

# Targeted interventions required against genital ulcers in African countries worst affected by HIV infection

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**Abstract** It remains unclear why there is such marked variation in the severity of the human immunodeficiency virus (HIV) epidemic between African countries. The prevalence of HIV infection has reached high levels in many parts of southern Africa but in most countries of West Africa the levels are much lower. Although there is good evidence that sexually transmitted infections (STIs) and genital ulcers in particular facilitate heterosexual transmission of HIV, there is little comparative STI data from the African countries worst affected by HIV infection. A MEDLINE search covering the period 1966 to August 2000 using the keywords "sexually transmitted diseases", "genital ulcers" and "Africa" was performed to identify factors that might be relevant to the spread of HIV infection in countries with the highest prevalences of the virus.

In the countries worst affected by HIV infection, the proportions of men and women with STI who had genital ulcers lay in the ranges 45–68% and 13–68%, respectively. The proportions were much lower in countries of West Africa than in those of southern Africa. The African countries worst affected by HIV infection should adopt a more specialized approach to STI control than hitherto and specifically target the high incidence of genital ulceration. Locally, technical STI committees should draw up country-specific guidelines taking into account the prevalence of the various causes of genital ulceration. In these countries, national AIDS control programmes and donor agencies should develop a specific focus for decreasing the incidence of genital ulcer disease.

**Keywords** Genital diseases, Female/complications/therapy; Genital diseases, Male/complications/therapy; Ulcer/complications/therapy; HIV infections/transmission; Sexually transmitted diseases/epidemiology; Exposed population; Risk factors; Africa; Botswana; Lesotho; Malawi; Namibia; South Africa; Swaziland; Zambia; Zimbabwe (*source: MeSH*).

**Mots clés** Gynécologique, Maladie/complications/thérapeutique; Appareil génital masculin, Maladies/complications/thérapeutique; Ulcère/complications/thérapeutique; HIV, Infection/transmission; Maladies sexuellement transmissibles/épidémiologie; Population exposée; Facteur risque; Afrique (*source: INSERM*).

**Palabras clave** Enfermedades de los genitales femeninos/complicaciones/terapia; Enfermedades de los genitales masculinos/complicaciones/terapia; Úlcera/complicaciones/terapia; Infecciones por VIH/transmisión; Enfermedades sexualmente transmisibles/epidemiología; Población expuesta; Factores de riesgo; África (*fuentes: BIREME*).

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## Introduction

The association between human immunodeficiency virus (HIV) infection and sexually transmitted infections (STIs) was recognized at an early stage of the acquired immunodeficiency syndrome (AIDS) epidemic in both the USA and Africa (1, 2). Subsequently, genital ulcer disease (GUD), in particular, was identified as a risk factor for heterosexual transmission of HIV in Africa. The overall relative risk and the population-attributable fraction for GUD in facilitating HIV transmission are

consistently higher than for other STIs and STI syndromes (3–5).

The reasoning behind the view that GUD is a risk factor for both male-to-female and female-to-male transmission of HIV is relatively straightforward: genital ulcers provide a direct portal of entry for HIV through mucosal disruption. In men, phimosis and thinning of the penile epithelium following the healing of genital ulcers may make individuals at increased risk of HIV via minor abrasions either through local traumas during sexual intercourse or secondary infection as a consequence of poor hygiene. Uncircumcised men in high-risk groups appear to be substantially more susceptible than circumcised men to acquiring HIV.

Among female sex workers and their clients, the GUD cofactor effect has been estimated to be 10–50

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for male-to-female and 50–300 per sexual contact for female-to-male transmission of HIV (6). A model simulation of the transmission dynamics of HIV infection during the first 10 years of the epidemic in Uganda indicated that genital ulcers were responsible for 83% of HIV infections in low-cofactor scenarios and for 97% in a high-cofactor scenario (7). The evidence in the literature supports the view that genital ulcers are associated with HIV and that all Bradford Hill's causal criteria are fulfilled (8).

Interventions specifically targeting GUD have, however, been virtually ignored. This article discusses possible reasons for this and suggests how GUD might be tackled in the countries of Africa worst affected by HIV infection.

## Justification for targeted interventions

Debate continues as to whether whole populations or groups at high risk of HIV should be targeted by prevention programmes. The targeting of whole populations has helped to destigmatize HIV/AIDS by stressing that everyone is at risk, but this has often meant that resources have been directed at large low-risk populations rather than smaller groups at higher risk of infection. Consequently, many cost-effective opportunities for HIV prevention have been missed. In South Africa, for example, initial HIV education programmes were designed to target all races equally, even though the Black population was at the highest risk (9).

Further support for targeting individuals at high risk of HIV infection is drawn from standard core group theory, which suggests that 70% of sexual partnerships are associated with under 30% of the total population (10). In Africa, however, targeted interventions have tended to focus on sex workers and their clients. The message perceived from much of the research has been that HIV infection is mainly associated with sex work and that individuals having no direct link to such work are at low risk of acquiring it. In the general population the identification of core groups may, however, not always be easy and requires detailed assessment through mathematical, clinical-epidemiological and sociocultural methods (11).

## Is the evidence being ignored?

### The effect of heterogeneity

Improvement of STI control in developing countries has been hindered by the perception among policy-makers that it can be achieved using generic guidelines. However, because of the diverse epidemiology of STI in such countries, certain recommendations based on such guidelines are not always optimal. This has led to their rejection by many STI care providers.

Variation in STI epidemiology has also resulted in considerable differences between populations in the effect of STIs on the progression of HIV infection. Although most studies have found a strong

association between GUD and HIV seroconversion in heterosexuals, there are some populations where the effect is much weaker.

Male circumcision status is another example of a risk factor for HIV infection where there are marked differences between populations (12). For example, in north-west United Republic of Tanzania, where the prevalence of HIV infection is below 5%, male circumcision is not a risk factor for acquiring the virus (13, 14), whereas many studies in countries with a higher prevalence of HIV have demonstrated an association between the intact foreskin and HIV infection (15).

Policy-makers have been attracted to the idea that there might be some relatively simple solution to the problem of STIs, such as mass vaccination. This led to the Rakai STI mass treatment trial (16), whose failure to demonstrate a reduction in the incidence of HIV caused the investigators to reject the idea that syndromic management or other STI strategies were likely to reduce the incidence of HIV (17). Clearly, optimal strategies for STI control vary between populations, and adaptation to local situations is necessary.

## Genital ulceration

### The scale of the problem

Although GUD is common in many countries in sub-Saharan Africa, the magnitude of the problem in many areas is unclear. In 1995 the prevalence of syphilis among adult males and females aged 15–49 years in sub-Saharan Africa was estimated to be 3.1% and 3.9%, respectively (18). Globally, it is estimated there are 7 million cases of chancroid (19). The fact that there are various definitions of GUD makes it difficult to assess the size of the problem; however, multiple definitions may be necessary in order to evaluate accurately the risk of acquiring HIV infection associated with GUD (20).

### Where is the GUD/HIV problem greatest?

A MEDLINE search using the keywords “sexually transmitted diseases”, “genital ulcers” and “Africa” covering the period 1966 and August 2000 was performed to identify factors that might be relevant to the spread of HIV infection in countries with the highest prevalences of the virus, as identified by the US Bureau of the Census (21).

The eight countries in Africa with the highest estimated prevalence of HIV infection among low-risk individuals in capital or major cities were all in the southern part of the continent: Botswana (prevalence, 43.0%), Lesotho (31.3%), Malawi (30.4%), Namibia (22.7%), South Africa (32.5%), Swaziland (30.3%), Zambia (27.1%), and Zimbabwe (28.0%) (21). Data for seven of these countries show that they have significant problems with sexually transmitted genital ulcers (Table 1). Although comparative data are not available for Lesotho, genital ulceration is a significant problem in that country (32). The

proportions of GUD diagnoses among all STI cases in men and women are very high at 45–68% and 13–68%, respectively.

Further evidence suggesting the importance of GUD in populations where there is a high prevalence of HIV infection comes from South Africa, where HIV prevalence in the Western Cape is low and that in KwaZulu-Natal is high: in 1996 the GUD/total STI rates among new attenders at clinics in Cape Town and Durban, the main cities in these provinces, were 6.5% and 47%, respectively (33, 34).

It is interesting to compare these data with estimates for some countries in West Africa where there are low prevalences of HIV infection and where genital ulceration is not a significant problem. In Ghana, for example, with an prevalence of HIV infection of 3.6%, GUD is now rare (35). In Nigeria, with a prevalence of HIV infection of 6.7%, GUD accounted for 2–6% of STI cases (36, 37). Even in war-torn countries of West Africa, e.g. Liberia with a prevalence of HIV infection of 4% and Sierra Leone with 3.2% at the end of 1997 (38), where many people are either displaced or living in temporary accommodation, the levels are relatively low compared with those in southern Africa. On a historical note, in 1944–45 Willcox reviewed the relative importance of venereal diseases among West African troops in the Gambia, Sierra Leone, Gold Coast (now Ghana) and Nigeria and found that the ratio of urethritis to genital ulcer cases was 4:1 (39). These data suggest that as general living standards have improved the proportion of GUD cases in West Africa has declined.

Any discussion of the relationship between GUD and HIV infection should include a consideration of male circumcision status. The role of male circumcision in bestowing protection against HIV infection has proved difficult to clarify. There is, however, increasing evidence to support the view that differences in prevalence of HIV infection in Africa may reflect male circumcision practices rather than any major variations in sexual behaviour (40). Male circumcision is common in West Africa but not so in southern Africa, although the practice does not follow strict geographical lines. In Abidjan, Côte d'Ivoire, the part of West Africa worst affected by HIV, circumcision is unusual (41) and GUD is a risk factor for HIV infection among men (42). Also in Abidjan, genital ulcers are more frequent in women who are infected with HIV than in those who are not. Among these infected women the proportions with a genital ulcer increased as the CD4 count decreased, suggesting that genital ulcers were an opportunistic infection in this population (43). Among male attendees at STI clinics in Dakar, Senegal, on the other hand, where male circumcision is rare and the prevalence of HIV infection is low, sex with prostitutes was the activity of highest risk for acquiring HIV infection and the ratio of urethritis to genital ulcers was 3.5:1 (44). Although syphilis, chancroid and genital herpes are all prevalent in Senegal (45), it seems likely that the proportion of HIV infections attributable to GUD in West Africa is

Table 1. Proportion of patients with sexually transmitted infections (STI) who had genital ulcer disease (GUD) in counties worst affected by HIV infection in Africa

Country/HIV prevalence in %	Ref.	Study population with STI	% of male (M) and female (F) STI patients with GUD
Botswana/43	(22)	178 M, 175 F (rural)	60 M, 33 F
South Africa/32.5	(23)	41 432 (urban)	47 overall
	(24)	2199 M, 2570 F (rural)	45 M, 19 F
Lesotho/31.3	NA <sup>a</sup>	—	—
Malawi/30.4	(25)	576 M, 129 F (urban)	68 M, 68 F
	(26)	158 patients at 39 health centers	66 M, 40 F
Swaziland/30.3	(27)	152 M, 97 F (urban hospital)	51 M, 13 F
Zimbabwe/28	(28)	318 M, 146 F (rural)	63 M, 24 F
	(29)	497 M (urban)	49 M
Zambia/27.1	(30)	—	45 overall
Namibia/22.7	(31) and personal communication	828 M, 828 F (mainly urban)	39 M, 18 F

<sup>a</sup> NA = not available

much lower than in East Africa, Central Africa and southern Africa.

Throughout most of Africa there is a lack of good quality surveillance data related to male attenders at STI clinics and to trends in STI and GUD. However, there is evidence that the incidence of genital ulcers is decreasing in Nairobi, Kenya, and Harare, Zimbabwe. In Nairobi, the number of cases of GUD presenting in five health centres decreased from 2139 in men and 1237 in women in 1993 to 631 and 765, respectively, in 1997 (46). In Harare, the number of cases of genital ulcer seen at the genitourinary centre decreased from 2972 in 1990 to 430 in 1998 (47, 48). These reductions are encouraging but may or may not be sustainable. In Durban, South Africa, where there is a rapidly expanding HIV problem, the numbers of persons with GUD attending as new patients increased from 5431 in 1988 to 19 314 in 1996 (23).

### Lessons from Mwanza and Rakai

Following the STI intervention trial in Mwanza, United Republic of Tanzania, which showed a 40% reduction in the incidence of HIV infection (49), STI intervention programmes are attracting increased attention from policy-makers. However, little attention has been given to interventions targeting GUD. More recent data from Mwanza have confirmed the importance of GUD: the adjusted odds ratio for HIV seroconversion by men with genital ulcers was 14.8 and the corrected population-attributable fraction was 30.2% (5).

Despite this evidence, the trial in Rakai, Uganda, cast doubt on the value of STI control in

preventing HIV infection. This study found that syphilis and chancroid were detected in only 7% of subjects with GUD and that herpes simplex was detected in 42% (16). No cause was detected for the remaining 51%, a far higher proportion than had been reported in other studies in developing countries using the multiplex polymer chain reaction (PCR) technique for detecting microbial pathogens in genital ulcer disease. The mass treatment used in the Rakai trial would have had no effect on genital herpes, now recognized as a significant risk factor for HIV transmission (50). Some of the important questions arising from the study relate to the identification of the causes of non-pathogenic GUD and to the best way of targeting and promoting interventions against it. It may be that many genital ulcers are not caused by STI but by sexual traumas or secondary infections exacerbated by poor genital hygiene.

### What are the common causes of GUD?

Table 2 shows the results of studies on the microbial etiology of genital ulcers in the countries worst affected by HIV in sub-Saharan Africa. Although syphilis, chancroid and herpes are the most frequent infections, the importance of genital herpes has increased considerably in recent years and is discussed elsewhere in more detail (50). However, the relationship between genital herpes and HIV infection is complex, and costly longitudinal studies are needed to elucidate it. While genital herpes can increase susceptibility to HIV through mucosal disruption, recurrences of genital herpes are more likely to occur in HIV-positive subjects, particularly if immune suppression is significant. In order to identify genital herpes as a true risk factor for HIV acquisition, longitudinal studies are needed, including measurement of the incidence of herpes and HIV by means of serological tests.

In some areas, the prevalence of *Haemophilus ducreyi* infection, as detected by culture, is unrealistically low. For example, in 1979–80 chancroid accounted for 38% of STI cases in Salisbury (now Harare) (57), but *H. ducreyi* was detected in only 3% of men with GUD in 1995 (29). This probably reflects technical difficulties in culturing *H. ducreyi*, but there was a real reduction in the prevalence of chancroid in Harare in the 1990s (47, 48). Chancroid is a problem among men in Abidjan, Côte d'Ivoire (42), and Dakar, Senegal (44), possibly reflecting the high proportion of men in these populations who have contact with prostitutes. Further studies using multiplex PCR for detecting the microbial etiology of genital ulcers should be initiated in countries where reliable information is lacking.

## Strategies for targeting genital ulcer disease

### Strengthening syndromic management protocols

Current WHO strategies for STI control focus on the syndromic approach, which was advocated long

before HIV became a problem in sub-Saharan Africa. While syndromic management of GUD is generally regarded as successful and cost-effective, it was recently recognized that the GUD algorithm should be changed to encompass the management of genital herpes and that local epidemiological disease patterns should be taken into account (58); advice on personal genital hygiene should perhaps also be included. The effect of hygiene on genital ulcers and HIV infection has not yet been validated in a controlled trial but its inclusion would seem rational from the biological standpoint, given its success in preventing GUD (59). Post-exposure prophylaxis with soap and water was effective in preventing chancroid among American military personnel, even where the skin was abraded and *H. ducreyi* was inoculated directly (60). In areas with high prevalences of GUD, male patients with this condition could be given a bar of soap and instructions on washing behind the foreskin with either soap and water, salt and water, or both on a daily basis. In addition, it would seem reasonable to advise washing or cleaning before and after sex. However, any health education message promoting genital hygiene should stress that washing is not a guarantee against HIV infection and should encourage the use of condoms. In southern Africa it has to be recognized that the frequency of condom use is so low that innovative interventions are required.

### Availability of drugs

The availability of drugs for GUD, particularly chancroid, is crucial in sub-Saharan Africa countries. Co-trimoxazole, a cheap drug formerly used against chancroid, is no longer recommended. The alternatives recommended by WHO, particularly single-dose treatments with drugs such as azithromycin and ceftriaxone, are still expensive. Erythromycin, another recommended drug, can also be used for numerous other conditions that might present in primary health care centres. In view of the importance of GUD in HIV transmission, allowance should be made by donors when assessing drug requirements so that, at the very least, drugs against GUD are always available. The extra cost of erythromycin for non-STI use is a small price to pay for ensuring that all cases of suspected chancroid are treated without delay at the first point of contact.

In most developed countries, treatment is not recommended for genital herpes unless attacks are frequent, i.e. more than 6–8 episodes a year. What is the role of treatment for genital herpes in Africa? Trials on the effectiveness of anti-herpes medication in reducing the incidence of HIV transmission would be warranted if suitable drugs became affordable. The possibility of herpes developing resistance to aciclovir is thought to be low (61). No evaluation has been made as to whether long-term prophylactic medication is acceptable to African communities.

Table 2. Microbial etiology of genital ulcer disease (GUD) and human immunodeficiency virus (HIV) infection status of men and women in countries worst affected by HIV infection in Africa

Country	Year of study, ref.	No. of subjects: M (male), F (female)	% cause of genital ulceration				LGV <sup>a</sup>	HIV + ve	Comments
			<i>Haemophilus ducreyi</i>	Syphilis	Genital herpes	Donovanosis			
Botswana	1993, (51)	100 M + F	26	56	24	—	—	41	—
South Africa	1994, (52)	M (no number given)	51	51	13	—	—	56	Multiplex PCR used; syphilis diagnosed serologically
	1998–9, (53)	400 M	6	41	40	4	3	63	—
Lesotho	1993–94, (32)	105 (69 M, 36 F)	56	23	26	—	—	36	Multiplex PCR used
Malawi	1992–93, (54)	778 M	26	29	ND <sup>c</sup>	—	—	59	76% HIV +ve with past GUD; HSV <sup>b</sup> antigen detected in 23% of non-healing ulcers
Swaziland	1979, (55)	155 (107 M, 48 F)	44	21	12	—	13	ND <sup>c</sup>	GUD diagnosed clinically; laboratory tests for syphilis and LGV
Zimbabwe	1994, (29)	238 M	3	10	4	—	—	77	Low prevalence of chancroid because of antiseptic use and technical problems
Zambia	1991, (56)	139 M, 98 F	47 M, 30 F	21 M, 39 F	19 M, 5 F	3 M, 5 F	—	51 M, 72 F	GUD diagnosed clinically, RPR +ve in 25% M, 40% F
Namibia	Van der Veen, personal communication, July 2000	323 M, 150 F	ND <sup>c</sup>	—	—	—	—	51 M, 50 F	

<sup>a</sup> Lymphogranuloma venereum.

<sup>b</sup> Herpes simplex virus.

<sup>c</sup> Not done.

## Education and teaching

Although the concept of syndromic management appears straightforward, various levels of effectiveness have been demonstrated. In South Africa a high proportion of private doctors in rural KwaZulu did not provide adequate treatment for STI patients (62). In one STI clinic in Cape Town, clinicians failed to recognize genital ulcers in 64% of women and 18% of men; also, 61% of women and 16% of men left the clinic with at least one infection inadequately treated (63). In Côte d'Ivoire, syndromic management undertaken at peripheral health centres was satisfactory but patients who could not pay or refused to pay were excluded from the study, and what happened to them is unclear (64). In Zambia, few clinical officers managed patients according to the syndromic approach recommended by the STI control programme (65). It is essential that sustainable STI education programmes be established which can cope with high staff turnover.

## Innovative treatment strategies

**Periodic mass treatment.** Periodic mass treatment is effective in limiting STI to core groups and further transmission to partners. A recent study in South Africa showed significant reductions in the prevalence of GUD both among mine workers who were clients of sex workers and among the sex workers themselves (66). The selective mass treatment of sex workers for syphilis in parts of Indonesia has kept rates of infection low for many years (67). This strategy merits further study and could be very cost-effective if core groups could be identified. Like STIs, however, core groups vary between countries and populations. All areas with a significant HIV problem should identify local core groups for targeting.

**Mass treatment.** The results of the Rakai trial indicate that mass treatment of a population is probably not an effective way to target resources for STI control; however, it should be noted that mass treatment for syphilis was not undertaken in this trial.

WHO has recommended that, for non-venereal treponematoses, total mass treatment is justified for prevalences that exceed 10% and selective mass treatment is appropriate for prevalences <5% (68). These recommendations merit reconsideration as a strategy for tackling syphilis, given its association with the acquisition of HIV. In many countries of southern Africa the prevalence of positive serological tests for syphilis among attendees at antenatal clinics exceeds 5–10%.

### Eradication

In the 1950s and 1960s, WHO instigated a highly successful programme against yaws. This strategy did not result in total eradication of the disease but its incidence was greatly reduced. As mentioned above, WHO has recommended mass treatment against non-venereal treponematoses if the prevalence of the disease exceeds 10%. Mass treatment against syphilis, aiming at eradication, is therefore an option that should be considered. Lessons learnt from the yaws campaigns of the 1950s and 1960s could be reassessed and used in the implementation of eradication programmes.

No realistic proposition has been made for the eradication of chancroid in Africa. While most outbreaks of chancroid in developed countries have been associated with sex work, the picture is less clear in Africa, although female sex workers are important in the maintenance of a reservoir of infection. Clarification is needed as to whether asymptomatic carrying of *H. ducreyi* occurs in women to any significant degree.

The eradication of donovanosis, which has a limited geographical distribution, merits serious consideration (69). Since donovanosis is prevalent in some of the countries in southern Africa with severe HIV epidemics, an eradication programme could be undertaken initially in those areas where the condition is most prevalent, for example in KwaZulu-Natal. In Australia an attempt is being made to eradicate donovanosis in aboriginal communities (70).

### Conclusions

In Africa the countries with the highest prevalences of HIV infection also have high proportions of STI cases caused by genital ulcers, in some instances 68%. The high prevalences of GUD may be important in sustaining the HIV epidemic in those African countries worst affected by it. Despite its importance in facilitating HIV transmission, GUD has received limited attention, not least because it is an aesthetically unattractive condition. The perception among policy-makers with limited experience of STI clinical case management that GUD is something “unclean”

may have led to its study being neglected. If the control of STI and GUD is to be accepted as a priority by national AIDS control programmes, donor agencies and policy-makers, such notions must be rejected.

The importance of GUD as a risk factor for HIV has probably been underestimated and under-recognized (50). Technical issues relating to the improvement of GUD management algorithms still have to be resolved and algorithms should be designed for specific geographical areas. Local STI technical committees are probably in the best position to achieve this.

The question of STI/HIV infection and stigma among heterosexuals is also a significant obstacle that requires to be resolved. In some communities STI control and circumcision, like HIV, may not be socially or politically acceptable subjects for discussion. Few men in Africa have identified themselves as HIV-positive or have advocated interventions targeting men. This has hindered HIV prevention activities, which have become focused on women (71). While there are no shortages of advocates for women, young people and vulnerable groups, there are no voices of support for uncircumcised men with genital ulcers, who are a key core group at high risk of acquiring and transmitting HIV (72).

Improved STI and GUD control cannot be expected to prevent all HIV transmission. Moreover, it is important to recognize that the results of the Rakai and Mwanza trials have limited application for those areas worst affected by HIV infection. Neither Uganda nor United Republic of Tanzania is typical of the situation elsewhere in southern Africa. In north-west United Republic of Tanzania the prevalence of HIV infection is only 4%, while in Uganda the situation is unique in that the HIV epidemic has maintained a high political profile over a sustained period, resulting in both significant behavioural change and a decline in the prevalence of the virus.

It would be logical for those countries with the worst HIV problems, particularly those in southern Africa, to target GUD in specific programmes. Indeed, there is a strong case for these countries to declare that GUD has reached disaster proportions, thus recognizing it as an important public health problem at the highest level. WHO has already done this with tuberculosis in certain countries and has also started a global tuberculosis research initiative. Instigation of an analogous forum would allow the more technical aspects of STI and GUD control to be adequately tackled by fresh initiatives. ■

**Conflicts of interest:** none declared.

## Résumé

### Des interventions ciblées contre les ulcérations génitales sont nécessaires dans les pays d'Afrique les plus gravement touchés par l'infection à VIH

On ne sait pas exactement pourquoi la gravité de l'épidémie d'infections par le virus de l'immunodéficience humaine (VIH) est si variable d'un pays d'Afrique à l'autre. La prévalence de l'infection à VIH atteint des valeurs élevées dans de nombreuses régions d'Afrique australe alors qu'elle est plus faible dans la plupart des pays d'Afrique de l'Ouest. On sait que les infections sexuellement transmissibles (IST), et en particulier les ulcérations génitales, facilitent la transmission hétérosexuelle du VIH, mais on ne dispose que de peu de données comparatives sur les IST dans les pays d'Afrique les plus gravement touchés par l'infection à VIH. Une recherche sur MEDLINE (1966–août 2000) avec les mots-clés « sexually transmitted diseases », « genital ulcers » et « Africa » a été effectuée afin de déterminer quels peuvent être les facteurs en rapport avec la propagation de l'infection à VIH dans les pays où la prévalence du virus est maximale.

Dans les pays les plus gravement touchés par l'infection à VIH, la proportion de personnes atteintes d'IST avec ulcérations génitales se situe entre 45 et 68 % chez les hommes et entre 13 et 68 % chez les femmes. Ces proportions sont beaucoup plus faibles dans les pays d'Afrique de l'Ouest que dans ceux d'Afrique australe. Les pays d'Afrique les plus gravement touchés devront adopter une approche plus spécialisée de la lutte contre les IST, particulièrement ciblée sur l'incidence élevée des ulcérations génitales. Au niveau local, les comités techniques chargés de la lutte contre les IST devront établir pour le pays des directives tenant compte de la prévalence des diverses causes d'ulcérations génitales. Dans ces pays, les programmes nationaux de lutte contre le SIDA et les organismes donateurs devront axer une partie de leurs activités sur la réduction de l'incidence des ulcérations génitales.

## Resumen

### Necesidad de intervenciones focalizadas contra las úlceras genitales en los países de África más afectados por el VIH

Sigue sin entenderse por qué la gravedad de la epidemia del virus de la inmunodeficiencia humana (VIH) varía tanto entre los países de África. La prevalencia de la infección por el VIH ha alcanzado valores altos en muchas partes de África austral, pero en la mayoría de los países de África occidental los niveles son mucho más bajos. Aunque existen pruebas convincentes de que las infecciones de transmisión sexual (ITS), en particular las úlceras genitales, facilitan la transmisión heterosexual del VIH, se dispone de pocos datos comparativos sobre las ITS en los países africanos más afectados por el VIH. Con el fin de identificar posibles factores relacionados con la propagación de la infección por el VIH en los países de mayor prevalencia del virus, se realizó en MEDLINE una búsqueda para el periodo de 1966 a agosto de 2000, utilizando las expresiones « sexually transmitted diseases », « genital ulcers » y « Africa ».

En los países más afectados por el VIH, las proporciones de hombres y mujeres con ITS que presentaban úlceras genitales eran, respectivamente, del 45%-68% y del 13%-68%. Las proporciones eran mucho más bajas en los países de África occidental que en los de África austral. Los países africanos más afectados por el VIH deberían procurar controlar las ITS con criterios más especializados, y combatir específicamente la alta incidencia de ulceración genital. A nivel local, se debería encomendar a comités técnicos en ITS la elaboración de directrices específicas de país que tengan en cuenta la prevalencia de las diversas causas de ulceración genital. En esos países, los programas nacionales de lucha contra el SIDA y los organismos donantes deberían perseguir con medidas específicas la reducción de la incidencia de úlceras genitales.

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