

HIV and STD among Voluntary Counseling and Testing Attendants in Malakal Town, Upper Nile State, South Sudan

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ABSTRACT

This study aimed to evaluate the seroprevalence of HIV and STDs among voluntary counseling and testing attendants in Malakal Town, and to determine the possible risk factors that might have promoted the rapid spread of HIV and AIDS among the local population.

The primary objectives of the study were three: First, to estimate the seroprevalence of HIV and STDs; second, to determine the risk factors associated with disease transmission; and third, assess the sexual behavioral pattern of the target group with regard to condom use, abstinence and faithfulness. A total of 800 participants were screened; and specimens were obtained from venous blood, cervical swab and urine. Specimen analysis was conducted through various methods, which included Determine HIV-1/2, Uni-Gol HIV 1/2, Enzyme-Linked Immunosorbent Assay (ELIA), Western Blot, Immunochromatographic Test (ICT), RPR and Microscope. Data were then analysed by computer SPSS then presented in form of tables, pie-charts and statistical significance checked by Chi-square.

The results showed that out the 800 participants who were screened, six (0.75%) were HIV-reactive, six (0.75%) were syphilis-reactive, two (0.3%) Candida and one (0.15%) Trichomonas Vaginalis. Every HIV-reactive was confirmed by Western Blot. Regarding the use of condoms,

only 100 (20%) of the 500 subjects declared as regular condom users. However, six (6) HIV and six (6) syphilis-reactive were non-condom users. CD4 counts were found less than 200 mm³ in HIV-reactive cases.

On the basis of the above stated findings, the study recommended that there was urgent need for ordinate efforts against HIV, Syphilis and other STDs in addition to sustained public awareness campaigns that promote safe sex, abstinence, faithfulness and the use of condoms consistently and correctly.

KEYWORDS: HIV, AIDS, Syphilis, Candidiasis, Trichomoniasis.

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INTRODUCTION

Human Immunodeficiency Virus (HIV) is a retro virus (member of the genus Lenti virus), part of the Retroviridae family that causes Acquired Immunodeficiency Syndrome (AIDS), a condition in which the immune system begins to fail, leading to life – threatening opportunistic infections. Infection with HIV occurs by transfer of blood, semen, vaginal fluid and pre-ejaculate or breast milk. HIV infection in humans is considered pandemic by World Health Organization (WHO). From its discovery in 1981 to 2006, AIDS killed more than 25 million people. HIV infects about 0.6% of the world's population ⁽¹⁾.

The Republic of South Sudan shares borders with countries reported to have high rates of HIV/AIDS in Uganda 6.5%, Kenya 6.3%, Ethiopia 1.1%, Democratic Republic of Congo 3.4%, and Central African Republic 4.9% ⁽²⁾.

The HIV indicator in South Sudan shows that the HIV prevalence estimate for the country is 3.1% making the estimated people living with HIV/AIDS (PLWHA) to be 155,000. The HIV epidemic is likely to grow worse due to existence of several factors that favor the transmission of the disease (AIDS) in South Sudan. These include the lack of access to HIV prevention and care service, lack of awareness among the communities, polygamy, wife inheritance and traditional malpractices. This study was conducted to estimate the seroprevalence of HIV and other STDs among pregnant women in Malakal Town and to determine the risk factors associated with disease transmission ⁽³⁾.

Syphilis is a sexually transmitted disease caused by the spirochetal bacterium *Treponema pallidum* subspecies *pallidum*. The route of transmission of syphilis is almost always through sexual contact, although there are examples of congenital syphilis via transmission from mother to child in utero. Enormous evidences are available indicating that syphilis increases the risk of HIV infection ⁽⁴⁾.

Candidiasis (candidosis) is caused by the yeast *Candida albicans*, and other *Candida* species, which are normal body flora found in the skin, mouth, vagina, and intestines. Although considered yeast, *C. albicans* is dimorphic, and can form a true mycelium. Infections occur when competing bacterial flora are eliminated, for example, by antibiotics, allowing the yeast to overgrow. *Candida* infections have various manifestations depending on the site. For example, oral candidiasis (thrush) presents as raised, white plaques on the oral mucosa, tongue, or gums. The plaques can become confluent and ulcerated and spread to the throat. Most HIV- positive individuals eventually develop oral candidiasis, which often spreads to the esophagus. The later condition is considered an indicator of full-blown AIDS. Vaginal candidiasis presents an itching and burning pain of the vulva and vagina, accompanied by a thick or white discharge. HIV- positive females often experience recurrent vaginal candidiasis ⁽⁴⁾.

Although information is available regarding the prevalence of HIV, information regarding the other STDs is few or even lacking in South Sudan. This study is conducted to determine the rate

of infection with HIV, syphilis and other STDs among pregnant women in Malakal Town, South Sudan.

South Sudan is described as having a low generalized epidemic with an average HIV prevalence rate of 3% among pregnant women ⁽⁵⁾. The prevalence shows wide disparities in geographical locations with some areas as high as 7.2% in Western Equatoria State (WES), 3.3% in Eastern Equatoria State, 3.0% in Jonglei and Upper Nile States and 0.7% in both Northern Bahr Elghazal and Warrap States ^(5,6).

MATERIALS and METHODS

A total of 800 voluntary counseling attendants were recruited in this study. From each subject under study, 2 - 3 milliliters of venous blood, cervical swab and urine specimen were collected. The blood specimens were allowed to clot, and then centrifuged to separate sera which were tested for HIV by Determine HIV 1 / 2, Uni-Gold HIV 1 / 2, and confirmed by ELISA. Syphilis was tested for sera by RPR. The urine and cervical swab were tested for *T.vaginalis*, *candida* using wet preparation.

RESULTS

In this study a total 800 voluntary counseling attendants were recruited to participate in this study. The most prevalent STD among voluntary counseling was syphilis 0.75% and HIV each followed by Candidiasis 0.3% (Table 1). The most frequent STD in age group 18 – 20 years, was syphilis 3.0% followed by HIV 2.0% while was the most frequent STD in the age group 21 – 24 years was HIV 0.5% (Table 2). All the investigated STDs were higher among the illiterate participants (Table 3).

The pattern of CD4⁺ count among the participants positive for the investigated STD is shown in Table (4) which shows that all HIV patients (6) have CD4⁺ count below 200/mm³ and patients with trichomoniasis (1) has CD4⁺ count also between 50 - 100/mm³ below (Table 4).

Table (1).The Percentage of the STDs Investigated in the Studied Population (n = 800)

Type of STD:	Positive for Disease	
	Frequency	Percentage %
HIV	6	0.75
Syphilis	6	0.75
Candida	2	0.3
T. vaginalis	1	0.15

Table (2).Distribution of the Different STDs According to Ages of Voluntary Counseling

Type of STD:	Age: 18 – 20.			Age: 21 – 24.			
	NO:	Total	Positive +ve	%	Total	Positive +ve	%
HIV		100	2	2.0	700	4	0.5
Syphilis		100	3	3.0	700	3	0.4
Candidiasis		100	1	1.0	700	1	0.2
T.vaginalis		100	1	1.0	700	0	0.1

Table (3).Distribution of the Different STDs According to Educational Level of the Participants

Type of STD:	Literate:			Illiterate:		
	Positive for the STD			Positive for the STD		
	Frequency		Percentage %	Frequency		Percentage %
NO:	Total	Literate	%	Total	Illiterate	%
HIV	600	2	0.3	200	4	2.0
Syphilis	600	3	0.5	200	3	1.5
Candida	600	0	0.0	200	2	1.0
T.vaginalis	600	0	0.0	200	1	0.5

Table (4).Distribution of CD4 Count in Participants Tested Positive for HIV with other STDs

Disease:	CD4 Count	CD4 Count	CD4 Count	CD4 Count
	50 - 100	110 – 150	160 - 200	Above 200
HIV	4	5	1	0
Syphilis	0	2	3	9
Candida	0	1	2	3
T.vaginalis	3	0	0	0
Gonorrhoea	0	0	0	1

DISCUSSION

In this study the overall seroprevalence of HIV among the studied population was found to be (0.75%). This is in agreement with what was reported by JUNP and UNAIDS ^(7, 8). But very much lower than what was reported in South Sudan by SSAC ⁽⁹⁾. The seroprevalence of HIV was 1.0% higher in age group 18 – 20 and can be explained that they are sexually active. Illiterates were found to be more affected by HIV than the educated participants. This is expected by fact that illiterates are not aware about HIV and other STDs. This can be explained by the fact that married individuals were practicing sex with possibly multiple partners if we consider the bad tradition of wife inheritance. In fact four of the HIV infected participants were inherited wives. Two studies done in Kenya revealed similar results ^(10, 11).

CONCLUSIONS

The overall prevalence of the studied STDs was HIV (0.75%), syphilis (0.75%), *Candida* (0.3%) and *T.vaginalis* (0.15%) among voluntary counseling. This study showed other STDs as co-infection of HIV positive or risk factors. Therefore, Further studies with large sample size, health education campaigns encouraging (safe sex, abstaining, faithfulness and the use of condoms consistently) and correctly and measures that aim to combat bad habits and traditions like wife inheritance and other malpractices such as removal of teeth, tattooing and scarification of forehead, ears and lips are recommended.

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