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All about STDs

The impact of AIDS is highlighting the need to prevent and treat other infections that, like HIV, are passed on during unprotected sexual intercourse. Having an STD (sexually transmitted disease) increases the risk of being infected with HIV, or of passing on HIV, by as much as nine times during sex (where one partner has HIV). STDs are also much more difficult to treat effectively for people with HIV infection.

The World Health Organization estimates that, annually, at least one in ten sexually active people is infected with an STD. STDs have a major impact on people's health, especially for women and newborn babies (see box on page 2). In many developing countries, STDs are among the five most common health problems for which people seek treatment. The situation is most serious in urban areas, where up to a third of people aged between 13 and 35 may have an STD at any one time. Services are often not available, inaccessible or of poor standard. Women are often affected at a younger age than men. They are frequently blamed and stigmatised for having an STD, or they may not have any symptoms. Untreated infections can result in conditions that are very painful and distressing, and sometimes life-threatening.

As highlighted in *AIDS Action 6*, many countries are setting up combined HIV and STD control programmes. This makes sense because transmission of both HIV and other STDs is affected by similar social and economic factors. HIV and other STDs require the same kinds of education and prevention efforts. During the last two years several countries such as Costa Rica, Thailand and Zimbabwe have reported a reduction in curable STDs, achieved by providing the following:

- community-based and mass media education about STDs (including HIV) to reduce stigma, and encourage people to prevent transmission, to change their behaviour, and to seek medical care if they suspect they have an infection
- effective and early treatment at affordable prices, together with education about preventing re-infection, advice about partner notification and condom
- training for primary level health workers to



A medical assistant interviews a patient in Cambodia's first STD clinic, recently established in the Tuol Kork section of Phnom Penh.

Tuol Kork Dye Clinic

use locally adapted management guidelines, and develop a non-judgmental and sympathetic approach.

- reliable drug supplies, surveillance systems and referral centres with diagnostic facilities.
- In the past, STD control was less effective because it relied on treating the few people (mostly men) with symptoms who decided to seek medical attention. Staff still sometimes lack training in STD care, or people decide not to go to special STD clinics because they feel embarrassed or ashamed. People often visit private doctors, pharmacists or traditional practitioners, rather than specialised STD services. Many, especially women, may not realise that they have an STD, because they do not have, or do not recognise, the symptoms

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What are STDs?

The term 'sexually transmitted disease' or STD is used for all infections that are transmitted mainly through sexual contact, during unprotected vaginal or anal intercourse. Some are also transmitted from mother to child before or during birth, and through unsafe blood donations.

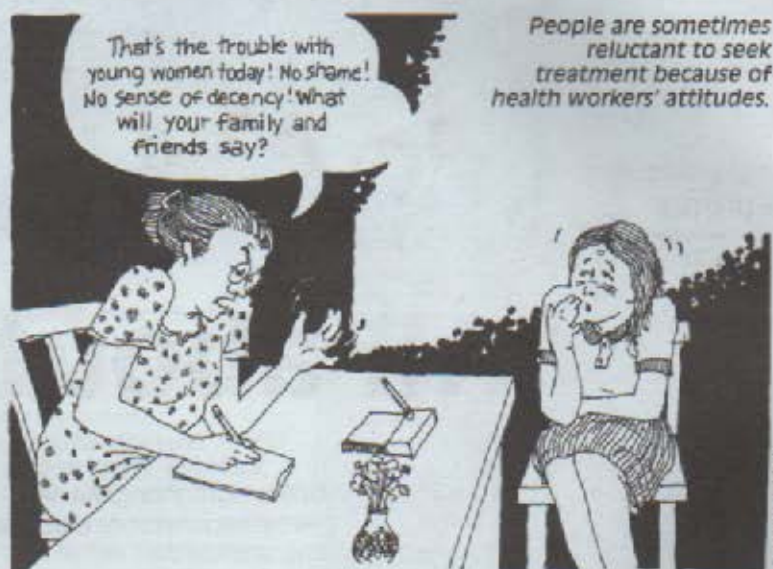
Most STDs affect the male and female reproductive tracts. Some STDs, such as syphilis, hepatitis B and HIV, can affect other parts of the body including the eyes, mouth, nervous system, rectum and urinary tract.

More than 20 disease-causing organisms are transmitted through sexual contact. A few are viruses, like HIV, and cannot be treated with antibiotics. But common STDs such as syphilis, gonorrhoea, chancroid and chlamydia are caused by bacteria and can be cured.

Common STD problems include vaginal and urethral discharge, genital itching, pain when urinating and during sexual intercourse, painful swelling in the lymph glands in the groin and scrotum, and lower abdominal pain. STDs can affect the fetus during pregnancy, causing maternal ill-health and infant death through miscarriage, stillbirth and premature birth. Gonorrhoea often infects infants during birth, causing severe eye infections which can lead to blindness.

Serious complications can result if these infections are not treated. Women may be at greater risk of cervical cancer. Untreated infections of the lower reproductive tract (the external genitals, vagina and cervix) can rise to affect the upper reproductive tract (the uterus, fallopian tubes and ovaries). This may be linked with unhygienic IUD insertion, and unsafe abortion and childbirth techniques. These complications are known as pelvic inflammatory disease (PID). PID results in chronic pelvic pain and discomfort, infertility and ectopic pregnancy (in the fallopian tubes), which can cause the woman's death through internal bleeding.

In men, untreated STDs, especially gonorrhoea and chlamydia, can cause painful inflammation of the testes, and infertility by blocking the sperm ducts.



All about STDs *Continued*

Prevention and care at the primary level

The sexual transmission of all STDs (including HIV) can be prevented by having safer sex—using condoms or having non-penetrative sex. Prevention and education programmes are an essential part of STD control, aiming to raise people's awareness about STDs and the importance of early treatment to reduce stigma, and to provide affordable condoms.

Another key aspect of STD control is the early diagnosis and treatment of disease, preferably during the person's first visit to their health worker. This prevents the development of complications, limits the spread of infection, and provides a valuable opportunity for one-to-one HIV/STD education. Ideally STD care should be integrated into the most accessible and well-used health services: local dispensaries and health centres, and family planning and ante-natal clinics.

Resources are often limited and it can make good sense to provide services for people who may be more at risk, and who have limited access to care. For economic, cultural or social reasons, many people—young men and women, sex workers, men away from home or with male sexual partners—lack access to, or feel unable to use, STD services. The needs of women in stable relationships (often infected by their male partners) are also much ignored, unless they are using family planning or ante-natal services that provide STD education and care.

WHO and other international agencies are now promoting a new and effective approach called syndromic management which is enabling health workers to diagnose and treat most STDs at the primary level. Staff are also trained to provide health education about STDs, and the need for partners to be treated. One of the reasons for the failure to control STDs have been the increasing resistance to drugs by the bacteria that cause gonorrhoea and chancroid. Standard management guidelines also help to ensure correct treatment and effective drugs, and hence delay the development of resistance.

Drs Monir Islam and Peter Plot, WHO/GPA, Geneva

STD diagnosis and treatment

Dr. Ahmed Latif describes how health workers can manage common STDs without expensive and time-consuming tests.

STDs are most easily diagnosed using laboratory tests. But these tests require sophisticated equipment that is too expensive for most settings, and obtaining results can take a few days. In most places, a sample has to be sent away to be cultured or the person referred to a hospital or special STD clinic. Often people may decide not to return for test results and treatment, or to take up a referral, and their infection remains untreated.

Syndromic approach

Ideally, primary level health workers — nurses, midwives, clinical officers or medical assistants—need to be able to diagnose and treat people with an STD on their first visit at an affordable cost, without laboratory tests. Drugs need to be highly effective, free of side-effects, available at the clinic, and ideally given by mouth in a single dose. Patients also need information about STD prevention, and the importance of treating partners.

STD care at the primary level is being achieved with a strategy called 'syndromic management'. This has been researched and tested in many countries during the last eight years, and is recommended by WHO and other International agencies. The approach is based on identifying the main groups

of symptoms and signs (syndromes) commonly associated with certain infections. Health workers diagnose and treat on the basis of these syndromes, rather than for specific STDs.

Simple standard guidelines in the form of flow charts for each syndrome can be developed for health workers to use at the primary level, after training. To develop these guidelines, STD control programmes need to find out the common syndromes in the area, the organisms responsible for them, and identify effective antibiotics. Treatment is prescribed to deal with the infections commonly associated with the syndrome in the region.

Syndromes vary considerably from region to region. For example, it does not make sense to advise that all patients with genital ulcers should be treated for syphilis and chancroid, if

inguinale (donovanosis) is a significant cause of ulcers (such as in India and Papua New Guinea). Overall, the cost of treating for more than one organism is less than setting up and running on-site laboratory facilities.

The syndromic approach can be used only for people with signs or symptoms. It works very well for urethral discharge in men, and genital ulcers in men and women. However, it is sometimes not so successful for women with vaginal discharge and/or PID symptoms. To overcome this, health workers are being advised to ask a series of questions based on risk factors for gonorrhoea and chlamydia. Less expensive and more convenient diagnostic tests are being developed.

Dr Ahmed Latif, Dept of Medicine, University of Zimbabwe, Harare, Zimbabwe

Management of patients with STDs Technical Report Series 810, available in English, French and Spanish for SwF9.80 (developing countries) and SwF14 (others) from DST/WHO, CH-1211 Geneva 27, Switzerland.



Primary level health workers need classroom and clinic-based training to enable them to manage STDs using the syndromic approach.

Common STD syndromes

- genital ulceration in men and women (syphilis, chancroid and granuloma inguinale)
- urethral discharge in men (gonorrhoea and chlamydia)
- vaginal discharge in women (gonorrhoea, chlamydia, candidiasis, trichomoniasis, bacterial vaginosis)
- lower abdominal pain (PID) in women (gonorrhoea, chlamydia, anaerobic bacterial infections)

Guidelines for STD care

Effective STD care means more than just diagnosis and treatment, and includes health education and follow-up. The following steps should be followed with all patients.

- 1 First take the person's history, asking them what symptoms they have, how long they had these and whether they feel any pain, especially while urinating or having sexual intercourse. It is also useful to know when they last had intercourse, if they noticed signs of an STD in their partner and if they have had any previous treatments for STDs. Question the person in a sensitive and respectful manner, using words they understand. Carry out the consultation in private, and reassure them that whatever they say will be kept confidential. Ideally the health worker should be the same sex as the patient.
- 2 If possible, and after explaining what is going to happen and asking for the person's agreement, carry out a physical examination of their genitals, anal area and groin. Look for STD signs such as unusual discharge, or sores and swellings. Ask a male patient to retract his foreskin (if necessary) and look for discharge from the urethra, if none is present, give the penis a gentle squeeze, and massage it forward to expel any discharge. Examine the skin of the person's abdomen, buttocks, and chest for rashes and sores. If gloves are unavailable, do not touch the person's genitals, but decide which syndrome is present on the basis of the person's history and symptoms, and by looking for any signs.
- 3 After deciding which syndrome(s) are present, follow the appropriate flow chart(s). Prescribe the treatment stressing the importance of completing the treatment course correctly.
- 4 Give the person clear information on how STDs are transmitted, and the importance of treating partners, prevention methods and proper use of condoms (*see box below*). Give the person partner notification cards to pass to their most recent sexual partner(s). They need not give you their partners' names.
- 5 Ask the person to return after seven days for a follow-up appointment, if possible. During this visit, ask them about symptoms, sexual activity and condom use, examine them for signs of STD, and remind them about prevention methods. If signs and symptoms are still present, and if you think they have followed treatment advice correctly, refer them for further diagnosis and treatment.

One-to-one advice for every patient includes:

- give information about STDs and HIV, and about how they are spread and prevented
- showing the person how to use a condom correctly, giving them a supply, and telling them where to obtain more
- advising women to visit an ante-natal clinic within the first three months of pregnancy for a check-up

Key messages for the person are:

- Take all prescribed medicines and make sure you complete the treatment, even if you feel better. Do not take medicines from other sources.
- Make sure that you do not pass the infection to anyone else, and do not have sexual intercourse until you are completely cured. If you do, use a condom.
- Come back for a follow-up visit to make sure you are cured.
- Encourage all recent sexual partners to have a check-up, even if they have no symptoms.
- Prevent future infections, including HIV, with condoms.

Genital ulcer

Some STDs cause genital ulceration or open sores that may or may not be painful. STDs that cause genital ulcers are: syphilis, genital herpes, chancroid and granuloma inguinale or donovanosis. It is quite common to have infections with both chancroid and syphilis. In genital herpes, there may be numerous fluid-filled painful blisters, 2-4 mm in size.

Genital ulcers are more commonly seen in males.



Urethral discharge

Some STDs result in discharge from the urethra, usually in men. Gonorrhoea is often the cause of urethral discharge but there may also be urethral infections besides gonorrhoea. These diseases, such as infection with chlamydia, are sometimes referred to as non-gonococcal urethritis (NGU).

In gonorrhoea, the discharge is usually yellow and pus-like while in chlamydia it is thin and watery. Urethral discharge is often accompanied by painful and difficult urination.



Lower abdominal pain

Pelvic inflammatory disease (PID) occurs when infections spread up from the vagina to affect the uterus, fallopian tubes, ovaries and lining of the pelvic cavity.

PID can be caused by the sexually transmitted diseases gonorrhoea and chlamydia. It can also be caused by other infections such as those causing bacterial vaginosis.

Women with PID may have symptoms of lower abdominal pain, painful and heavy menstruation, irregular and painful vaginal bleeding, painful urination and sexual intercourse, vaginal discharge and sometimes fever, diarrhoea and vomiting.

PID can lead to infertility. PID can also be the reason for ectopic pregnancy, infection in the pelvic cavity or peritonitis (inflammation of the abdominal lining). These conditions are life-threatening and should be suspected if the woman has the above symptoms and a recent delivery or abortion, is pregnant or has a missed or overdue period. There may also be signs of muscle tensing when pressure is applied on the abdomen (and tenderness when pressure is released from the abdomen). A tender pelvic lump may also be present. In such cases, the woman should be referred immediately to the hospital.

Remember that lower abdominal pain is only one sign of pelvic inflammatory disease.



Vaginal discharge



Vaginal discharge can be caused by diseases like trichomoniasis and candidiasis, which cause inflammation of the vagina (vaginosis). Trichomoniasis is a protozoal infection while candidiasis is fungal. Several kinds of bacteria can also cause bacterial vaginosis with vaginal discharge.

Abnormal vaginal discharge may also be due to gonorrhoea or a number of non-gonococcal diseases such as chlamydia. Chlamydia can cause inflammation of the cervix (cervicitis) and lead to pelvic

inflammatory disease. However, it is impossible to tell from a clinical examination whether a woman with vaginal discharge has cervicitis or not.

Risk assessment

Treating every woman for all possible infections means unacceptable over-treatment. However, studies have shown that gonorrhoea and/or chlamydia are the likely cause of vaginal discharge if:

- the woman's partner has discharge from his penis or genital sores; or
- if any two of the following are true:

- if she is under 20 years old;
- if she is single;
- if she has had sex with more than one partner in the previous three months;
- if she has had a new sexual partner (including being newly married) in the previous three months.

The health worker asks questions (risk assessment) based on the above factors. The woman is treated for vaginosis only, if she answers no to the questions above. If the risk assessment is positive, she should be treated for both vaginal and cervical infection.

Treatment schedules and strategies

The following treatment schedules are meant only as guidelines. Different alternatives are given because of different situations:

1. Antibiotic resistance: In Southeast Asia, for example, penicillin is no longer useful against gonorrhoea because of antibiotic resistance but in the Pacific region, penicillin can still be used. Always check with national health authorities about what drugs can still be used. Also remember that indiscriminate use of antibiotics will worsen the problem of antibiotic resistance.

2. Individual sensitivity: Some people have reactions against penicillins. In such cases, they have to use another antibiotic like erythromycin.

3. Pregnancy: Many antibiotics used against STDs can harm the fetus and therefore should not be taken by pregnant women: chloramphenicol, erythromycin estolate (but erythromycin base is all right), tetracycline, the quinolones (such as ciprofloxacin) and co-trimoxazole. Antibiotics that are safe for pregnant women are the penicillins, erythromycin base and the cephalosporins (e.g., ceftriaxone).

4. Ideally, choose drugs that can be given orally in one dose. If the same drug is needed to treat two infections (such as erythromycin for syphilis and chancroid), do not give a double dose. Instead, use the longer, higher dose.

5. Treatment with medicines is not enough. For example, in herpes, patients should be taught to wash the infected area with soap and water and to keep the area clean and dry. Other-

wise, bacterial superinfection will occur.

When treating STDs, always include patient education, follow-up and advice to notify partners.

BACTERIAL VAGINOSIS

metronidazole: 2 grams (four 500mg tablets) taken by mouth as a single dose or 400 mg two or three times daily for 7 days OR
clindamycin: 2% topical cream 5 grams applied to the vagina daily for 7 days.

CANDIDIASIS

clotrimazole: this can be used as a vaginal pessary in any of the following doses: 100g at night for 6 nights or 200 mg at night for 3 nights or 500 mg at night once only.
nystatin: as a vaginal pessary, in two tablets (200,000 units) at night for 7 to 10 nights or as a cream applied locally two times daily for 2 weeks.

gentian violet: 0.5% or 1% aqueous solution applied to vulva and vagina each night for 3 to 5 days. Some patients find this messy.

Note: Males can also be infected with candidiasis. For such infections, use clotrimazole, nystatin or gentian violet on the external genitals.

CHANCROID

erythromycin: 500 mg by mouth 4 times daily for 7 days; or
ceftriaxone: 250 mg by intramuscular injection as one dose (but may not be effective for people with HIV); or
co-trimoxazole (trimethoprim 160 mg/ sulphamethoxazole 800 mg): 2 tablets daily for 7 days (but resistance has been reported in many areas). Do not use in pregnant women.

CHLAMYDIA

tetracycline: 500 mg by mouth 4 times daily for 7 days; or
doxycycline: 100mg 2 times daily for 7 days. Tetracycline and doxycycline should not be used in pregnant women. Instead, use:
erythromycin base: 500 mg by mouth 4 times daily for 7 days OR
azithromycin: 1g by mouth as a single dose. (But this drug is still very expensive and not available in many areas.)

GONORRHOEA

aqueous procaine penicillin: 4.8 million units by intramuscular injection as one dose (plus benemid 1 gram taken by mouth as a single dose, if available) OR **ampicillin:** 3.5 gm or **amoxicillin** 3 grams taken by mouth (plus benemid 1.0 gram taken by mouth as a single

dose, if available).

Gonorrhoea strains resistant to penicillins (penicillin, ampicillin, ampicillin) are widespread in many parts of Asia. In such areas, the alternatives are:

kanamycin: 2 grams by intramuscular injection as a single dose, or
spectinomycin: 2 grams by intramuscular injection as a single dose, or
ceftriaxone: 250 mg by intramuscular injection as a single dose, or
norfloxacin: two 400 mg tablets by mouth as a single dose (do NOT use in pregnant women) or
ciprofloxacin: 500 mg by mouth as a single dose (do NOT use in pregnant women).

Notes:

1. In areas with high prevalence of chlamydia infection, also treat for chlamydia.
2. For pharyngeal gonorrhoea (gonorrhoea in the throat), treatment with ceftriaxone or norfloxacin is preferred. There have been many treatment failures with spectinomycin.

GRANULOMA INGUINALE (DONOVANOSIS)

tetracycline: 500 mg by mouth 4 times daily for 21 days; or
chloramphenicol: 500 mg by mouth 3 times daily for 21 days; or
gentamycin: 1 mg/kg by intramuscular injection twice daily for 21 days.

HERPES, GENITAL (HSV or Herpes Simplex Virus infection)

acyclovir: 200 mg orally 5 times daily for 7 days. For recurrent episodes, the course is shortened to 5 days. Acyclovir is a very expensive drug and is often unavailable at the primary health care level.

SYPHILIS (early phase)

benzathine penicillin G: 2.4 million units by intramuscular injection during one visit (inject half of dose in each buttock). Some practitioners recommend repeating the dose after one or two weeks; or
aqueous procaine penicillin G: 600,000 to 1.2 million units by intramuscular injection daily for 10 days. For patients allergic to penicillin, use:
doxycycline: 100 mg by mouth 3 times daily for 15 days (NOT for pregnant women); or
erythromycin: 500 mg by mouth 4 times daily for 15 days

TRICHOMONIASIS

metronidazole: 2 grams by mouth as a single dose; or 200 mg three times a day for 7 days.

Flow charts and Syndromic Management of STDs

Many programs throughout the world are now trying the use of flow charts or algorithms for the syndromic management of STDs. The flow charts allow the users to look for specific signs and symptoms and to move toward diagnosis and treatment.

Flow charts can be used even at the primary health care level among community health workers, with proper training. The effectiveness of the flow chart users will depend not just on technical skills but also on communications skills and sensitivity to local socio-cultural conditions.

When formulating flow charts, local conditions should be considered, especially:

(a) Prevalent or common STDs in the area. For example, donovanosis may not be common in some parts of Asia and therefore would not need to be included in a flow chart.

(b) Availability of diagnostics. Besides physical examination, there are several simple laboratory tests that can be used to diagnose particular STDs. For example, the amine test is a simple and inexpensive test that can be used for vaginosis. It involves mixing a drop of vaginal discharge with a drop of 10% potassium hydroxide (KOH) on a glass slide. If the patient has vaginosis, the mixture releases an ammonia-like or fishy odour which quickly fades. Different algorithms can be used depending on the availability of diagnostic equipment and tests.

(c) Local culture. In some areas, even a physical examination of women may not be allowed. Asking questions about a patient's sexual behaviour may also not be possible. In

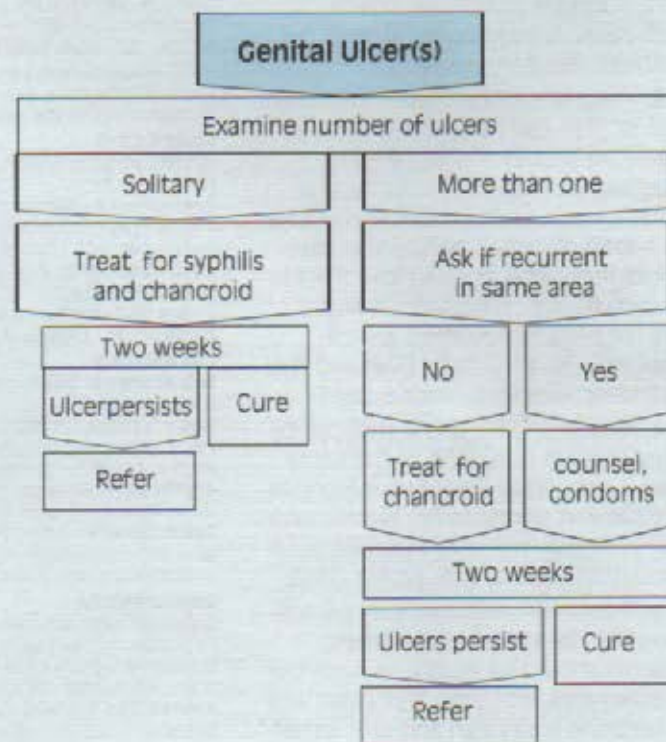
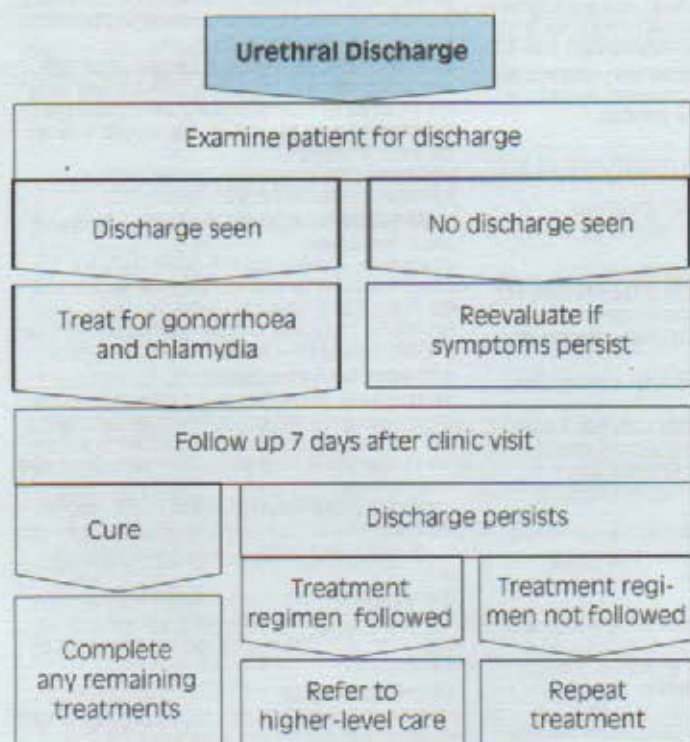
such cases, the health worker will have to depend only on the patient's reporting of signs and symptoms. Alternative flow charts can be used taking such limitations into consideration.

(d) Availability of drugs and other supportive services such as counselling, health education and referrals. The options should be listed in the flow chart.

The experiences with flow charts have been mixed. The flow charts allow for quick diagnosis and treatment. In a pilot project of the World Health Organisation Western Pacific Regional Office (WHO WPRO), each algorithm is printed in one colour. When integrated with patients' records, these colour-coded algorithms allow for quick assessments of the prevalence of various problems.

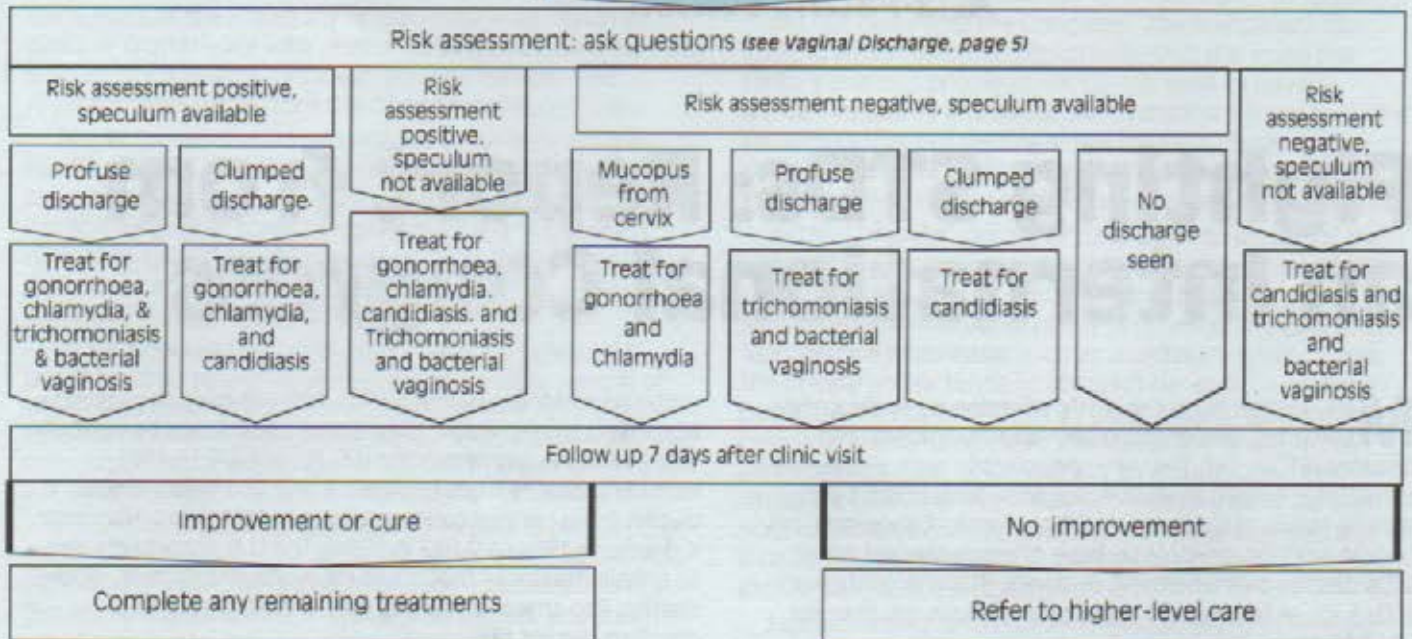
Unfortunately, the flow charts (and syndromic diagnosis in general), tend to be more reliable for male patients since their signs and symptoms (genital ulcers and urethral discharge) are more easily seen. There are also fears that using the flow charts may lead to over-treatment and indiscriminate use of antibiotics. However, the opposite—no treatment or under-treatment—also has its dangers.

A Thai study conducted by a team headed by Dr Earmporn Thongkrajai in Khon Kaen, Thailand, showed that the flow charts were unsatisfactory as diagnostic tools in a maternal and child health program, where STD prevalence was very low. Nevertheless, the charts were found to be useful for health education, not just for the health workers but also for the patients.



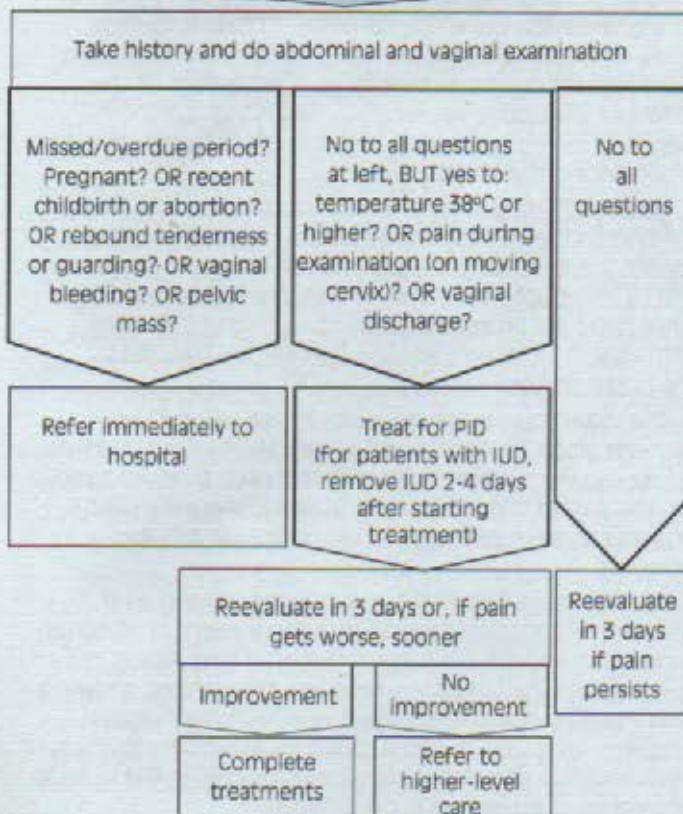
STD MANAGEMENT AT PRIMARY LEVEL

Vaginal discharge



*The flow charts and treatment guidelines are taken from a Training Manual for Sexually Transmitted Diseases, a test version of which was produced by the World Health Organisation Western Pacific Regional Office (WHO WPRO). Flow charts for Vaginal Discharge and Lower Abdominal Pain are taken from an STD chart produced by Population Information Program, Center for Communication Programs, Johns Hopkins School of Public Health.

Lower Abdominal Pain



WHO Report on Problems in STD Prevention

A recent survey by the WHO Western Pacific Regional Office, summarized in their AIDS Surveillance Report of January 1995, found that only eight countries in the region had STD action plans. National treatment guidelines were not available in nine countries, including Japan. The survey was conducted among health ministries.

The report discussed problems in reporting of STDs. This included underdetection, under-reporting and misclassification. In the last category, examples are gonorrhoea being diagnosed when the infection might have been chlamydia or mycoplasma, or confusion among the ulcerative diseases syphilis, chancroid and yaws.

Respondents in the study said that inadequate surveillance was a major constraint for STD prevention. The lack of 'appropriate health care-seeking behaviour' and 'poorly functioning partner notification' were also seen as major problems.

AIDS action

Asia-Pacific edition

Fighting STDs: Report from an International Congress

Many people forget that HIV infection is, technically speaking, one of the many sexually-transmitted diseases (STDs). Yet, the very specialists in such diseases—sometimes known as venereologists—have often been slow to respond to the HIV/AIDS epidemic. Conversely, people working on HIV/AIDS have often neglected other STDs despite overwhelming evidence that the control of STDs such as herpes and syphilis can reduce the risks for HIV infection.

The International Union against the Venereal Diseases and the Treponematoses (IUVDT) sponsored a World STD/AIDS Congress in Singapore from 19 to 23 of March with a very clear emphasis on HIV/AIDS on their agenda. The conference's first plenary lecture was delivered by David L. Heymann of the World Health Organization's Global Programme on AIDS (WHO/GPA). Heymann reminded delegates that the WHO/GPA is now using two major strategies to prevent sexual transmission of HIV: promotion of safer sex practices and reducing the incidence of curable STDs.

In another plenary lecture, Dr. Judith Wasserheit of the US Centers for Disease Control and Prevention explained how STDs and HIV interact. Wasserheit emphasized that both ulcerative and non-ulcerative STDs interact with HIV. Until recently, health educators have emphasized only the role of ulcerative STDs such as syphilis and herpes, where the breaks in the genital skin facilitate the entry of HIV. Wasserheit pointed out that even non-ulcerative STDs such as gonorrhoea—which are much more common than the ulcerative diseases—can also increase the risks for HIV infection because such infections increase the number of white blood cells, which are HIV's targets.

Prevention programs for STDs other than HIV will include early detection. There were several presentations evaluating the use of syndromic management. Target users for syndromic management range from physicians to community health workers. In Thailand, the pharmacy faculty of Chulalongkorn University has a project to train drugstore personnel, both pharmacists and non-pharmacists, to use flow charts in their consultations with customers.

The Congress had a large number of epidemiological reports, which mainly served to remind delegates about differences in the prevalence of various STDs in different parts of the world. A report from the U.S. Centers for Disease Control and Prevention on STDs among women

underscored the possible fatal outcomes of such diseases. According to the report, there were 94,851 deaths attributable to STDs in women in the U.S. from 1977 to 1991, excluding deaths from hepatitis B and C. These include deaths from cervical cancers and, in recent years, HIV (from 4 deaths in 1984 to 2,082 in 1991). The U.S. report referred to simple measures that could have prevented many of the deaths: Pap smear screening for cervical cancer, and condom use for HIV.

But the problems are not all technical. Dr. C. J. Van Dam of the World Health Organization office in New Delhi described a course they conducted for Indian health officials. The course included discussions on syndromic management, given the resistance that many of the older bureaucrats have against the method. Van Dam said that the resistance is often 'token', given that the doctors themselves do rely on some form of syndromic diagnosis; however, given the strong emphasis on 'empirical proof' in the biomedical world, the course managers had to show how syndromic management can be quite reliable. Calculations of the different 'predictive values' (the chance that syndromic diagnosis can detect people with infections) were important in convincing the health officials.

Besides training in syndromic management, the Indian training course had to include inputs to change attitudes toward implementing a 'public health-oriented' system and to introduce new planning skills. Van Dam noted that while there are an estimated 35 to 40 million STD cases each year in India, only about 5 percent are handled by the public sector.

The Indian case is actually quite typical, especially with the global trends toward privatization of health care. Equipping the private sector with technical skills will again be only part of the solution. In Thailand, there is a pilot project to train more HIV/STD counsellors in private hospitals.

The Congress featured two sessions focusing on the problem of antibiotic resistance in the treatment of gonorrhoea. One paper from Estonia reported that almost half of their patients had penicillin-resistant gonorrhoea, showing how these resistant strains have now become a global problem. In southern Africa, gonorrhoea strains resistant to both penicillin and tetracycline have resulted in the revision of treatment guidelines for the disease.

In some parts of Asia—where the problem of penicillin-resistant gonorrhoea emerged two decades ago—other forms of drug resistance are now being reported. Dr R Manalastas of the University of the Philippines reported cases of gonorrhoea with resistance to quinolone antibiotics such as ciprofloxacin, ofloxacin and norfloxacin. The resistant cases came from the cities of Manila and Cebu.

Dr J W Tapsall of the World Health Organization's Western Pacific regional office said that while penicillin resistant cases of gonorrhoea are widespread in the region, the drug can still be used in some areas. Tetracycline resistance is now wide-spread while resistance to oral quinolones and to cephalosporin antibiotics is increasing. Spectinomycin resistance is reported to be low.

Dr Y F Ngeow of the University of Malaya delivered a paper on drug resistance in non-bacterial STDs, several of which are also opportunistic infections in HIV. Drug-resistant HIV strains—against zidovudine for example—have also been reported, showing the difficulties in treating HIV and HIV-related infections.

E H Sng of the Singapore General Hospital explained that antibiotic resistance is found in countries which lack regulations on antibiotic sales, and where self-medication is high. The use of inappropriate treatment schedules also contributes to the problem.

There were, unfortunately, only a few papers on the social and behavioural aspects of HIV prevention. Two focus

sessions allowed discussions on women and HIV and on homosexuality in a time of AIDS. A session on community responses had to be cancelled when several of its speakers could not make it to the Congress. The few papers discussing social factors did emphasise that the social risk factors that put people at risk for HIV such as poverty, gender inequality and social discrimination are precisely the same risks that put people at risk for STDs. Such studies point to the need to integrate STD prevention not just with HIV programs but with health and social services in general.

In the Congress' closing lecture, Dr King Holmes of the University of Washington referred to the problems of STD prevention and control. On one hand, there is a public sector perceived as being overly centralised and prone to use coercive techniques such as mandatory testing, while the private sector tends to concentrate on STDs of minor public health importance (e.g., genital warts, persistent non-gonococcal urethritis). This leaves the problems to an informal sector, often marked by mismanagement, excessive costs and inadequate counselling skills, partner notification and condom promotion. The lack of national strategies and treatment guidelines contributes to the problems of STD management.

Holmes ended on an optimistic note, citing 'promising trends' in the field ranging from improving access to effective drugs to the development of community-based interventions.

New findings

The body's battle against HIV

Until recently, it was believed that HIV infection goes through a slow process, destroying the body's immune system across time. New studies in the United States show that the process occurs much faster, with the body beginning its battle against HIV right from the time of infection.

Reports on the studies were published in the 12 January 1995 issue of the British magazine *Nature*. The reports came from the laboratories of two leading HIV/AIDS researchers: Dr David Ho of the Aaron Diamond AIDS Research Centre in New York and Dr George M Shaw of the University of Alabama in Birmingham.

Both papers are based on studies about the effects of new drugs on HIV. Their research shows that the virus can reproduce rapidly, making between 100 million and a billion new copies each day. The body fights back, turning out a billion new T cells (also known as CD4 lymphocytes)

each day and destroying up to 99 percent of the invaders within two days.

Unfortunately, the surviving HIV are often mutants, that is, organisms bearing slight genetic variations. These variations allow the virus to escape immediate detection by the body's T cells. These mutants are thus able to multiply and in two weeks, almost all the new viruses are these mutants. By then, the T cells are able to identify these organisms and to fight them. The cycles are repeated—mutants survive; T cells learn to fight them. Eventually however, the body's immune system is not able to replace all its losses. The T cell counts drop and AIDS develops.

The new findings are important because they give clues as to why existing treatments have not been working. Ho believes that it is more appropriate to find ways to attack the virus, rather than to find ways to strengthen the immune system.

The researchers in fact found that when they administered antiviral drugs, the amount of HIV in patients' blood could fall by as much as 99 percent, allowing the immune systems to quickly replace the lost T cells.

The studies have also been cited as proof that HIV does indeed cause AIDS. Because HIV infection involves such a long period of time, some researchers have suggested that there is no linkage between HIV and AIDS. The new studies conclusively show that from the onset of HIV infection, a heated battle begins between the invaders and the body's immune system.

Sources: Kiping Wei et al. Viral dynamics in human immunodeficiency virus type 1 infection, Nature, 12 January 1995, pp 117-122. David D Ho et al. Rapid turnover of plasma viraemia and CD4 lymphocytes in HIV-1 infection, Nature, 12 January 1995, pp 123-126.

'All part of the service'

AIDS Action reports on how two projects are successfully providing STD care at health centres.

Signs of success

Over 5,000 women work as sex workers in Sonagachi, a 'red-light' area in one of India's largest cities. Although most work from brothels, some women, as well as male sex workers, travel into the area to work. Their male clients number more than half a million a year.

An effective primary health care service, with an emphasis on sexual health, has been developed by working with people in the area, including sex workers themselves, NGOs and local medical institutions. Based in a building loaned by a local youth club, the service functions as a community resource, with at least half of the clinic users identifying themselves as sex workers.

Since the service started in 1992, the number of people with STDs has fallen. HIV prevalence, measured using anonymous and unlinked testing, has remained the same. Women reached by the project report that they use condoms with more than half of their clients, while elsewhere in Calcutta female sex workers report condom use with only about 20 per cent.

The success of the service depends on community participation. This is made possible through continuing negotiations with community power groups, including leaders of local political parties and gangs, youth groups, brothel landlords and female managers, private practitioners and sex workers.

During the first 15 months of operation, more than 4,500 people visited the clinic for the first time. Over three-quarters of visits were made by women. A second clinic, run during the evening, is aimed at male clients and sex workers who travel to work in the area.

Over 65 former and current sex workers act as peer educators, after taking part in a six-week training programme and passing an oral test. They visit sex workers in their homes and talk with them about their sexual health, demonstrate and distribute condoms and encourage them to visit the clinic. The peer educators are proud of what they do, and feel they have gained more confidence and dignity. The more experienced ones are involved in training new peer educators and other community members.



Peer educators help to increase community awareness about STDs and the clinic services.

Dr Smarajit Jana and Mike Bailey (consultant), Sonagachi Project, c/o All India Institute of Hygiene and Public Health, 110 C.R. Ave, Calcutta 70073, India.

The project was started by NORAD and WHO, and is now supported by ODA/UK.

Integrating care

STD control has been integrated into the urban and rural primary health care system in Mwanza, a district in Tanzania. Using locally adapted syndromic management guidelines, medical assistants now carry out the initial examinations and prescribe treatment, referring where necessary to the medical officer. Nurses dispense prescriptions, and provide health education, condoms and partner contact cards.

During a three-week training course, health workers learn how to diagnose and treat the most common STDs, and to be aware of people's concerns and problems. The first week takes place in the classroom, followed by two weeks of supervised practical work in an STD

clinic. The participants are helped to understand the need for confidentiality and how to organise the clinic layout to improve privacy. The training includes discussions about local attitudes and beliefs about STDs, links with HIV, and health education techniques.

The programme was first run at the main hospital in Mwanza town, and has now been extended to rural areas.

- At first, drugs were sometimes used for treating other diseases or the health workers sold drugs to patients instead of supplying them free. The project now emphasises the need for monthly supervision visits to each health centre by the STD regional officer. The tablets are counted and checked against the patient register.

- Some health workers found the

flow charts difficult to use. Regular in-service training has led to successful treatment of the three main syndromes (urethral discharge, vaginal discharge and genital ulcers).

- About 10 per cent of the trained health workers were transferred to other jobs. After liaison with health centre managers the number of staff transferred shortly after training has been reduced.

- Many people with STDs do not seek treatment at health service clinics or buy drugs from other sources. Public education programmes help to promote safer sex and improve the use of health services.

Source: Drs Gina ka-Gina, Heiner Grosskurth and Philippe Mayaud, AMREF-Mwanza, PO Box 1482, Mwanza, Tanzania.

The hidden problem Gadchiroli is a remote rural district in India. Life for women here is exceedingly difficult. Women's reproductive infections are widespread but little attention has been given to the reproductive health of non-pregnant women. Our organisation, SEARCH, felt that in order to improve women's health we needed to work with the women and find out from them what their concerns and problems were. A participatory research programme, which involved the villagers from the start, produced many results: mass education on sexual, reproductive and social issues, and the development of village-based women's health care services.

The survey We first of all talked to the people of two villages about what we wanted to do and why we wanted to do it. They became involved in the planning. The village volunteers organised an inauguration festival and adapted the local school teachers' house into a clinic for the duration of the survey. All of the researchers, doctors, nurses, and social workers were women.

Six hundred fifty women participated in the survey, which involved medical examinations, treatment and questionnaire. Fifty-nine percent of eligible women (those over 13 years or who had started menstruating) participated, and the examinations and treatment were completed in the vast majority. We followed this up with individual, couple and group discussions, including key informants such as traditional midwives. We held four focus group discussions with 60 women to find out about women's health concerns.

What did we find? Of the women examined, 92 percent had at least one gynaecological disorder, mostly infections and menstrual problems, with the average number of disorders 3.6 per woman. Half of the problems were reproductive tract infections (RTI) such as vaginitis, cervicitis or pelvic inflammatory disease. A large proportion of the rest were heavy or painful menstrual bleeding. This shows what a huge burden of reproductive infections women in our district carry, and the implications for women's health are many—increased infertility, increased HIV susceptibility, constant backache, anaemia and mental stress.

Nearly half of the unmarried girls

Rural women and reproductive tract infections

were found to have broken hymens, implying that they had had penetrative sexual intercourse. This shows the need for adolescent sexual and reproductive health education even in a very rural area.

The women knew that the reproductive infections were a problem. When we talked to men and women in the focus group discussions and interviews after the survey, and asked them to list women's health problems in order of importance 95 percent said 'white discharge' was the most common and most important problem. These discharges have different local names. A blood-stained discharge is thought of as an omen of death, which shows that the women have observed closely and are concerned with their health.

There is a gap between this felt need and the care available. Only 8% of the women in the study had ever had a gynaecological examination. The nearest gynaecologist, a man, works 20 kilometres away. The village-level health workers who are women are not trained in reproductive health care. But in addition, there is much secrecy and shame. During the survey many women did not mention their discharge. It was only when we talked to them in detail and in confidence that they admitted the infections. They believe it is often the fault of the woman—it can be caught through having a defective constitution, a husband who is an alcoholic or who has sexual intercourse with other women, or through modern contraceptive methods. Being an 'inadequate wife' whose husband has to find other women to satisfy him leads to guilt.

In addition to this shame and stigma, another reason why RTIs are not diagnosed is that women go to the doctor complaining of 'weakness', which is what women believe that discharge causes, and so remain untreated. Often doctors will assume that this is anaemia.

What did we do with these results?

We first of all shared the results with the villagers. Women's groups in 20 villages decided to organise a women's health *jatra*, or carnival. This included a picture exhibition describing the results

of the study which was explained to the viewers by village women. A slide show for men and another for women on sexually transmitted diseases and reproductive and sexual health was shown. There were songs and cultural exhibits. The women of our team staged a play about a man accidentally getting pregnant, which all the women dragged their husbands along to see!

Women said that they enjoyed the *jatra* but wanted to know more about their health. So next we organised a series of three-day educational camps. These women's groups have developed independently, developing a campaign about alcohol abuse which is often the cause of irresponsible male behaviour. The campaign has led to a community ban on alcohol.

The men demanded a similar survey of sexually transmitted diseases for themselves. They even presented a petition insisting that we do this. From this heaven-sent opportunity, we discovered a sizeable prevalence of syphilis, gonorrhoea, chlamydia and trichomonas infections. The first three cases of HIV in the district were identified in this survey, were given counselling and did not have their identities disclosed.

We have trained 58 village-based nurses and traditional midwives, with other community-based nurses in diagnosis and treatment of common gynaecological problems. The traditional midwives learned through role plays, games, practicals, and peer evaluation.

Conclusion Sex and reproductive life is a very private and secret matter in Indian society. These illiterate rural women have honoured us by sharing with us their private lives. Women in the district desperately need safe abortion services, care for gynaecological and sexually transmitted diseases, and sex and reproductive health information. A programme of HIV and STD prevention needs to begin working with women and finding out in their own words what they know already and how they can improve their own situation.

Drs Rani and Abhay Bang, SEARCH, Gadchiroli, Maharashtra, India

We would like to thank the many readers who have written us saying that they find the newsletter useful. We would, however, appreciate letters that give more specific details about how the newsletter is useful to your work. We also want to get your suggestions for future issues of AIDS Action.

RESOURCES FOR STD CARE

Caring for people with sexually transmitted diseases, including HIV disease is designed to help nurses, midwives and other health workers provide care for people whose lives are affected by STDs. *In English for £25.00 from English National Board Publications, Victory House, 170 Tottenham Court Road, London W1P 0HA, UK.*

Color atlas and synopsis of sexually transmitted diseases contains colour photographs and syndromic management information for clinicians. *In English for £20.00 from McGraw-Hill Publishers, Health Professions Division, Shoppenhangers Road, Maidenhead, Berks SL6 2QL, UK.*

Genital tract infection guidelines for family planning service programs provides information for clinicians on STDs which commonly appear in family planning settings. *In English and French for US\$6 from JHPIEGO Corporation, Materials Control Division, Brown's Wharf, 1615 Thames Street, Suite 200, Baltimore, MD 21231, USA.*

All about STDs; information on sexually transmitted diseases provides information in simple language on how STDs are contracted, prevented and treated. *Free in English from STD Foundation, PO Box 9074, 3506 GB Utrecht, The Netherlands.*

Population Reports, Series L, No. 9: Controlling sexually transmitted diseases covers STD management and education, with syndromic guidelines wallchart. *In English (French and Spanish in May 1995) from Population Reports, The Johns Hopkins School of Hygiene and Public Health, 527 St Paul Place, Baltimore, MD 21202, USA.*

AIDS in Asia: The Gathering Storm

by Tim Brown and Peter Xenos
Asia-Pacific Issues N 16 (August 1994)

The East-West Center of the University of Hawaii has published an analysis of the HIV/AIDS epidemic in Asia, including a suggestion that the epidemic will take a new pattern different from that of the US, Europe or Africa. Social factors that shape the epidemic are reviewed. Copies of the report are available from the office of Public Program, East-West Center, 1977 East-West, Honolulu, HI 96848, USA.

The culture of silence: reproductive tract infections among women in the Third World discusses the importance of STD in women's health and possible strategies to reduce infections. *Free from International Women's Health Coalition, 24 East 21st Street, 5th Floor, New York, NY 10010, USA.*

Understanding STDs is a teaching pack for secondary school students designed for use in the Pacific Islands, containing exercises and illustrations. *Free in English or French from South Pacific AIDS Commission, BP 05, Noumea Cedex, New Caledonia.*

STD educators' guide to AIDS and other STDs is a very popular and adaptable resource for trainers working with young people. *In English and Spanish for \$50 from Health Education Consultants, 1284 Manor Park, Lakewood, OH 44107, USA.*

Counselling & sexuality: a training resource is a pack of four videos and training guide designed to help counselling programmes cover sexual health, including one video, 'I've got gonorrhoea' where a woman discovers she has contracted an STD from her husband. *In English and Arabic for \$35 per video and guide or \$10 for guide on its own or \$100 complete set from IPPF, PO Box 759, Inner Circle, Regent's Park, London NW1 4LQ, UK.*

Sexually transmitted diseases: recognition and treatment is a 24-slide set on STDs with accompanying script in versions for Africa and Asia-Pacific. *Available for £4.50 (self-mounting) or £6.20 (mounted) from Teaching-aids At Low Cost (TALC), PO Box 49, St. Albans, Herts AL1 4AX, UK.*

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