AFRICAN JOURNAL OF MEDICINE and medical sciences

VOLUME 29, NUMBER 1, MARCH 2000

EDITOR:
B. O. OSOTIMEHIN

ASSISTANT EDITOR:
A. O. UWAIFO

ISSN 1116 — 4077

Afr. J . Med. med. Sci. (2000) 29,17-22

Genital ulcers disease among sexually transmitted disease clinic attendees in Ibadan, Nigeria

***O.I. Fawole, +A.O. Okesola, and **A.O. Fawole**

** Department of Preventive and Social Medicine,*
+Department of Medical Microbiology,
*and **Department of Obstetrics and Gynaecology,*
College of Medicine, University College Hospital, Ibadan, Nigeria.

Summary

Genital ulcer disease (GUD) is a risk factor in the transmission of human immuno deficiency virus (HIV). The goal of this study is to estimate proportion, identify risk factors, and improve prevention and control of GUD. This is a retrospective study of 211 cases of GUD seen between 1993 and 1997 in an urban public sexually transmitted disease (STD) clinic. Genital ulcers form 7.6% of all STDs seen. Overall, genital herpes was commonest (89 or 42.25%). It was the predominant infection (84 or 44.7%) in the males, while lymphogranuloma venereum (52 or 24.7%) was in females. The peak incidence in both sexes occurred in the 20-29 age group. Males out numbered females by a ratio of 8:1. Most of the patients were single 114 (68.3%) and most 70 or 33.3% were students. Risk markers identified were: casual sex (103 or 53.5%) and multiple sexual partners (77 or 36.5%). Both were significantly higher ($P<0.05$) in single patients. Self – treatment, use of multiple drugs and incomplete course of antibiotics were also common.

The need to intensify STDS education programmes to all occupational groups and to students in particular is highlighted. Commercial sex workers require periodic education, screening and treatment.

Keywords: *Sexually transmitted diseases, genital ulcer disease, human immuno deficiency virus.*

Résumé

La maladie des ulcers genitaux (GUD) est un facteur de ns que de transmission du virus d'tmmuna deficience (VIH). Le but de let etude stait destimer la propostion d'identifier les facteurs de risques et amelivre la pre vention et le conrol des GUD. Let etude est une etude rerospective de 211 les de GUD vu entre 1993 et 1997 dans une clinic que publique urbaine de MST (maladie sexlelement trans missible).

Les GUD ovt fait l'object de 7.6% de ontes les MST ove. Au total les herpes genitaue etaient les plus rencontres (89 ou 42%). Elle etait l'e infection la plus predominante clvez les homes (84 on euaforite des patients etait helibataire (144 ou 68.3%) et la plupart des etudiants (70 un 33.3%) Les markeurs derisques etaient. Les relations sexuels avec des amices rencontre's occasion element on des prostitives (103 on 53.%%) et les pourtenouies sexualles multiples (77 ou 36.5%). Les deux facteurs etait eleves ($P < 0.05$) ches les celibataire les.Traitement personnelle las l'utilisation de plusieurs ure dicaments et al prise incompletes d'antibiotiques etait ausi commune parmis les patients. En conclusion il ya un sesin urgent d'intensifer les programme d'education sur les MST a tous les groupe d'actilles professioulle et en particulier aux etudiants. Les prostities ont besviens d'un programme periodique d'education, de taste et de traitement.

Introduction

The impact of Acquired Immune Deficiency Syndrome (AIDS) is highlighting the need to understand the epidemiology and prevent other infections that like the human immuno deficiency virus (HIV), are passed on during unprotected sexual intercourse. Of critical importance is the role played by sexually transmitted infections (STIs) in the transmission of HIV. The presence of STIs increases the risk of HIV transmission by a factor of 3 to 5[1]. A high correlation between HIV seropositivity and sexually transmitted diseases (STDs) such as chlamydia, trichomoniasis and gonorrhea has been found [2]. The strongest evidence indicates that genital ulcer disease (GUD), especially chancriod, syphilis and herpes, facilitates sexual transmission of HIV infection. In both Haiti, and Africa, Bazell[3] noticed that AIDS spreads easily because of the high incidence of sexually transmitted diseases (such as herpes and chancroid) that leave open sores on the genitals. In Uganda, the number of episodes of chancriod and syphilis are reported to be significant risk factors for HIV [4]. Other authors have reported increased risk of HIV infection in persons with concurrent or previous GUD [5-9]. It is speculated that HIV infection may either increase the risk of acquiring genital ulcer, or HIV infection and GUD may have some unknown risk factors in common [10].

In many developing countries, STDs are among the five most common health problems for which people seek treatment [11]. In Nigeria the Federal Ministry of Health (FMOH) [12] estimates the prevalence rate of STDs to be 9.3%, while the prevalence of genital herpes is 2.2% and lympho granuloma venereum (LGV) 1.47%. Other hospital-based studies have given different prevalence rates [13-19] (Table1).

Correspondence: Dr. O.I.Fawole, Dept of Preventive and Social Medicine, College Medicine, University College Hospital, Ibadan. Nigeria

Table 1: Prevalence of GUD in different parts of Nigeria

Year	Author	Place	Subjects	Disease	Prevalence
1976	Oyelese, Asaye and Osoba [13]	Ibadan	Hospital patients (in-patients)	Syphilis	7-10/1000
1976	Sogbetun, Alausa and Osoba [14]	Ibadan	Endemic disease	Syphilis	2.5%
			Clinic patients	LGV	2.5%
1983	Bello Elegba and Dada	Zaira	STD patients	LGV	2.0%
				Chancroid	2.9%
				Syphilis	1.2%
				H.Genitials	1.1%
1986	Odugbemi *et al.* [16]	Ilorin	STD patients	Syphilis	1.6%
				G.herpes	1.6%
				LGV	0.6%
1993	Ikeh, Opajobi and Bello [17]	Jos	ANC attendees	Syphilis	1.26%
1995	Ekweozor *et al.* [18]	Ibadan	STD patients	GUD	12.4%
1998	Fawole and Asuzu	Ibadan	STD patients	GUD	
				males	3.4-94%
				females	0-35%

It has been established that high risk behaviour is commonly practiced in south-western Nigeria [20-22] and a significant incidence of STDs has been indicated [23]. This is however difficult to reduce because of the social, economic and cultural factors that foster them [24-25]. While the importance of education programmes aimed at improving knowledge and encouraging safe sexual practices are undisputed [1,2,12], a study of patients who are already infected is necessary for a meaningful and effective intervention programme aimed at the prevention and control of STDs and AIDS. Such question as, who are the individuals who contact these infections? How do they manage them? What puts them at risk? must be answered. This study attempts to answer these questions with respect to GUD in Nigeria. It would also assist health policy makers to develop appropriate control programmes for STD prevention in Nigeria and other socio-culturally similar African countries.

Materials and methods

This is a retrospective study in which the case notes of patients with GUD attending the special transmitted disease clinic (STC) of the University College Hospital, Ibadan, Nigeria were reviewed. The patients attending the clinic come from far and wide and from different backgrounds. The diagnosis of GUD was based on history of ulcers and observed ulcers. The diagnosis of the type of GUD was based on clinical and laboratory test. The data were recorded into forms. Information collected included – age, sex, type of genital ulcer, location of ulcer, number of sexual partners, types of partners, previous history of STDs and treatment practices before presentation at the clinic. Review of records was done over a five-year period, between January 1993 and December 1997. All the patients with GUD during this period were studied. In a very few cases where case notes were not available the nurses and medical records officers reports were used. The data ware entered and analyzed using EPI-INFO version 6 software package. Statistical significance was determined using the chi-square test at 95% confidence level.

Results

Socio-demographic characteristic

A total of 2,744 patients attended the clinic during the study period, 211 (7.6%) patients were diagnosed to have GUD. Generally, the prevalence of GUD ranged between 3.1% and 9.1% per year. The ages of the patients ranged between 16 and 60 years. Mean age was 29.5 + 8.1 years, median age was 26 years and mode was 24 years. Males were 89.1% (188) while females were 10.9% (23), a ratio of 8:1. Most (137 or 64.9%) of the patients had never been married, 67 (31.8%) were married and 7 (3.3%) were separated or divorced. Of those who were single (never married, separated and divorced), 12 (8.3%) were women, while 132 (91.7%) were men. All the separated or divorced patients were men. A third of the patients were students (70 or 33.2%), 46 (21.8%) were skilled workers (tailor, technician, typist mechanic, etc), 42 (19.9)% were traders and 21 (9.9%) were civil servants.

Source of infection and sexual behaviour

Thirty-five of the patients (16.6%) claimed that their sexual partners in the last month were spouses, 63 (29.9%) regular friends, while 69 (32.7%) casual friends (no money paid) and 44 (20.8%) commercial sex workers (CSW). History of multiple sexual partners was documented in 77 (36.5%) patients. Single patients were found to engage more in casual and commercial sex (88 or 64.1%) than their married counterparts (25 or 37.4%) Table 2.

Table 2 : Sexual behavious and martial status

Sexual behavious	Martial status		Total
	Single	Married	
	n = 144	n = 67	n = 211
	No. %	No. %	No. %
*No of sexual partners**			
1	112(77.8)	22(32.8)	134 (63.5)
>1	32 932.2)	45 (67.2)	77 (36.5)
*Sexual partner***			
Spouse	-	35 (52.2)	35 (16.6)
Regular	56 (38.9)	7 (10.4)	63 (29.9)
Casual	55 (38.2)	14 (20.9)	69 (32.7)
CSW	33 (22.9)	11 (16.5)	44 (20.8)

*$^{*}X^2 = 37.93$; df=1; $P < 0.05$ $^{**}X^2 = 92.73$; df=3; $P < 0.05$

Single includes: never married, seprated and divorced.

Twenty one (9.9%) patients had mixed infections. A previous history of STI was documented in 56 (26.5%) patients, these were all males. These infections included gonorrhea, non-specific urethritis, genital ulcer disease.

Diagnosis

Most of the patients had multiple ulcers (114 or 54.1%). The diameters of the ulcers ranged between 3.0 mm and 8.0 cm. In the males most (139 or 73.9%) ulcers were located on the penis, followed by the inguinal region (35 or 18.6%) and then the scrotum (14 or 7.55). In the female most of the ulcers were located on the vulva (12 or 52.2%), clitoris (7 or 30.4%) and a few in the inguinal region and thigh (4 or 17.4%). Herpes genitalis was the commonest (89 or 42.2%) GUD managed in the clinic (Table 3).

Table 3: Type of genital ulcer disease by sex

Type	Sex		Total
	Male	Female	
	No. %	No. %	No. %
Herpes genitalis	84(447.)	5(21.7)	89(42.2)
LGV	43(22.9)	9(39.1)	52(24.7)
Chancroid	31(16.5)	2(8.7)	33(15.6)
Non-specific	30(15.9)	7(30.5)	37(17.5)
TOTAL	188(89.1)	23(10.9)	211(100)

Male: Female ratio=8.1

Non-specific causes of ulcers were either idiopathic or due to drug reactions. No diagnosis of syphilis was made, using the VDRL test.

Drugs

There was no history of medication before presentation in 70 (33.2%) patients. The use of antibiotics before presenting at the clinic was reported in 141 (66.8%) patients. Sixty-three patients (29.8%) had used at least two different types of antibiotics. The antibiotics used were ampicillin (57 or 27.9%), tetracycline (38 or 18.6%), ampiclox (28 or 13.7%, penicillin and streptomycin (22. or 10.8%), and septrin (19 or 9.3%). Other antibiotics (40 or 19.7%) used were sulphadiazine, erythromycin, flagy and gentamicin. Most (89 or 63.1%) of these drugs were self-medicated and most were in incomplete doses. Full course of antibiotics was documented in only 40 (28.4%) patients. Apart from antibiotics other drugs used were antifungal drugs such as fulcin tablets and cream the antiviral cream-zovirax and mist potassium citrate, a urinary antiseptic.

Discussion

The demographic characteristics of the patients revealed that most of the patients were young and were between 20 and 30 years of age. This is consistent with the findings of other studies which have found that STDs occur mainly in this age group [15.16.18 and 26]. This is an important age group in the economic productivity and development of a country and it draws our attention to likely socio-economic effect of STDs, especially HIV infection, in Nigeria and Africa as a whole. Most of the patients were students; this indicates that there is the need to educate adolescents and youths on STDs. Unfortunately it was not documented in the records whether the students were from secondary or tertiary institutions. To ensure that all students are exposed to these education programmes, STDs/HIV/AIDS education should be incorporated into the school curriculum of Nigerian secondary school students. Students of tertiary institutions on the other hand should on admission be compulsorily exposed to STD/HIV education. These education programmes should be complemented by public enlightenment campaigns, and reinforced with messages on the electronic media especially the television and ratio, both of which are popular with the youths. This programmes should aim not only at improving the students' knowledge but more importantly, promoting safe sexual practices.

The sex ratio of 8 males to 1 female has different possible implications. It could indicate the sex distribution of GUD. This is not surprising conisering that the culture allows men to have many concubines, premarital relationship and visit CSW [20 21]. On the other hand very strict restrictions are pleaced on women. The sex distribution also suggests that the females are not coming to the clinic for teatement. This may be due to the social stigma attached to STD's which is especially more for women. This speculation is confirmed by the finding of Akinnawo and Oguntimehin [27] who found that the first source of treatment sought by symptomatic women with STI are traditional healers or pharmacies rather than one in which biomedical diagnosis is made by qualified medical staff. Also, women can habour STDs for weeks or months without experiencing symptoms, whereas for the men symptoms are experienced within a few days and are often painful therefore men come for treatment earlier. The majority of GUD in women may be concealed because of their anatomy.

It could also indicate that homosexual practices amongst males are common than generally assumed. The patient consisted of various occupation groups such as educated civil servants, business executives, traders, technicians, artisans and other skilled workers like barbers, hairdressers etc. This shows that STDs spares no professional group and every one is at risk. Intervention programmes should therefore be directed at everyone and should not be restricted to only high risk work groups like CSW and long distance drivers.

Syhilis which is of the most serious of the GUDs, was not found. Based on the National prevalence of the different STDs [12], syphilis is the second commonest GUD (after chancroid) and its prevalence is estimated to be 2.3%. Other studies [15,17 & 28] have found lower prevalence rates. Various studies have found different diseases to be the most prevalent GUD in the country. Genital herpes was found to be the most prevalent by Odugbemi et al. [16], LGV by Sogbetun et al [14,] and chancroid by Bello et al [15] and by the Federal Ministry of Health [12.] This suggests the need for more and larger studies to obtain a clearer picture. It would be ideal if all GUD patients were screened for HIV infection.

High risk behaviours identified were: multiple sexual partners, sexual intercourse with CSW and with casual friends. These were more often found among the single patients. Marriage may therefore confer some protection against STDs. However some married patients had casual friends and visited CSW, while other had multiple partners. The number of patients who engage in high risk sexual behaviours is likely to be much higher as experience shows that men who have been infected by prostitutes often state that they have contracted their infection from regular or casual partners [20]. Although a history of multiple sexual partners was documented in only 36.5% the true value is likely to be much higher as the patients may deliberately falsify information to avoid embarrassment or stigma. In addition, some doctors may not have asked or documented this information. In complete records is one of the limitations of this of type study. History of a previous STD wad documented in more than a quarter of the patients, but this may be more. This finding highlights the need for regular counseling of STD patients, to modify high risk behaviors and encourage safe sexual practices. Also STCs should have a steady supply of condoms, which should be distributed more widely and at a low cost to patients. Unfortunately, because of economic reasons condoms were not available at our clinic, and perhaps many other such clinics in developing countries. Some of the patients reviewed had multiple infections. In the absence of adequate facilities for proper diagnosis and management, it is to be expected that this disease will readily spread among the general population. Thus there is the need to equip STCs with a fully functional laboratory and well-trained microscopists. Numerous peripheral clinics could refer difficult cases and send specimens for pathological tests to the clinic.

Other unhealthy practices identified were self-medication and the use of multiple antibiotics, often in incomplete courses. Education against self-treatment, patronizing unqualified persons for treatment, and danger of using antibiotics in incomplete doses is necessary for any meaningful control of GUD. Ampicillin, the drug often used before coming to the clinic, has been found to be of decreasing usefulness as many organisms are developing resistance to it [29,30]. The danger with it is that the patient continues to harbor the infection and the organism damages the body tissues to cause auto-amputation of the penis or late-term complications like neurosyphilis [1,2]. Unfortunately, the infection is also passed to sexual partners, thus the GUD continues to spread. This risk is high since many of the patients had multiple ulcers, which increases the opportunity for contact with the sores and therefore the chances for transmitting STDs and HIV. The location of most of the ulcers (phallus in males and vulva in females) further increases the opportunity for contact and risk of transmission of STIs. The abuse of drugs prior to presentation often necessitates the use of more expensive antibiotics for treatment. Unfortunately most patients are unable to afford them, hence control becomes difficult to achieve. This situation is worse for GUD in developing countries with depressed economies, such as Nigeria and most other African countries.

Conclusion

What we have reported are cases of GUD from just one health institution. Measures must be taken to stem the tide lest we have an epidemic that we are unable to control in our hands. For a more effective control of GUDs the following recommendations are made: education programmes on STDs/ HIV/AIDS should be directed at all professional groups and not only high-risk professions. A more intensive, comprehensive and continuous education programme is required for students, including out-of-school adolescents such as apprentices and touts. These programmes should aim at promoting safe sexual practices before behavior become fixed. For secondary school students STD/HIV education should be incorporated into their school curriculum. There is need to promote the use of condoms by members of the public, this should begin with STCs distributing condoms at low cost to patients. In addition, STD clinic attendees require regular counseling to encourage safe sexual practices. Greater awareness should be created on the dangers of self-medication and incomplete antibiotic therapy. Finally, for correct diagnosis and improved management of patients with GUD, a well-staffed and fully equipped STD clinic, with access to a modern and efficient laboratory, is necessary. An effective contact-tracing service will also be vital.

Acknowledgements

We are grateful to the nursing and medical records staff of the Special Treatment Clinic for their excellent cooperation and particularly to Mrs. Ajayi who helped with the data collection.

References

1. Alder R, Forster S, Richens J and Slavin H. Over seas Development Administration – Health and Population occasional paper. Sexual health care: Sexually transmitted infections – Guidelines for prevention and treament, 1996.
2. Pepin J, Plumer FA, Bruham RC, Piot P, Cameron DW and Ronald AR. The interaction between HIV infection and other sexually transmitted diseases. An opportunity for intervention. AIDS 1989;3 :9.
3. Bazell R AIDS watch: Third World Scovrage. Discover 1988; 9: 8.

4. Berkley SF, Widdy - Wirski R, Okuare SI, Duning R, Linman MJ, Whaite KC and Sempala S.Risk factors associated with HIV infection in Uganda. J. Inf. Dis., 1989; 160: 22-30.
5. Figueroa JP, Brathwaite A, Morris J,Ward E, Peruga A, Blattner W., Vermund SH and Hayes R. Rising HIV-I prevalence among transmitted disease clinic attendees in Jamaica: traumatic sex and genital ulcers as risk factor. AIDS 7(3):210-6.
6. Behets FM, Liomba G, Lule G, Dallabetta G, Hoffman IF and Cohen MS. Sexually transmitted diseases and human deficiency virus control in Malawi: a field study of genital ulcer disease. J Inf. Dis. 1995; 171: 451 – 5
7. Kenya, MR, Nsubluaga, P, Grant, R.M. and Hellman, N. The high prevalence of gential herpes among patient with genital ulcer disease in Uganda STDs 1995; 22:251-4.
8. Dickerson MG, Johston J, Dela TE, White A and Andrews E. The causal role of genital ulcer disease as a risk factor for transmission of human immuno deficiency virus. An application of the Bradford Hill Criteria. STDs 1996; 23: 429-40.
9. Hayes RJ, Schulz KF and Plumner FA. The co-factor effect of genital ulcers on the per exposure risk of Hiv transmission on Sub-Saharan African. J.Trop. Med.&Hyg.; 1995, 98: 1-8.
10. Nasio HM, Nagelkerke NJ, Mwatha A, Moses S, Ndinya – Achola JO and Plummer FA. Genital ulcer disease among STD attenders in Nairobi, association with HIVI and circumsion status. Int'l.J. STD & AIDS. 1996; 7: 410 – 414.
11. AIDs Action/Healthlink Worldwide (ARTHRAG). All about STDS. 1994;26,1.
12. Federal Ministry of Health and Social Services. National AIDS and STDs Controla Programme. 1993/94 Sentinel Sero-prevalence report.
13. Oyelese AO, Asaye O, and Osoba AO. Pattern of reactive serological test for syphilis in different population groups attending the University College Hospital, Ibadan. Br. J.Ven.Dis., G.U. Med. 1976; 59:202-5.
14. Sogbetun AO, Alausa K.O. and Osoba A.O. Sexually transmitted diseases in Northern Nigeria, Five years experience in a University Teaching Hospital Clinic. Br. J.Ven Dis., G.U. Med 1983; 59:202-5.
15. Bello CSS, Elegba OY and Dada JD Sexually Transimitted diseases in Northern Nigeria. Five years experience in a University Teaching Hospital Clinic. Br.J.Ven.Dis., G.U. Med 1983 59:202-5.
16. Odugbemi T, Onile BA, Adetoro O.O, Ayorinde O and Alausa OK Sexually Transmitted Diseases: A 19 month clinic experience at Ilorin Teaching Hospital. Nig. Med Pract., 1987, 11:95-98.
17. Ikeh EJ, Opajobi SO and Bello CSS. Prevalence of reactive serological test for syphilis (VDRL) among antenatal clinic patients. J.Med. Lab Sci. 1993, 3:74-76.
18. Ekwcozor CC, Olaleye DO, Tomori O, Saliu I, Essien EM, Bakare RA, Oni AA, Oyewo OO Okesola AO, Onyemenen TN and Ajayi IO, Clinico-epidemiological patterns of HIV infection in STDs patients in Ibadan. Afr.J.Med. & Med. Sci. 1995, 24:321-327.
19. Fawole OI and Asuzu MC. Where have all the STDs gone? Afr.J. Med. & Med.Sci. 1998,28:193-196.
20. Orubuloye JO, Cagwell JC and Cadwell P. The role of high-risk occupations in the spread of AIDs among truck drivers and itinerant market women in Nigeria. Int'l Fam. Plan. Persp 1983 19,2:42-49.
21. Ajuwon A J, Oladepo O, Adeniyi J.D. and Brieger WR. Sexual practices that may favour the transmission of HIV in a rural community in Nigeria. Int'l Qrtly. Comm. Hlth. Educ. 1994; 14:403-416.
22. Fawole OI, Asuzu MC and Oduntan SO. Survey of knowledge, attitude and practices relating to HIV infection among Nigerian Secondary School Students. (1999) 3,2 :15-24.
23. Akinawo EO, sexual networking, STDs and HIV/AIDs transmission among Nigerian Police Officers. In The Third World AIDS epidemic, ed. I.O. Orubuloye, J.C., Cadwwell and P., Cadwell Suppl. Hlth. Trans. Rev. 5, Canberra, Australia. 1996.
24. Ajuwon AJ and Shokunbi W. Women and risk of Hiv infection in Nigeria: Implications for control programs. Int'l Qrtly. Comm. Hlth. Educ. 1997; 16:107-120.
25. Adegoke M and Adedoyin AA. Teenage prostitution – Child abuse. A survey of the Ilorin experience. Afr. J.Med. & Med. Sci 1995, 24:27-31.
26. Tswana SA, Nystrom L, Moyo SR, Blomberg J, Tianani J, Nzara M and Chieza L. Hospital – based study of sexually transmitted diseases at Murewa rural district hospital, Zimbabwe 1991-1992. STDs 1995;22:1-6.
27. Akinnawo EO and Oguntimehin F. Health Seeking behaviour of STD patients in an urban area of South West Nigeria: an explanatory study. Hlth Trans Rev. 1997, 7:307-313.
28. Rotimi VO and Somorin AO. Sexually Transmitted Diseases in clinic patients in Lagos. Br.J.Ven Dis., G.U. Med 1980; 56: 54-6.
29. European Study Group on Antibiotic Resistance Susceptibility to beta-lactam antibiotics in septicaemia isolates from twenty-nine European laboratories. Eur. J.Clin. Micro 1987a; 6:515-20.

30. Monetefiore D, Rotimi VO and Adeyemi-Doro FAB. The problem of bacterial resistance to antibiotics among strains isolated from hospital patients in Lagos and Ibadan, Nigeira. Journal of Antimicrobial Chemo therapy. 1989: 23, 641-651.