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## Sexually transmitted diseases in Ibadan in the 1990's: HIV infection — An additional dimension

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### Summary

Five hundred and fifty-one patients attending the Special Treatment Clinic (STC) of the University College Hospital, Ibadan, between January 1989 and July 1990 were investigated for the common sexually transmitted diseases to determine the current relative prevalence rates of these infections. The patients were also investigated for human immunodeficiency virus (HIV) infection. Of the 551 patients, 384 (69.9%) were diagnosed as having sexually transmitted diseases. The most frequent STDs were gonococcal infections, non-specific urethritis and cervicitis and the genital ulcer diseases (GUDs) with prevalence rates 25.6%, 17.8% and 12% respectively. In addition to the common STDs, HIV infection was detected in 28 (5.1%) patients. Both HIV-1 and HIV-2 were detected as follows: HIV-1 in 16 (2.9%) patients and HIV-2 in 12 (2.2%) patients. All but one of the HIV-seropositive patients also had concurrent sexually transmitted diseases.

### Résumé

Cinq cent cinquante-et-un malades fréquentant la consultation de la maladie desorganes sexuels (Special Treatment Clinic) de l'University College Hospital, Ibadan, entre Janvier 1989 et Juillet 1990 étaient étudiés pour les maladies desorganes sexuels communes, pour déterminer les taux de la fréquence relative courante de ces infections. Les malades étaient aussi étudiés pour l'infection avec le virus du syndrome d'immunodéficience acquis (SIDA). Des 551 malade, 384 (69,6 pour cent) étaient diagnostiqués d'avoir la maladie desorganes sexuels. Les maladies les plus fréquentes étaient les infections gonococciques, la urétrite et la cervicite non-spécifiques et les ulcères génitaux avec les taux de fréquence de 25,6%, 17,8% et 12,0%

respectivement. En plus des maladies des organes sexuels communes, l'infection de SIDA était découverte chez 28 (5,1 percent) malades. Toux deux les VIDH-1 et VIDH - 2 étaient découverts chez 16(2,9%) et 12 (2,2%) malades respectivement. Tous, Sauve un Seule des malades qui étaient séropositive pour le VIDH avaient aussi la maladie des organes sexuel concomitante.

### Introduction

Sexually transmitted diseases (STDs) are widespread in Africa and continue to constitute a major public health problem in the developing countries[1,2]. They still constitute a major medical and social problem even in developed countries where reliable statistics are available for planning control strategies[1,3]. The problem posed by STDs in developing countries of tropical Africa is compounded by non-availability of reliable data on the prevalence and pattern of these infections[1] for planning control strategies. The emergence of the new disease, the Acquired Immuno-deficiency Syndrome (AIDS) which was first noticed in young homosexual men in the early eighties[4] has further complicated the situation in developing countries. Because AIDS was first recognized in the United States of America and because most of the earlier cases were diagnosed in the developed countries of Europe and America[4-8], many developing countries of Tropical Africa assumed that it was a disease of the developed countries only. At this initial state, suggestions to carry out studies to establish or disprove the presence of this new disease was considered a waste of the scarce available resources. Information from studies all over the world, however, indicated that on a worldwide basis, sexual transmission is the most important route of spread of the human immunodeficiency virus

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(HIV)[9], and therefore that clients of STD clinics are at risk[10]. This was the background situation when this study was conceived. The objectives of the study were to determine whether HIV infection was really present among the STD clinic attenders in Ibadan; and to determine the current status of the prevalence and patterns of STDs among this group of patients.

### Patients and methods

The study population consisted of patients attending the Special Treatment Clinic of the University College Hospital, between January 1989 and July 1990. Patients whose blood could not be processed for storage of their serum as a result of power failure (and this was frequent in 1989) or for other reasons, were excluded from the study. All the patients were screened for evidence of sexually transmitted

diseases such as gonococcal urethritis or cervicitis, trichomoniasis, nonspecific urethritis or cervicitis, syphilis, candidiasis, and gardnerella vaginitis. Chancroid, lymphogranuloma venereum and herpes genitalis were diagnosed on clinical grounds only.

Blood was taken from every patient, the serum stored at  $-20^{\circ}\text{C}$  and later screened for evidence of HIV infection at the Haematology Laboratory of the University College Hospital, which handles all the HIV screening tests for the Hospital.

### Results

Out of the 551 patients investigated for the common sexually transmitted diseases, 307 (55.8%) were males and 244 (44.2%) were females (Table 1). Over 65% of the patients belonged to the age group 21-30 years while 76.4% were 16-30 years old (Table 1).

Table 1: Age/Sex distribution of patients

Age in Years	No of patients (%)		N = 551
	Male	Female	Total (% tage)
16-20	24 (4.3%)	23 (4.2%)	47 (8.5%)
21-25	97 (17.6%)	106 (19.2%)	203 (36.8%)
26-30	104 (18.9%)	53 (9.6%)	157 (28.5%)
31-35	38 (6.9%)	23 (4.2%)	61 (11.1%)
36-40	20 (3.6%)	22 (4.0%)	42 (7.6%)
41-45	10 (1.8%)	9 (1.6%)	19 (3.4%)
Above 45	13 (2.4%)	9 (1.6%)	22 (4.0%)
Total	306 (55.5%)	245 (44.5%)	551 (100%)

Out of the 551 patients, 384 (69.6%) were diagnosed as having sexually transmitted diseases including gonorrhoea, non-specific urethritis, trichomoniasis, genital ulcer diseases and syphilis (Table 2). The commonest STD among the patient was gonococcal infections which accounted for 141 (25.6%) cases. Second to gonococcal infections was non-specific urethritis and cervicitis which accounted

for 98 (17.8%) cases (Table 2). The genital ulcer diseases (GUDs) made up of chancroid, lymphogranuloma venereum and herpes genitalis infections accounted for 66 (12%) cases (Table 2). Other STDs like trichomoniasis, genital warts and syphilis were diagnosed as shown on Table 2. The remaining patients were cases of candidiasis and other non-STDs as shown on Table 2.

Table 2: Patient distribution by diagnosis

Diagnosis	No of patients (%)		N = 551
	Male	Female	Total
Gonococcal infections	90 (16.3%)	51 (9.3%)	141 (25.6%)
Non-specific urethritis and Non-specific cervicitis	77 (14.0%)	21 (3.8%)	98 (17.8%)
Trichomoniasis	2 (0.004%)	50 (9.1%)	52 (9.4%)
Genital ulcer diseases (Herpes genitalis, chancroid, LGV)	57 (10.3%)	9 (1.6%)	66 (12%)
Genital warts	6 (1.1%)	3 (0.005%)	9 (1.6%)
Pelvic inflammatory disease (PID)	0 (0%)	8 (1.5%)	8 (1.5%)
Non-gonococcal epididymo-orchitis	3 (0.005%)	0 (0%)	3 (0.005%)
Syphilis	7 (1.3%)	0 (0%)	7 (1.3%)
Candidiasis	2 (0.004%)	48 (8.7%)	50 (9.1%)
Cardnerella vaginitis	0 (0%)	36 (6.5%)	36 (6.5%)
Others schistosomiasis, tinea cruris, urethral syndrome, etc.	17 (3.1%)	0 (0%)	17 (3.1%)
Unspecified	25 (4.5%)	2 (0.004%)	27 (4.9%)
Contacts and patients investigated but no abnormality detected	21 (3.8%)	16 (2.9%)	39 (3.1%)
Total	307 (55.8%)	244 (44.2%)	551 (100%)

Key: LGV = Lymphogranuloma venereum.

Twenty-eight (5.1%) of the 551 blood samples tested for HIV infections were positive for HIV by Western blot confirmatory test (Table 3). Both HIV-1 and HIV-2 infections were detected as shown on Table 3. All the HIV - seropositive patients but one, also had concurrent STDs including 10 gonococcal

infections (1.8% of the total population studied), 8 cases of non-specific urethritis and cervicitis (1.5%), 5 cases of genital ulcers disease (0.9%), 3 cases of trichomoniasis (0.5%) and 1 case of genital warts (0.2%).

Table 3: Results of HIV testing

No tested	No positive by Western blot		Total (%)
	HIV-1 (%)	HIV-2 (%)	
551	16 (2.9%)	12 (2.2)	28 (5.1)

## Discussion

In this study, 307 (55.8%) of the patients were male compared to 244 (44.2%) who were female (Table 1). Generally, attendance at STD Clinic would depend on presence of symptoms, severity of symptoms as well as on other factors. Since gonorrhoea, the commonest STD in the population studied is usually symptomatic in males and some times asymptomatic in females[1], it is not surprising that more males than females seek medical attention at STD Clinics.

The clustering of majority of the patients around the age groups 21-25, 26-30 (Table 1) is consistent with the findings in other studies[12]. Gonococcal infections with a prevalence of 25.6% among these STD Clinic attenders was the commonest STD in this study (Table 2). This is a frequent finding in other populations studied in Africa[13]. Public STD Clinic figures may not exactly reflect the total community STD problem but to some extent they may be an indication of the size of the reservoir in the community. These results show that gonorrhoea still constitutes a major public health problem among STD Clinic clients in Nigeria if not in the entire population. Its prevalence relative to the other STDs does not seem to have been reduced much by interventions. This is hardly surprising in view of poor STD control programmes, inadequate diagnostic and treatment facilities for STDs,[14] and recent reports showing the unacceptability of the use of condom for STD prevention in many developing[15,16] and some developed[19] countries. In reality, in many developing countries including Nigeria, the number of patients reporting at STD Clinics with genito urinary symptoms is relatively small since many more such patients consult and patronise patent medicine and pharmacy shops[18] for "quick" solution to their problems.

The results of this study show that non-specific urethritis and cervicitis is also of public health importance, being only second to gonorrhoea (Table 2) as a major cause of STDs. This results agree with data from other populations[3,14] where it either is the most frequent STD or comes second to gonorrhoea.

The genital ulcer diseases (GUDs) which include cases of chancroid, lymphogranuloma venereum and herpetic genital ulcers are quite common and with a prevalence of 12% are the third major STDs (Table 2). Studies in Africa and elsewhere have shown an association between HIV seropositivity and other

STDs[19,20]. It has also been postulated that genital ulcers and possibly chlamydial infections are highly likely to enhance the infectivity of HIV (10,19,20). The evidence has been strongest for the genital ulcer diseases (GUDs)[10,21]. The finding that GUDs are common among this population studied of utmost clinical importance since this may form a fertile ground for rapid spread of HIV infection in future. There has been evidence of such suprisingly rapid spread of AIDS in Abidjan[22].

HIV seropositivity by the Western blot test in 4% of random blood samples of our patients in 1988 (unpublished data) was unexpected at that time. It was at the time several thousands of blood donors had been screened in the same locality and the seropositivity rate was 0.7 - 0.84 (23, Shokunbi — personal communication). The finding of 5.1% HIV — seropositivity also by Western blot in another batch of blood samples collected between 1989 and 1990 has further established beyond doubt the presence of HIV infection in the STD Clinic attenders in Ibadan, and majority of these are residents of the city of Ibadan. These findings confirm Biggar's prediction that AIDS is not epidemic and spreading to Tropical Africa, and that countries not yet seeing cases are likely to do so soon[24]. In the 1990's therefore, HIV infection is the important additional dimension to be considered in planning strategies for the control and prevention of STDs in Ibadan and in Nigeria.

The findings from this study have serious social and medical implications which will unfold with time. Unfortunately, in Nigeria there is still complacency among the general public and among medical professionals in matters concerning HIV infection, probably because of earlier reports of its absence or very low seropositivity in the populations studied[23]. In view of the devastating medical and social implications of acquired immuno- deficiency syndrome (AIDS), it is important that the emergence of HIV infection in any population is detected as early as possible. This serves to alert health workers and health planners, and would assist in planning effective control measures.

The aim of this preliminary report is to provide the information that HIV infection has been detected in STD Clinic attenders in Ibadan at a much higher prevalence than in the blood donors in the same area. There is urgent need for active intervention. Further work is in progress to determine the correlation between the STDs and HIV-seropositivity.

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