June 2008

Gauteng STI news

Focus: HIV/AIDS

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HIV IN SOUTH AFRICA

Contribution: Stephina Tshelane, STI Reference Centre, National Institute for Communicable Diseases

Introduction

With an estimated 5.5 million (4.9 million - 6.1 million) people living with HIV, South Africa is the country with the largest number of infections in the world. Increased susceptibility to infection is due to numerous biological, environmental, and socio-cultural factors. In addition, there are high rates of sexually transmitted infections amongst the population, which drive the HIV epidemic, and are associated with early sexual debut, a high number of concurrent sexual partners, low levels of condom usage and sexual assault. These factors continue to fuel ongoing epidemic and the cycle of infection and vulnerability exacerbate poverty.

The most rapid increase in South Africa's HIV prevalence took place between 1993 and 2000. Based on the 2006 antenatal HIV prevalence, it is estimated that 18.3% of people aged 15-49 years old in South Africa are infected with HIV. This figure contributes to the estimated global burden 5.41 million people living with HIV, including 257 000 children.

Average life expectancy in South Africa it is estimated to be 54 years, and in recent years this figure has reduced by 10 years as a result of the HIV/AIDS epidemic. Again it is estimated that HIV infected patients will soon account for 60-70% of medical expenditure in South Africa. It is thus clear that HIV/AIDS continues to have a devastating impact in South Africa.

Women and children

Women often face more severe discrimination than men if they are known to be HIV-positive. This can lead to physical abuse and loss of economic stability if their partners leave them. Since antenatal testing gives women a greater chance of being identified as HIV positive, they are sometimes branded as spreaders of infection.

Nelson Mandela wears the *HIV Positive* t-shirt fighting the stigma of being HIV positive in S.A. Next to him is Zackie Achmat of Treatment Action Campaign.

While children are infected by HIV, many of them are suffering from the loss of their parents and family members from AIDS. UNAIDS estimates that there were 1.2 million South African children orphaned by AIDS in 2005 compared to 780 000 in 2003. Once orphaned, these children are more likely to face poverty, poor health and lack of access to education.

Prevention

Although attention has been redirected to issues surrounding treatment, it is critical to remember the role that prevention plays in the fight against HIV. HIV voluntary counseling and testing is an integral part of the countries response to HIV/AIDS. The number of VCT sites in South Africa has increased signifi-

cantly in recent years yet many are still too fearful to take the HIV test. In part, this is due to many people still being unaware or convinced of the advantages of knowing one's status and that access to ARVs is free of charge.

Despite the progress in establishing HIV VCT sites, there are concerns about the quality of such services in some areas. Reports hint that counselors are not always adequately trained, may lack clinical knowledge and are often overworked. Campaigns from different sectors market sexual responsibility through media, operating a network of telephone lines, clinics and youth centres that provide sexual health facilities as well as outreach services that travel to remote rural areas. Although these sectors have saved many lives, the actual difference they have made in reducing number of new HIV infections is very difficult to measure. The prevailing high rates of HIV found across South Africa suggest that either the message isn't getting through to many people, or that people are receiving information but not acting upon it. Women and teenage girls in South Africa are often unable to negotiate safer sex and may be involved with men who have several sexual partners. They are also particularly vulnerable to sexual abuse and rape, and are economically and socially subordinate to men. Police reports reported that in 2004-2005 there were at least 55 114 cases of rape in South Africa, and considering that many cases go unreported the actual rate could be much higher.

In South Africa, most prevention of mother to child services are offered through government-supported health facilities that provide rapid HIV testing at the first prenatal care visit and nevirapine for women in labour and for infants after delivery. The facilities are now scaling up to provide dual treatment with AZT and nevaripine for pregnant women and infant testing for HIV at six weeks of age using HIV DNA PCR tests. However, adhering to the recommendations is hindered by fear of stigma, lack of information and little time for overworked health providers to offer counselling and support services. Weak follow ups hamper support for children and women. Many women are HIV positive in South Africa and still not receiving drugs that could prevent them passing HIV to their babies.

According to government antenatal surveys, there were approximately 260 000 children aged below 15 living with HIV in South Africa in 2006.

Antiretroviral (ARV) Treatment

South Africa has started with the provision of ARV treatment in 2004 and faces many operational challenges in terms of the ARV roll-out programme.

Children who are living with HIV are highly vulnerable to illness and ARV antiretroviral treatment. Unfortunately there is still shortage of such treatment in South Africa. It is estimated that 50 000 children in South Africa were in need of ARV drugs at the beginning of 2006, but only around 10 000 were receiving them.

Operational challenges and future strategies

In recent years, antenatal survey results have led to claims that the HIV epidemic is beginning to stabilize. The high level of new HIV infections occurring in South Africa reflects difficulties that have been faced by AIDS education and prevention campaigns. In addition, the high number of AIDS deaths occurring in the country reflects both a lack of HIV testing and late initiation of ARV therapy.

Community-based approaches may not only increase awareness and availability of services, but may also increase acceptance and uptake and uptake of HIV testing. Increasing utilization of postnatal care services among all women and improving the care and follow up of HIV positive and women and their infants is seen as an additional strategy to reduce the burden.

The future of the epidemic at least partly depends on the direction of the government's HIV and AIDS policies and the performance of healthcare workers and the non-governmental sector in terms of facing the HIV epidemic head-on. Encouraging of HIV testing, enhancing posistive attitudes about knowing one's status and enabling behaviour change to occur are key elements required to reduce HIV transmission.

STI Reference Centre would like to congratulate Ms Stephina Tshelane on her new appointment as a Deputy Director within the Epidemiology Department at the National Department of Health. Stephina has been the Editor of the Gauteng STI news since the first edition of the newsletter. All the best Stephina!

AIDS EPIDEMIC GLOBAL UPDATE (UNAIDS)

Contribution: Stephina Tshelane, STI Reference Centre, National Institute for Communicable Diseases

According to the global overview report, advances in methodology of estimations of HIV epidemic applied to an expanded range of country data have resulted in substantial changes in estimates of numbers of persons living with HIV worldwide. The estimated number of persons living with HIV worldwide in 2007 was 33.2 million (30.6-36.1 million), a reduction of 16% compared with estimates published in 2006 [39.6 million (34.7-47.1 million), UNAIDS/WHO, 2006] (table 1). The key reason for this reduction was the intensive exercise to assess India's HIV epidemic, which resulted in a major revision of country estimates. Important revision of estimates elsewhere, particularly in Sub-Saharan Africa also contributed. Of the total difference in the 2007 to 2006 estimates, 70% are due to changes in six countries: Angola, India, Kenya, Mozambique, Nigeria and Zimbabwe. In both Kenya and Zimbabwe, there is increasing evidence that a proportion of the declines is due to a reduction of number of new infections which is in part due to a reduction in risky behaviours.

Number of people living with HIV in 2007	
Total	**33.2 million [30.6-36.1 million]**
Adults	30.8 million [28.2-33.6 million]
Women	15.4 million [13.9-16.6 million]
Children under 15 years	2.5 million [2.2-2.6 million]
People newly infected with HIV in 2007	
Total	2.5 million [1.8-4.1 million]
Adults	2.1 million [1.4-3.6 million]
Children under 15 years	420 000 [350 000-540 000]
AIDS deaths in 2007	
Total	2.1 million [1.9-2.4 million]
Adults	1.7 million [1.6-2.1 million]
Children under 15 years	330 000 [310 000-380 000]

Table 1: Global estimates for HIV in 2007 (UNAIDS)

Essential Findings

Every day, over 6800 persons become infected with HIV and over 5700 persons die from AIDS, mostly because of inadequate access to HIV prevention and treatment services.

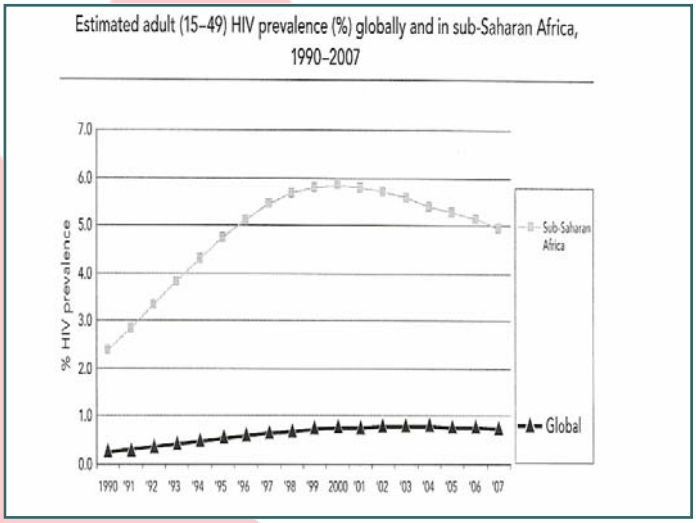


Figure 1: Estimated HIV prevalence in sub-Saharan Africa, 1990-2007 (Source: UNAIDS).

Sub-Saharan Africa remains the most seriously affected region, with AIDS remaining the leading cause of death. Although percentage prevalence has stabilized, continuing new infections (even at a reduced rate) contribute to the estimated number of persons living with HIV, 33.2 million [30.6-36.1 million]. Global HIV prevalence, the percentage of the worlds adult population living with HIV, has been estimated to be level since 2001 (figure 1). Downward trends in HIV prevalence are occurring in number of countries, as a result of prevention efforts and HIV-related mortality.

The estimated number of deaths due to AIDS in 2007 was 2.1 million [1.9-2.4 million] worldwide, of which 76% occurred in Sub-Saharan Africa. The decline in the past two years are partly attributable to the scaling up of antiretroviral treatment services. AIDS remains a leading cause of mortality worldwide and the primary cause of death in Sub-Saharan Africa, illustrating the tremendous, long term challenge that lies ahead for provision of treatment services, with the hugely disproportionate impact on Sub-Saharan Africa ever more clear.

Global HIV incidence likely peaked in the late 1990s at over 3 million new infections per year, and was estimated to be 2.5 million [1.8-4.1 million] new infections in 2007 of which over two thirds (68%) occurred in Sub-Saharan Africa. This reduction in HIV incidence likely reflects natural trends in the epidemic as well as the results of prevention programmes resulting in behavioural change in different contexts.

More than two out of three (68%) adults and nearly 90% of children infected with HIV live in this region, and more than three in four (76%) AIDS deaths in 2007 occurred in Sub Saharan Africa, illustrating the unmet need for antiretroviral treatment in Africa. Southern Africa alone accounted for almost one third (32%) of all new HIV infections and AIDS deaths globally in 2007. A total of 1.7 million [1.4 million-2.4 million] people in Sub-Saharan Africa became infected with HIV in the past year, declining from 2.2 million [1.7-2.7 million] new infections in 2001. Currently there is an estimated 22.5 million [20.9-24.3 million] people living with HIV in the region in 2007 compared with 20.9 million [19.7 million-23.6 million] in 2001.

Women and Children living with HIV and AIDS

In Sub-Saharan Africa, almost 61% of adults living with HIV in 2007 were women. Globally, the number of children living with HIV increased from 1.5 million [1.3-1.9 million] in 2001 to 2.5 million [2.2-2.6 million] in 2007. However, estimated new infections among children declined from 460 000 [420 000-510 000] in 2001 [390 000-470 000] in 2007. Deaths due to AIDS among children had increased from 330 000 [380 000-560 000] in 2001 to 360 000 [350 000-540 000] in 2005, but have now begun to decline to an estimated 330 000 [310 000-380 000] in 2007. Nearly 90% of all HIV-positive children live in Sub Saharan Africa.

A look into the overall decline by age and gender

In 2001, the United Nations' Declaration of Commitment on HIV/AIDS outlined a goal of reducing HIV prevalence by 25% in young people (age 15-24 years) in most-affected countries by 2005, in order to monitor progress in preventing new infections. A review of the most recent, available information shows that HIV prevalence among young pregnant women (15-24 years) attending antenatal clinics has declined since 2000/2001

AIDS Orphans in Sub-Saharan Africa.
Source-HIV Positive Adults and Children: Photo Gallery

in 11 of 15 countries with sufficient data. There was no evidence of a decrease in HIV infection in Mozambique, South Africa or in Zambia. The trend data indicate significant reductions in some forms of sexual behavior that place people at risk of exposure to HIV.

Conclusion

Significant gaps remain in HIV surveillance systems in some countries, making it difficult to assess with precision the trends and current status of epidemics in these countries. UNAIDS and WHO will continue to improve their HIV and AIDS estimates when new surveillance data and new data from scientific research support such changes.

For more information please visit the UNAIDS website on www.unaids.org.

EVALUATION OF RISK REDUCTION COUNSELLING IN STI PATIENTS

Contribution: Bridget Ikalafeng, STI Reference Centre, National Institute for Communicable Diseases

A new STI represents a " teaching moment" (a time for enhancing behavioural and biologic risk for HIV transmission or acquisition) during which individuals are particularly amenable to counseling around HIV/STI prevention. The STI consultation, therefore presents an essential entry point for HIV prevention activities and an important opportunity to enhance effectiveness of Provider Initiated HIV Counseling and Testing (PICT). The diagnostic clinical encounter offers an opportunity to provide focused prevention intervention aimed at reducing future STIs/HIV infection through sexual risk reduction counselling. It also allows exposure to STI patients who may seroconvert in the next few weeks and reduce their risk for transmitting HIV to sex partners or others.

Effective counselling is equally critical to patients testing HIV negative as it is to patients testing HIV positive. Patients testing negative may continue with risky behaviours that led to their STI infection which may in turn lead to HIV infection in the future. Counseling can therefore be used to address realistic steps and to discuss ways of reducing the risk of contracting STIs and HIV in the future. Patients testing positive also need to be well capacitated in order to ensure reduced transmission to partners.

The STI Reference Centre of the National Institute for Communicable Diseases/National Health Laboratory Service, in collaboration with the Centers for Disease Control and Prevention in Atlanta, will undertake a research project in Gauteng to evaluate two forms of HIV/STI prevention counselling for STI patients i.e. Brief Risk Reduction Counselling BRISC and the current counseling approach for STI patients.

The focus of this project will be on supporting existing PICT undertaken by health care workers, particularly those providing care for patients with STI symptoms, in two primary health clinics (PHC) or community health centres (CHC).

STI/HIV risky behaviours and infections will then be assessed and compared between each study groups of patients i.e. those offered BRISC and those offered current VCT.

Figure 1: Mock HIV/STI counseling session with the sexual health counselor.

Challenges faced in testing STI patients tested for HIV

The fear of stigmatization is still a major hurdle during the process of PICT. However education is geared towards informing patients of the advantages of knowing one's status and the outcome will hopefully be modification of lifestyle choices and, if required, access to antiretroviral therapy. For HIV-infected individuals, living positively will help to avoid increases in HIV viral load. For HIV negative cases strategies, striving to remain negative should be strengthened and adhered to.

For women, particularly those in marital relationships and unemployed, disclosure of HIV status to partners remains a challenge and conversations around the subject of HIV are difficult to initiate. The inability of many women involved in polygamous marital relationships to negotiate condom use by their male partners is a particular issue of concern in Africa. Measures to overcome these challenges could be addressed by offering more women empowerment education and programmes.

WORLD AIDS DAY AT NICD

Contribution: Stephina Tshelane, STI Reference Centre, National Institute for Communicable Diseases

Staff at the National Institute for Communicable Diseases (NICD) attended a World AIDS Day event on the 30th of November 2007. The purpose of the event was to promote awareness among employees on HIV/AIDS related issues and to encourage HIV testing. The event was jointly coordinated by Sara Hloma and Jane Mokoena.

Professor Lynn Morris (Head: AIDS Virus Research Unit) was the main speaker. During her informal question and answer session she discussed the importance of taking responsibility for one's own sexual health but also to be open to discussing safe sex practices with family and friends. This includes encouraging young people to delay their sexual debut, being faithful to one partner and using condoms if you have more than one partner. She emphasized the importance of protection strategies, as vaccination against HIV has not yet proven to be effective.

She also mentioned that HIV may no longer be a life threatening disease, as it can now be treated to reduce the burden and complications of AIDS. Anti-retroviral drugs work to control the viral load in the blood although they cannot eradicate the virus from the body. Many people on these drugs live happy and productive lives.

Above: Sara Hloma at the New Start VCT Mobile Clinic on World AIDS at NICD.

She urged everyone who was there to contribute to the fight against HIV/AIDS and to support campaigns to empower and inform disadvantaged communities about prevention, treatment, care and support. Community based organizations, traditional healers, tribal leaders and kwaito stars were identified as major role players in fighting the disease.

Above: World AIDS day at NICD's Polio Research Foundation Training Centre.

Tents were set up for the event by New Start, an HIV VCT organization. Their trained counsellors undertook VCT activities and some of NICD's staff volunteered to be tested in order to know their HIV status.

Well done Sara and Jane for taking such an initiative.

We would like to thank Professor Lynn Morris (Head: AIDS Virus Research Unit) and to Sara Hloma, Jane Mokoena and New Start for making the day a success.

TOTAL CONTROL OF THE EPIDEMIC (TCE)

Contribution: Foldrick Gumula, TCE Main Reef.

Introduction

Humana People to People is a worldwide federation of associations running a 180 projects in more than 30 countries worldwide. Humana People to People started its operations in Southern Africa during the liberation struggles of the late seventies. Since then, the organization has developed a wide range of projects and activities situated mainly in rural areas all across the region, with a special emphasis on health, HIV/AIDS and education. These projects and activities aim to empower and uplift individuals and communities.

Today, projects implemented by Humana People to People member associations are benefitting more than 4.5 million people cooperating closely with national, provincial and local governments throughout the region.

TCE Main Reef Program

Total Control of the Epidemic (TCE) is a program run by Humana People to People in South Africa. TCE Main Reef is based in Tshepisong, Vlakfontein, Swanneville, Bramfischerville, Matholeville, Princess and Kagiso. TCE is funded by Johnson & Johnson SA/USA and Aspen.

TCE is a comprehensive and systematic door to door HIV/AIDS prevention program. TCE Main reef currently reaches to 200 000 people with 100 field officers. TCE has operated in the area for three years. The idea of the project is that only people can liberate themselves from the epidemic. The main activity of the program is door to door mobilization on daily basis giving information on HIV/AIDS and its related issues such as ARVs, STIs and opportunistic infections. We work in the community with the entire household and each individual, community centres, clinics, schools, churches, government institutions, workplaces and all partners in the fight to take total control of the epidemic.

Activities:

1. Door to door prevention of HIV/AIDS through interpersonal communication and community mobilization to promote VCT, PMTCT, ARVT, access to care, support and other prevention programs.

2. Target children and young people to offer relevant information that will help them to prevent HIV infection through:
   - After-school clubs
   - AIDS Lessons in schools
   - Drama competitions

3. Organize the people in the community to defend themselves against the AIDS epidemic through:
   - Recruitment of passionates
   - Formation of clubs
   - Formation of neighbourhood committees
   - School programs
   - Work place programs
   - Church programs

4. Assist people infected with the virus to form support groups that help them to cope with their HIV status by:
   - Formation of Positive Living Clubs
   - Formation of TRIO to support those on ARVs
   - Training in nutrition
   - Provision of counseling services
   - Establishment of herbal gardens

5. Assist the community to increase its income base by:
   - Formation of income generating projects
   - Training in proposal writing
   - Training in record keeping

6. Inform people about safe sexual practices by:
   - Informing people about abstinence, being faithful to one partner and the use of condoms.

For more information about TCE please contact:

Foldrick Gumula (Deputy Project Manager)

Tel: 0114109206

E-mail: Tce_gumula@mweb.co.za

Above: TCE field officer helping the community members to make their own vegetable gardens.

Above: TCE field officer doing door to door eve-ryday educating the community.

Above: TCE officers are committed in forming the youth clubs in the communities.

DETECTION OF MARKERS OF EXPOSURE AND POSSIBLE PROTECTION IN WOMEN AT HIGH RISK OF HIV-1 INFECTION

Contribution: Mikey Guness, STI Reference Centre, National Institute for Communicable Diseases

The Mothusimpilo Project (NGO) has been working among women at high risk (WAHR) of STIs and HIV in the Carletonville mining area of the West Rand, Gauteng Province for many years. In conjunction with the STI Reference Centre, an STI screening and Voluntary HIV Counselling and Testing (VCT) service was implemented for women in 2007.

A new study has been initiated among the WAHR using a new PlasmAcute technology to detect HIV seroconversions. The new test, which measures HIV infection in the acute phase by detecting the presence of antibodies within isolated B lymphocytes from a whole blood sample, is carried out using paramagnetic polystyrene beads coated with monoclonal anti CD19. These anti-CD 19 antibodies bind specifically to human B cells and allow them to be separated from other blood components using a magnet. The B cells are then washed to remove all traces of plasma anti-HIV IgG, whereupon the cells are lysed using a disruption buffer. This procedure releases lymphocytic anti-HIV antibodies into the buffer for subsequent analysis by conventional ELISA and Western blot assays (Figure 1). The technology was developed by a Norwegian company, Novel Diagnostics, at the University of Bergen.

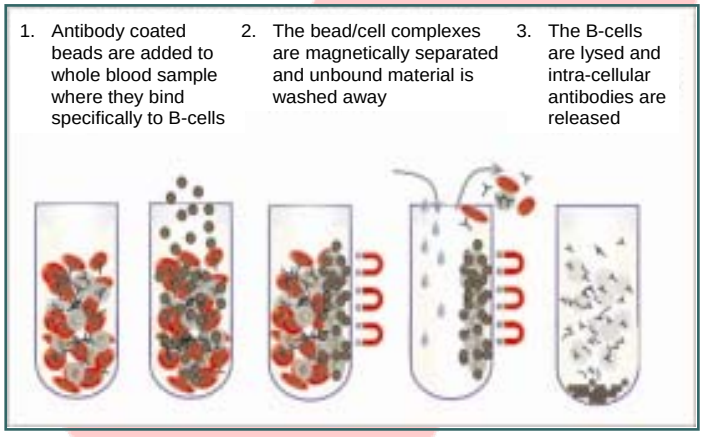


Figure 1: PlasmAcute process for extracting antibodies from B lymphocytes.

Above: Mothusimpilo Project staff at Carletonville.

The PlasmAcute technology can detect anti-HIV antibodies before or at the same time as nucleic acid amplification testing (7-10 days) and before antigen detection (15-18 days), and conventional serological testing (20-24 days). The study has so far identified early infection in two WAHR who were deemed to be HIV negative using conventional serology. Furthermore, four women were identified with a positive first visit PlasmAcute test but negative tests on the follow-up visits; these women failed to demonstrate seroconversion. These subjects are thought to have been exposed to HIV but failed to mount a lasting humoral response. The exact nature of this immunity remains uncertain, but is thought to be related to host HLA/KIR allele markers, B cell, T cell and Natural Killer cell function.

We would like to thank the staff and management board of the Mothusimpilo Project for the collaboration and support of this project. Staff involved include Sr. Zodwa Mzaidume, Iris Atlee, Sr. Gadifele Khasu and Sr. Ntombi Metsing

SCREENING HIV-INFECTED PATIENTS FOR SEXUALY TRANSMITTED INFECTIONS

Contribution: Professor David Lewis, STI Reference Centre, National Institute for Communicable Diseases

Sexually transmitted infections (STIs) are important co-factors in the onward transmission of HIV to sexual partners. In addition, immunosuppressed HIV-infected individuals may be more vulnerable to the effects of STIs. It has been well demonstrated that vaginal and male seminal HIV viral loads are increased in the presence of a co-existent STI, such as gonorrhoea or herpes. It is widely believed that such patients are at greater risk of transmitting HIV, for a given plasma viral load, than HIV-infected individuals without STIs.

HIV care is often provided by general physicians and nurses not so familiar or comfortable with taking detailed sexual histories/performing genital examinations. Therefore, for many HIV-infected individuals, their sexual health care is currently provided at sub-optimal levels. One way to detect STIs is to perform laboratory tests; in the context of asymptomatic patients, this procedure is called screening.

Screening of HIV-infected patients, asymptomatic from the point of view of STIs, for STI pathogens will identify patients who would otherwise be left untreated. As a result of the syndromic management approach, which is practised in South Africa, only STI patients with symptoms receive appropriate therapy with the exception of the few who present as asymptomatic sexual contacts of symptomatic index patients. Detection of STIs allows partners to be contact-traced. The attendance of such partners at clinics for partner therapy for the STI provides a unique opportunity to offer HIV testing to discordant partners.

Above: Helen Joseph Hospital.

A surveillance project among HIV-infected patients attending Helen Joseph Hospital was initiated in January 2007 and has been funded by PEPFAR (US President's Emergency Plan for AIDS Relief). An analysis of the first year of project (January 2007 to December 2008) showed 521 men and 545 women were screened for STIs during the course of the year.

The prevalence of urethritis and cervicitis pathogens among men and women is shown in Table 1:

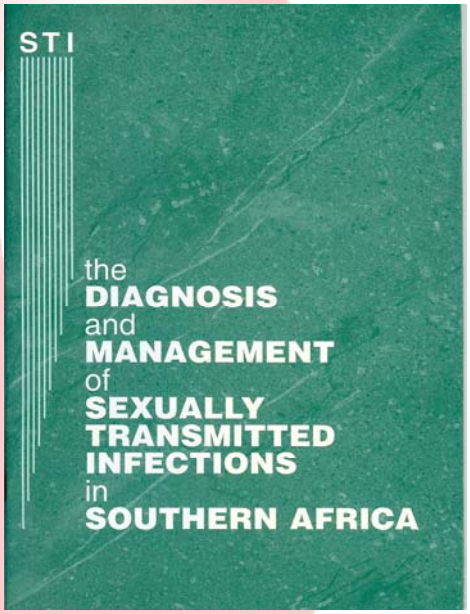
Pathogen	Prevalence	
	Men	Women
Neisseria gonorrhoeae	4.4%	6.6%
Chlamydia trachomatis	1.9%	2.0%
Trichomonas vaginalis	5.0%	10.1%
Mycoplasma genitalium	7.3%	5.2%

Table 1: Prevalence of urethritis and cervicitis

The results show relatively high prevalences of asymptomatic STIs capable of causing inflammation in the genital tract, particularly gonorrhoea and trichomoniasis, was detected. Diagnosis and treatment of these infections will reduce HIV viral load in genital tract secretions and potentially reduce HIV transmission to uninfected partners. Diagnoses of STIs provide opportunities, through partner notification, for sexual partners to attend health-care services where they can also receive HIV counselling and testing. The high burden of HSV-2 infection re-enforces the need to provide health education to patients regarding HIV/HSV-2 transmission synergy.

Acknowledgement: The STI Reference Centre acknowledges the support and collaboration received from Dr. Ian Sanne and Dr. Cynthia Firnhaber at the Clinical HIV Research Unit, Helen Joseph Hospital and CDC South Africa in developing this STI surveillance initiative.

The Diagnosis and Management of Sexually Transmitted Infections in Southern Africa.



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INTRODUCTION

a) a rapid reference for health workers who may encounter diagnostic problems in this particular disease area;

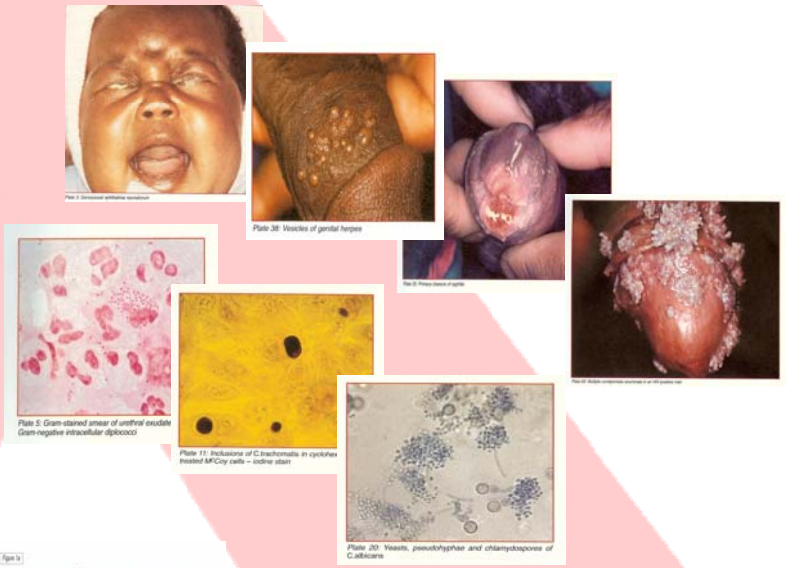
b) to emphasize the role which laboratory investigations can play in the establishment of a definitive diagnosis in cases of STI; to provide a rational basis for the treatment of these diseases in southern Africa.

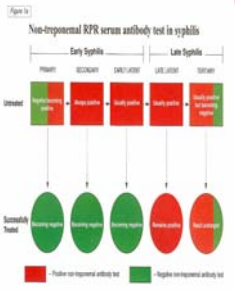
FEATURES

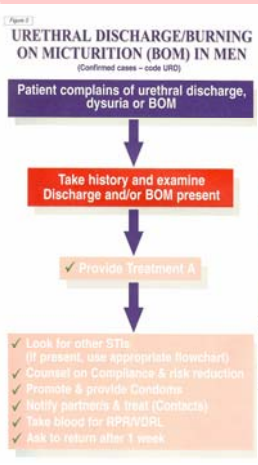
- 79 colour plates and 10 treatment flowcharts
- Suitable for the health worker, medical student, medical officer and/or post graduate student
- Use as a teaching/training guide

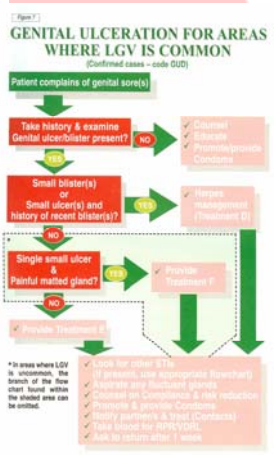
CONTENTS

- Disease specific management of STIs- *Gonorrhoea, Syphilis, Genital herpes, Chancroid, Genital warts, Pubic lice*, etc.
- Syndromic management of sexually transmitted infections - *Mixed infections, Syndromic management flowcharts, STIs in gay men*, etc.









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