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ABSTRACT:

HIV/AIDS is one of the commonest reasons for admission of youths in Gulu Hospital. There are no specific studies that have been carried out to determine the prevalence of HIV/AIDS among the youths in this post-conflict region. This study aimed to describe the characteristics of HIV positive youths attending care in Gulu Hospital. A cross-sectional study was conducted among youths aged 13 to 24 years in the specific clinics of Gulu Hospital from January to December 2010 to identify and describe those youths that were HIV positive. A total sample size of 280 HIV positive patients was calculated using the Kish & Leslie formula. Ethical approval was obtained from Gulu Hospital Committee. Majority of respondents 174 (62%) who re-tested for HIV knew their HIV status and most tested between April and June 90 (32%). HIV infection was more prevalent among females 252 (90%), particularly those who were single 118 (47%). HIV infection is more common among female youths in the post-conflict northern Uganda.

KEY WORDS: HIV/AIDS, youths, Gulu Hospital, Post-conflict region, Northern Uganda.

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INTRODUCTION:

The prevalence of HIV infection in the war affected northern Uganda is higher than the national average of 6.5% [1]. In Uganda, the Ministry of Health statistics indicate that about 110,000 children are living with HIV/AIDS out of an estimated population of 33 million people [1] and out of these, 50,000 were in urgent need for antiretroviral treatment and only 12,000 of these children were receiving this essential treatment [1]. These children sooner than later grow into adolescence and adulthood and increase further the infection force to their uninfected cohorts, thus further driving up the HIV/AIDS epidemic [1]. Some of the social and environmental factors that make youths more vulnerable or place them at a special disadvantage are attributed to unsuccessful or inadequate development process disrupted by war or major pandemics [1, 2]. It has been shown previously that population movements, sexual violence and break down of established social values dramatically increase the spread and transmission of sexually transmitted diseases including HIV/AIDS [1, 2]. It was also further observed that reduced access to reproductive health services increases the vulnerability of the adolescents in particular to HIV/AIDS [1,2]. Unprotected sex makes adolescents vulnerable to STDs including HIV/AIDS and in the case of girls, to unwanted pregnancies and the possibility of unsafe abortion [3]. There is evidence to suggest that despite a significant decline in HIV/AIDS

prevalence between 1992 and 2002 in Uganda from about 18% to less than 10%, HIV/AIDS prevalence has stagnated over the last 5-9 years at between 6.1 and 6.5% and may be rising in some parts of the country or specific population groups [4, 5, 6]. The experience of idleness coupled with the high levels of poverty, illiteracy and indiscriminate unprotected commercial sexual intercourse could have exposed many youths to HIV/AIDS infections in northern Uganda [1,5,7,8]. Whereas the Internally Displaced Peoples (IDPS) camps situation has been claimed by many scholars and researchers to have been a protective factor against HIV/AIDS spread by isolating this community from other cultures and regional influences [7, 8], such hypothesis may only be logical against common observation especially if the communities got cut off from the rest when there was already HIV infection within it, and where Aid workers and soldiers continued to frequent these communities and forceful sexual encounters were sometimes reported [8]. In addition, down-staging the probable effect of war which is the only main exception to the northern Uganda compared to other regions of Uganda given the fact that the HIV/AIDS prevalence in the north is much higher than most regions except the central region of Uganda may perhaps create a false impression that war had no effect in the spread of HIV/AIDS [1,7,8]. Therefore, the encampment could have cushioned this society from other threats such as physical security but

not social threats such as HIV/AIDS [8]. It has also been truly observed that the effect of conflict on the rate of HIV/AIDS infection has been equivocal in many studies [9]. In Angola for example, it was argued that the restricted mobility due to war could have accounted for low prevalence of HIV/AIDS compared to their neighbouring countries such as South Africa, Namibia, and Lesotho [10]. A more recent study in seven countries including Uganda concluded that there was insufficient evidence to support or deny that HIV incidence increases in conflict situations [11]. It is further not clear whether or not HIV infection rates sky rockets soon after the end of conflict when relative peace may have encouraged more sexual activity akin to the child boom following World War II [12]. Therefore, one may argue that since most of the studies that failed to demonstrate high HIV infections in the conflict areas were prevalence rather than incidence studies, the equivalently high rates of death in the conflict regions could have accounted for their failure to show excess HIV/AIDS infection in these regions.

However, with all this background information, HIV/AIDS remains a major public health problem all over the world, but particularly in Uganda where it has caused in-calculable human suffering, social and cultural disruption and huge economic losses [1,2,18]. Almost three decades after the first reported AIDS cases in Uganda [1, 37], AIDS has continued to pose a significant public health and

development challenge especially among the most productive age group including the youths [1,18]. Uganda has a generalized HIV epidemic with a prevalence of 6.5% in adults and 0.7% in children [1, 38]. Approximately 1.1 million people in Uganda are HIV infected and estimates indicate that over 100,000 new infections occur annually [2, 38].

In 2008 alone, an estimated 110,694 new HIV infections occurred countrywide and approximately 61,306 people died from HIV/AIDS-related illnesses [1, 38]. So far, prevention is the only viable method that is used to control the spread of HIV as there is no definite cure for the infection [1, 39]. In Uganda, much effort has focused on prevention messages to curb the spread of HIV through prevention messages so as to curb the spread of HIV/AIDS through heterosexual activities, blood transfusion, mother-to-child transmission, post-exposure prophylaxis (PEP) for health workers and rape survivors [1, 40]. One factor that has been unique for Northern Uganda and particularly Gulu has been the civil conflict for the last 20 years and this caused disruption of services and population were displaced in to Internally Displaced peoples Camps (IDPS) for safety from the insurgency [1,7,8]. The population of over 2 million people were being fed and looked after by the United Nations World Food Program in their displaced camps for over 10 years [1, 8] and this led to several other socio-economic, health and cultural decline in this part of the Country [1, 37]. The

prevalence of HIV/AIDS in Northern Uganda has since 2000s increased and more especially among the youths [1, 38].

The lack of agreement on civil conflict as a driver of HIV infections, inadequate information on HIV incidence in immediate post conflict region and role of relative peace in driving HIV infections and the centrality of the youths in the socioeconomic and cultural longevity of society motivated us to perform this cross-sectional study to evaluate the influence of HIV/AIDS infection on disease profile amongst the youths attending clinics in Gulu hospital.

Gulu Hospital where the study was conducted is a Regional Referral Hospital, which is a teaching hospital for Gulu University Medical School and it has 350 beds. This Hospital is a public hospital which is funded by the government of Uganda and does not charge fees for its services except in private clinics and wards. It has several Departments including Out Patients department (OPD), Psychiatry, Surgery, Internal Medicine, Voluntary Counselling & Testing (VCT), Paediatrics, Obstetrics and Gynaecology, ophthalmology, Ear Nose & Throat (ENT), Casualty, Ante Natal Clinic (ANC) and several other specialized clinics which are headed by a specialist.

Our study was conducted in this hospital in the OPD, VCT and Casualty unit for the youths who reported to the hospital for medical advice and treatment.

SUBJECTS AND METHODS:

We conducted a cross-sectional study on 280 HIV/AIDS positive youths who attended specific clinics in Gulu Hospital from January to December 2010. Questionnaires were used to obtain medical information from the VCT, OPD, and casualty units. From the previous hospital reports, most youths attended these clinics compared to the others and therefore these clinics were selected purposively to be the research sites and a representation of the other clinics. The clients were recruited as and when they arrived at those clinics and consent/Assent was an inclusion criteria. Independent variables studied included age, gender, residence, occupation, marital status and the level of education, while the dependent variables were positive HIV status and month when VCT was conducted.

Gulu Regional Referral Hospital is at the center of Gulu municipality which is about 343km north of the capital, Kampala. Northern region where the hospital is situated is just recovering from over 20 years of civil war. Gulu district is one of the regional centers for northern Uganda and draws mainly rural population; many of whom were displaced into camps famously known as the internally displaced peoples camps (IDPS) for safety from insurgency. According to Gulu District Development Plan 2007/2008, the district has a total population of about 380,000 people [13]. It is estimated by

the health centre reports at the District Health office that over 10% of the populations in the district were infected with HIV/AIDS. It is also reported that the majority of the population of Gulu (over 60%) are composed of youths who are less than 30 years of age [13].

Gulu Municipality where the study was conducted is also one of the highway towns along the Great North Road which traverses the entire sub Saharan Africa from Cape Town in South Africa to Cairo in Egypt. There is a great interaction between the long distance heavy truck drivers on this highway to South Sudan and the population of Northern Uganda. Brisk trade also occurs between the border points in Gulu and South Sudan. The majority of the population in the post conflict region particularly Gulu are youths and many of whom missed the chance for formal education.

Participants were selected consecutively as and when they arrived at the hospital for medical care in these selected departments. Their data were recorded on a proforma which was designed to capture the variables being investigated (socio-demographic characteristics, positive HIV status and month when the tests were taken). Informed consent was obtained from the youths that attended the various clinics before the HIV tests were conducted. Those who accepted the HIV test but declined from being included in the study were excluded (23 youths). Pre and post-test counseling was provided to each of the youths and those who were found positive, referred to the relevant

departments for further HIV/AIDS management and Care (340 youths). Those who were negative were advised to take care and avoid risky sexual behaviour and thereby prevent themselves from acquiring the virus (320 youths). Those below 18 years of age who came without accompanying adults were asked to return with an adult the next day and those who could not come back with the parent/guardian (35 youths) were excluded from the study. In addition, youths that did not consent to the tests and those that had not lived in Gulu in the last one year (37 youths) were excluded. None of the youths who were eligible was too ill to participate in the study.

Data was collected from the youths after they had all been treated for their various illnesses. Each individual would be asked to freely accept or decline to participate in the study after receiving their treatment with assurance that their decision would not in any way affect the access to care from the hospital. Questionnaire was used to collect data on the socio-demographic characteristics and knowledge about HIV status. This questionnaire was interviewer-rated and two trained research assistants, who were clinical officers, collected the data. The questionnaire was pre-tested among students from the Gulu clinical officers' training school. The time for the collection of data was from 10:00am in the morning to 4:00pm in the evening with a lunch time break from 12:00pm to 2:00pm from Monday to Friday. Data collection was not carried out on

Saturdays and Sundays as these were rest days for the researchers. After the pretest, the questionnaire was improved to help respondents recall some of the information which was relevant and not previously included in the questionnaire. The pre-tested questionnaire was then administered to these respondents individually so as to maintain privacy and ensure accuracy of information given. The questionnaire was written in simple English and translated into Luo, the regional language which is widely spoken by the majority of the population in this region by the investigators in conjunction with trained interpreters. The interviewers were clinical officers, whom Luo was their first language and therefore the administration of the questionnaire and the interpretation of the information was not a limiting factor. Each interview took an estimated 20 minutes from the beginning up to the end of the session.

Dependent variable: HIV positive status of the youths and month when VCT was carried out

Independent variables: Gender, age, level of education, marital status and residents.

SPSS statistical software package version 15.0 was used for the univariate analysis of the socio-demographic characteristics and other proportions. The data was presented in charts and graphs for easy interpretation.

The study was approved by the Research and Ethics Committee of Gulu Hospital. Individual informed consent and assent were obtained

from each participant and confidentiality of information was maintained for all participants.

RESULTS:

The sample size was 280 HIV positive youths and there were 252 females (90%) and 28 males (10%). These participants were selected from 3 out of more than 10 clinics in the hospital. The study described the socio-demographic characteristics of those that were found HIV positive during the study period.

The ages: The ages of the youth ranged from 13 to 24 with a mean of 22 ± 1.5 years.

Graph 1: Shows the HIV distribution by age among female youths: The majority of the females 120 (47.6%) were aged between 22-24 years; while 82 (32.5%) aged 19-21 years; 42 (16.5%) aged 16-18 years; 9 (3.4%) aged 13-15 years.

Graph 2: Shows the HIV distribution by age among male youths: The majority of the males 17 (60.5%) were in the age group 22-24 years; 7 (24.5%) aged 19-21 years and 4 (15%) aged 16-18 years.

Gender: The majority 252 (90%) of the youths who were recruited and tested for HIV were females.

Marital status: Figure 1(a) shows the marital status of female youths: Of the female youths tested 113 (45%) were single, 63 (25%) were widowed; while 33 (13%) were married; 18 (7%) divorced; 25 (10%) have a boyfriend.

Graph 1: HIV distribution among female youths

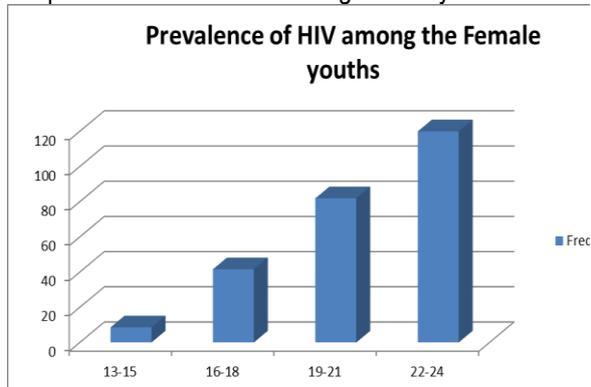


Figure 1(a) marital status of female youths

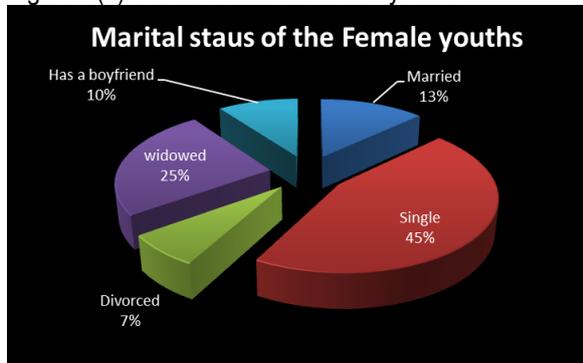


Figure 2a: Residents of the male youths

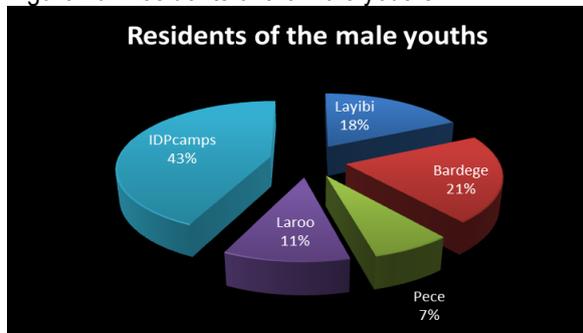
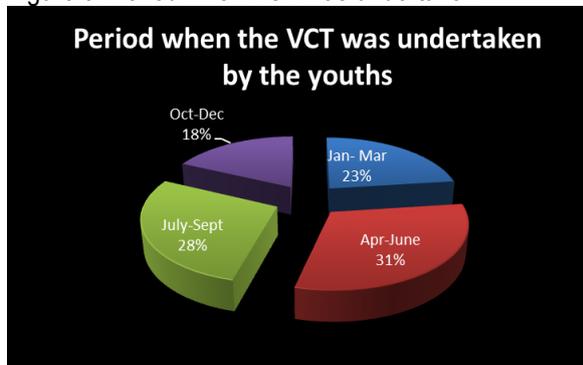


Figure 3: Period when VCT was undertaken



Graph 2: HIV distribution among male youths

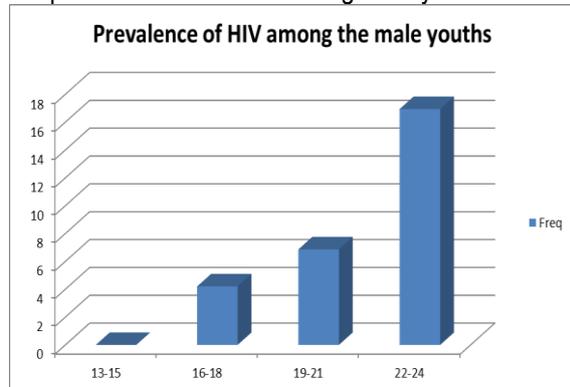


Figure 1(b) marital status of male youths

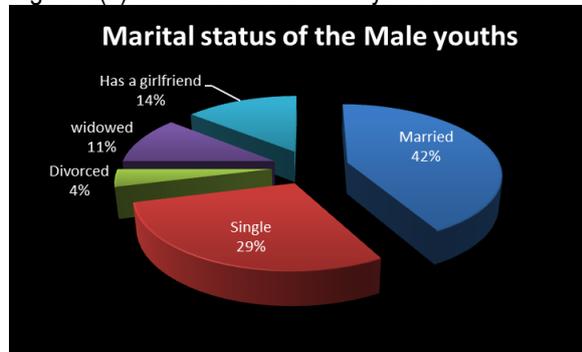


Figure 2b: Residents of the female youths

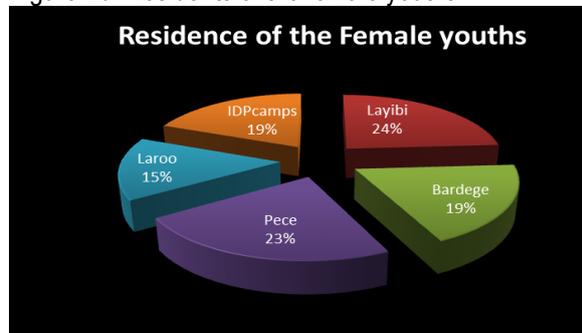


Figure 4: Level of Education of the youths

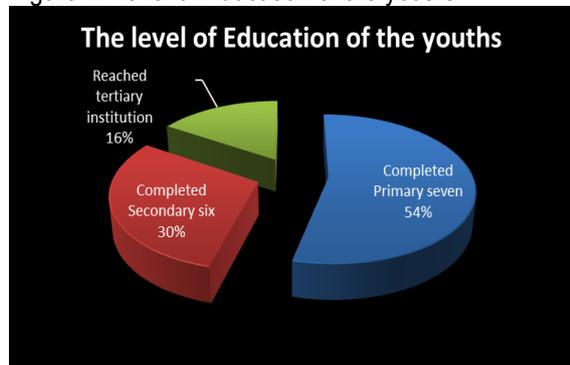


Figure 1(b) Shows the marital status of male youths: Of the male youths tested 12 (42%) were married; 8 (29%) single; 3 (11%) widowed; 4(14%) have a girlfriend and 1(4%) divorced.

Knowledge of their HIV status before undertaking counseling and testing: The majority of the youths 174 (62%) knew their HIV status before re-testing while 106 (38%) had not tested before and did not know their HIV status. None had been tested and was not given their HIV test results.

Figure 2 (a): Residents of female youths: The majority 60 (24%) from Layibi; 58 (23%) from Pece; 48 (19%) from IDP Camps; 38 (15%) from Laroo and 48 (19%) from Bardege.

Figure 2 (a): Residents of male youths: 12 (43%) of youth from IDP camps, 6 (21%) from Bardege; 5 (18%) from Layibi, 3 (11%) from Laroo and 2 (7%) from Pece.

Figure 3: The period when VCT was undertaken: Most tests were recorded between April to June 87 (31%), followed by July to September 78 (28%), January to March 64 (23%) and the least was between October to December 50 (18%).

Figure 4: Level of Education: Most youths 151(54%) had completed primary education; 84 (30%) secondary six and 45(16%) tertiary education.

DISCUSSION:

Our study found that a great proportion of the youth in this study knew their HIV infection status before accepting to enroll in the study. The prevalence of infection amongst these youth is dauntingly high. Female youths were more affected and were more willing to test and participate in VCT compared to males. According to recent studies conducted in Africa, young people are disproportionately affected by the HIV pandemic [14, 18, 19, 20] however, in areas where the young people were aware of HIV risk factors and prevention strategies, they changed their behaviour in ways that reduce their vulnerability [14, 15, 16].

In general young people remain at the center of HIV/AIDS epidemic in terms of rates of infection, vulnerability and impact of the disease [14-20]. Although the current youth have grown up in a world changed by HIV/AIDS, recent studies have shown that many youths still lacked comprehensive and correct knowledge about how to prevent HIV/AIDS infection [14-18].

Notably despite national and local strategies to reduce HIV infections in Uganda, HIV/AIDS epidemic continues to threaten the political, social, economic and development issues in this country with a population of between 26-34 million [15, 16,17] and more specifically the post-conflict northern Uganda.

Socio-demographic characteristics:

In this study, a disproportionate number of females were represented in clinics attendance and tested to determine their HIV status. This however seems to reflect the better pattern of health care seeking behaviour among females in the region rather than a bias in the study. More females seemed to attend care in this hospital as compared to males [16, 17, 21,41]. The females were also more responsive to the post-test care and management. Similar finding of reluctance of younger males in taking up HIV testing was earlier shown in a study conducted in Western Uganda [22, 24,41].

The highest prevalence of HIV infections was among the age-group 22-24 years. This age group coincides with the age of maturity and probable onset of sexual activity but may also represent a contribution from vertically transmitted HIV infections amongst adolescence as the HIV epidemic matures. It is also probable that these adolescents could have started to engage in unprotected sexual activity rather early and indiscriminately while in the highly congested IDP camps. In that case therefore, the observed age and gender distribution may therefore reflect the aftermaths of the civil conflict on HIV infection and age distribution in this post-conflict region. In addition, youths at these age groups missed their opportunity for education while in the IDP camps and may therefore be exposed to HIV infections as they engage in casual and sex for money with high risk men such as truck drivers

along the Great North Road that traverses Gulu Municipality.

This finding of a high HIV prevalence amongst youth in post-conflict region with high vulnerability factors is in agreement with a recent analysis which has shown that civil conflict increases incidence of HIV infection even after adjusting for confounding variables [25]. It is our humble view that policy makers may therefore wish to evaluate this effect of war long after the guns have gone silent and plan to mitigate populations affected by prolonged civil conflicts [26].

This study also revealed a high prevalence of HIV among single females (45%) as compared to single boys (29%). This was likely to be because the majority of the females at this age would have not been employed and had no sources of income and could therefore have been engaging in sex for money business so as to cater for their basic needs. This was similarly observed by several studies in Africa which showed that women were more socially vulnerable to HIV infections than men because of poverty, cultural and sexual norms, lack of education, and violence [27].

Many youths in Northern Uganda lost their parents during the war and were left to take charge of their families and to look after the other younger siblings [7, 8]. These child headed families were generally run by the female child who then got exposed to abuse as she attempted to fend for their families [8]. Similarly in a multi-centre study including

Kisumu in neighboring Kenya, HIV prevalence was higher among girls and this was associated with their higher vulnerability due to several factors [28, 29] such as girls had older sexual partners than boys and higher rates of herpes simplex type 2, which are both risk factors for HIV transmission [28, 29].

In this study, sub analysis among the girls showed that Layibi and Pece divisions contributed 47%, Bardege contributed 19% while the least prevalence was in Laroo division (15%). Among the male youth; Layibi and Bardege contributed the highest and Pece and Laroo divisions contributed the least. In the case of Layibi division which had the highest prevalence of HIV is likely to be because this is the area where the Great North Road passes through Gulu Municipality and heavy truck drivers mainly pack and spend nights in this division on their way to South Sudan. It was also further observed that the majority of the HIV/AIDS hotspot areas in the Municipality including trans-night bars and dance halls were situated in this division. It is perhaps likely that these exposure factors were responsible for the high prevalence of HIV/AIDS in this division of Gulu Municipality.

The majority of the youth that tested for HIV knew their HIV status. This was perhaps because the study population was mainly from the Municipality where information on HIV/AIDS was readily available and could be easily accessed through the numerous FM radio stations with excellent reception within Gulu

municipality which routinely gives out information about voluntary counseling and testing (VCT) and VCT sites. There were many Non-Governmental Organizations (NGO) such as; The AIDS Support Organization (TASO), World Vision, Good Samaritan, Caritas Counseling centre Gulu, Teenager care center in Laroo and Marie Stopes which had fully developed counseling units and freely giving out health information on HIV and adolescent reproductive health. They greatly supplemented the efforts of government to educate the population about HIV/AIDS and provide VCT to the youth in this region.

The minority of the youths that had not undertaken VCT before feared the reality of a positive test results and HIV stigmatization [41]. This is no surprise because even Global AIDS epidemic contained in the UNAIDS report of 2008 revealed that seeking HIV counseling and testing was not an easy step to take because HIV testing could be a difficult task to take and this might explain why some of the male youth were unwilling to take the necessary step to get tested [41]. Some youth showed unwillingness to be tested for HIV/AIDS because of the fear of HIV stigmatization [30-32, 41].

Furthermore, a multi-center study on factors determining the differential spread of HIV in African towns showed that in Kisumu, male HIV prevalence was 19.8% and that for the female was higher at 30.1% [28] highlighting the high HIV prevalence (23%) in young women aged 15-19 years, compared with that in young men

(3.5%) [28]. The majority of the males at this age were unemployed and had no sources of income and therefore most of them did not enter into relationship because of the fear of the expenditures involved [28]. The situation was slightly different among the female youth of the same age group who got involved with older male sexual partners who had the financial resources. Such a contrasting HIV prevalence between boys and girls is a pattern observed in many parts of sub-Saharan Africa [28, 29]. The poverty situation often forced females into an unprotected commercial sex in the hope of getting money for survival and to cater for their basic needs [28, 29]. Furthermore, recent studies throughout the sub-Saharan Africa have indicated that, HIV infection rates among teenage women were over five times higher than the rates for teenage males [29, 32, 33]. In Kenya for example, nearly one teenage woman in four is living with HIV, compared to one in twenty five teenage males [33]. These differences between the prevalence of HIV among females compared to males were based on the broad information from the study area giving a fair representation of the study population [33]. The physical immaturity of younger women and women's "lower status" in society may contribute to these disproportionate differences in the HIV infection rates among the two sexes [34, 35]. Women's "lower status" may prevent them from having control of their sexual relationships. For example, studies on women's

first sexual experience showed that over half of young women in Malawi and over 20 percent of young women in Nigeria experienced forced sexual intercourse [34, 35]. This factor may perhaps be a major driving factor to the spread of HIV/AIDS among these youths and the significant differences between the 2 sexes.

In this study, the majority of clients tested for HIV during April to June period. Most youths were willing and ready to test during the mid-year after celebrating the festive seasons like Christmas, New Year and Easter celebrations. It is probable that they feared, "a positive test result" prior to those celebrations because it would interfere with their happiness and merry-making. It is also possible that they could have engaged in unprotected sexual intercourse during the festive seasons and were concerned about the possibility of infections and they therefore sought testing and care in the aftermaths of the celebrations.

This study revealed that despite the strategies the government of Uganda and the NGOs are putting in place for prevention and widespread of HIV, the virus has continued to infect the youth. To some extent, HIV control and prevention suffers from budgetary constraints just like other health conditions in sub-Saharan Africa. Limited budgets, problems imposed by the HIV epidemic and few health care providers mean that improving reproductive health services is still a major challenge for most sub-Saharan African countries [36]. The factors that make the youths much more vulnerable despite

the massive efforts made by all stakeholders need further exploration.

More still, it has been observed in previous studies that many African parents were uncomfortable talking about sexuality with their children while others lack accurate sexual health knowledge [34]. In Africa, cultural barriers, age and gender differences have been found to contribute to inadequate or complete reluctance for the parents to discuss sexual matters in their families [14, 36] and these could impact negatively in the sexual and reproductive development of their children.

In conclusion, the majority of the youths were females and the prevalence of HIV/AIDS was highest among 22-24 years and least among 13-15 years. Higher prevalence was observed among single females and most youths accepted VCT between April and June.

Recommendations: The challenges facing Northern Uganda are enormous and especially given the severity of HIV/AIDS epidemics among the youths. The Ministry of Health needs to introduce and strengthen the monitoring of VCT services in all health facilities. Focused VCT and adolescences friendly reproductive health services needs to be strengthen too. The effect of the 23 year old war in Northern Uganda should be explored as a possibility for making the youths resistant to behaviour change messages and with resultant high prevalence of HIV/AIDS among them.

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