7)	23(38.3)	0.9(0.4-2.2)
Place of residence			
Rural	20(43.5)	26(56.5)	
Urban	51(75.0)	17(25.0)	0.3(0.1-0.6)*
Religion			
Catholic	18(54.5)	15(45.5)	
Other	53(65.4)?	28(34.6)	0.6(0.3-1.5)
Education level			
None/primary	33(49.3)	34(50.7)	
Secondary and above	37(84.1)	7(15.9)	0.2(0.1-0.5)*
Two or more life sexual partners	51(63.8)	29(36.2)	0.8(0.3-1.9)
Duration while out-of school			
<2 years	27(69.2)	12(30.8)	
≥2 years	39(66.1)	20(33.9)	1.2(0.5-2.7)

*Statistically significant

Table 5*Barriers influencing contraceptive use (in-school n=171, out-of school n=115)*

Barrier	In-school No. (%)	Out-of school No. (%)	Odds Ratio (95%CI)
Fear side effects	61(66.3)	31(33.7)	1.5(0.9-2.5)
Stigma	18(41.9)	25(58.1)	0.4(0.2-0.8)*
Expensive	37(77.1)	11(22.9)	2.6(1.7-5.4)*
Lack of contraceptive varieties	6(28.6)	15(71.4)	0.2(0.1-0.6)*
Partner refusal	46(62.2)	28(37.8)	1(0.7-2.0)
Want to feel sensation	2 (25)	6 (75)	§
Lack of contraceptive knowledge	1(9.1)	10 (90.9)	§
Unprogrammed encounter	-	2(100)	§

*Statistically significant, § not calculated

Barriers to contraceptive use: Table 5 compares the barriers influencing contraceptive use between the two study groups. Cost of contraceptives was a barrier to in-school 37(77.1%) compared to out-of school users 11(22.9%) (OR=2.6, 95%CI=1.7-5.4). Other barriers were: fear of contraceptive side-effects 61(66.3%) compared to 31(33.7%) and partner refusal 46(62.2%) compared to 28(37.8%) for in-school and out-of school respectively. There was no statistically significant

difference when in and out-of school contraceptive users were compared with regard to fear of side effects and partner refusal. Guilt (stigma) surrounding their sexual activity and contraceptive usage was a barrier to out-of school 25(58.1) than in-school users 18(41.9%) (OR=0.4, 95%CI=0.2-0.8). Lack of commonly used contraceptive varieties was a barrier to out-of school users 15(71.4%) (OR=0.2, 95%CI=0.1-0.6). Other barriers to out-of school were lack of appropriate

knowledge about contraceptives 10(90.9%), desire to feel sensation of penetrative sexual intercourse 6(75%), and unprogrammed encounter.

DISCUSSION

A better understanding of the dynamic process of contraceptive use by the in-school and out-of school adolescents might lead to the development of suitable interventions targeting these two vulnerable populations. We have estimated that contraceptive use among the single-sexually exposed rural Ugandan adolescents aged 15-19 years is low. This contraceptive prevalence is lower than that reported in other studies(6,7). The prevalence among the in-school was however similar to that reported among secondary school adolescents in Nigeria(8).

Although there was no statistically significant difference in contraceptive use between the two study groups, the out-of school were more likely to use contraceptives. Our findings suggest that there is need for reorientation of the contraceptive services to focus on adolescents and to make these services more available and accessible to them.

For the in-school, only age was a significant predictor of contraceptive use. However, the mean age at first sexual intercourse reported in the current study was far below the age of consent (18 years) in Uganda. It has been reported elsewhere that early sexual debut can place adolescents at increased risk of unintended pregnancy, HIV, and other sexually transmitted infections (STIs). Youth who begin sexual activity early appear more likely to have sex with high-risk partners or multiple partners and are less likely to use condoms(9,10). The observed association between contraceptive use and age may be a reflection of exposure to knowledge. This finding illustrates the need for accurate information about contraceptive methods presented in an age-appropriate manner before they are likely to become sexually active. Orientation and assistance in selecting the best method should be provided in places accessible to young people, in a language they can understand.

For the out-of school, only place of residence and level of education of adolescent were significant predictors of contraceptive use. These factors are proxy variables of socio-economic status. This finding is consistent with that reported in Peru where contraceptive use was strongly related to contact with urban centres and the economic status of the Peruvian population(11), and in another study where secondary or higher education and urban residence strongly influenced contraceptive use (12). It has also been argued that the strong association of contraceptive use with urban environments where there are private health facilities is perhaps because these facilities improve the availability of a variety of contraceptive methods(13).

Rhythm and withdrawal were mostly used by in-school. This was not surprising bearing in mind that there are abrupt checks for unauthorised personal effects in Ugandan schools. Storing modern contraceptives (for example condom and oral contraceptives) may be interpreted as immoral behaviour and this act would easily attract dismissal of the adolescent from school. Majority of in-school were staying with their parents, and sharing the same house, where normally parents inspect the bedrooms of young people. The school and home environments are likely to put the school going adolescent at risk of having sexual intercourse without using the modern contraceptives. Given that cost of contraceptives was a reported barrier among the in-school, this also contributes to preference for the rhythm and withdraw methods. Majority of the out-of school on the other hand were staying with other relatives who may not care so much about the sexual activity and contraceptive usage by young people. This is evidenced from the fact that the out-of school had more multiple sexual partners. Rhythm and withdrawal are relatively ineffective for inexperienced adolescents and should be replaced by more effective methods. Abstinence should be promoted, especially among the youngest and those who have never had sex. Condoms are the ideal methods for adolescents because of absence of side effects, and protection against sexually transmitted diseases and HIV. Promotion of condom use requires reducing the cost and combating some misconceptions about sex and contraception.

In rural southwestern Uganda, the contraceptive services are urgently needed because of the young age at initiation of sexual activity, low rate of contraceptive usage among sexually active adolescents, cost of contraceptives, perceived fear of contraceptive side-effects, lack of agreement on contraceptive use between partners, guilt/stigma surrounding their sexual activity and contraceptive usage, unavailability of contraceptive method choices to choose from, desire to feel sensation of penetrative sexual intercourse and the knowledge deficit regarding contraceptives.

In conclusion contraceptive use among rural Ugandan adolescents is low. More out-of school were contraceptive users, although not significantly different from the in-school. Age was a significant predictor of contraceptive use among in-school while place of residence and level of education of the adolescent were significant predictors for the out-of school.

Whereas abstinence should remain the main stay of health education messages to adolescents, contraceptive services should be made more accessible to those who are sexually active. Strengthening of the school health programme and establishment of out-of school adolescent health programmes by the Health Sub-Districts and scaling up of outreach activities by the Family Planning Association of Uganda, Mbarara Youth Centre are urgently needed.

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